



**Universitat Autònoma de Barcelona**

Tesi Doctoral

**La gestió del plurilingüisme a l'aula en l'educació superior.  
Estudi de cas: introducció de classes en anglès a l'Escola d'Enginyeria B**

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## APÈNDIX

### ii.1 Transcripció de CM1

Prof. Alzina va l'últim dia\_  
TC 00:01:05.950 - 00:01:06.960  
(0.52)

Prof. Alzina °espera això°  
TC 00:01:07.489 - 00:01:08.647  
(1.71)

Prof. Alzina a l'últim dia vam explicar\_  
TC 00:01:10.357 - 00:01:12.203  
(0.54)

Prof. Alzina com es calculava\_  
TC 00:01:12.744 - 00:01:13.980  
(1.31)

Prof. Alzina el baumé\_  
TC 00:01:15.297 - 00:01:16.227  
(5.12)

Prof. Alzina d'una:\_  
TC 00:01:21.351 - 00:01:22.538  
(5.16)

Prof. Alzina un bany de pell\  
TC 00:01:27.704 - 00:01:28.634  
(0.68)

Prof. Alzina hm/  
TC 00:01:29.317 - 00:01:29.740  
(1.67)

Prof. Alzina i us vaig deixar que pensessiu perquè:/  
TC 00:01:31.417 - 00:01:33.361  
(3.81)

Prof. Alzina bé quedem xx  
TC 00:01:37.171 - 00:01:38.436  
(3.65)

Prof. Alzina ah last day  
TC 00:01:42.090 - 00:01:43.430  
(3.69)

Prof. Alzina we have done a problem no/ the- the- the-  
TC 00:01:47.125 - 00:01:49.429  
(3.31)

Prof. Alzina I have explained the:  
TC 00:01:52.743 - 00:01:54.440  
(0.4)

Prof. Alzina calculation of the baumé  
TC 00:01:54.844 - 00:01:56.502  
(2.83)

Prof. Alzina how  
TC 00:01:59.339 - 00:01:59.981  
(3.67)

Prof. Alzina we do\_  
TC 00:02:03.657 - 00:02:04.390  
(0.28)

Prof. Alzina we we: calculate  
TC 00:02:04.673 - 00:02:06.414  
(0.81)

Prof. Alzina the baumé  
TC 00:02:07.232 - 00:02:07.966  
(0.34)

Prof. Alzina xx  
TC 00:02:08.307 - 00:02:08.935  
(0.48)

Prof. Alzina baumé the density\_  
TC 00:02:09.423 - 00:02:10.708

(2.62)

Prof. Alzina in the pickle float\_ TC 00:02:13.328 - 00:02:14.664 (0.68)

Prof. Alzina and TC 00:02:15.347 - 00:02:15.874 (2.7)

Prof. Alzina we have said TC 00:02:18.574 - 00:02:19.610 (0.67)

Prof. Alzina and you: TC 00:02:20.286 - 00:02:21.117 (4.81)

Prof. Alzina I give you a problem no/ ah: TC 00:02:25.930 - 00:02:27.539 (1.73)

Prof. Alzina no/ TC 00:02:29.275 - 00:02:29.700 (2.21)

Prof. Alzina then TC 00:02:31.913 - 00:02:32.442 (1.76)

Prof. Alzina a veure\ TC 00:02:34.203 - 00:02:35.448 (6.01)

Prof. Alzina ok\ TC 00:02:41.467 - 00:02:42.397 (0.8)

Prof. Alzina hola\ TC 00:02:43.202 - 00:02:44.338 (2.05)

Prof. Alzina qué decía el problema\ TC 00:02:46.397 - 00:02:47.836 (1.63)

Prof. Alzina què deia el problema eh/ TC 00:02:49.471 - 00:02:50.670 (3.53)

Prof. Alzina the problem\ TC 00:02:54.200 - 00:02:55.078 (1.17)

Student 1 xxxxxxxxxxx arrived to six baumé xxxx\ TC 00:02:56.250 - 00:03:03.897 (0.33)

Prof. Alzina six baumé/ TC 00:03:04.231 - 00:03:05.421 (5.61)

Prof. Alzina and TC 00:03:11.031 - 00:03:11.858 (0.47)

Prof. Alzina the formulation/ TC 00:03:12.328 - 00:03:13.768 (0.56)

Prof. Alzina one TC 00:03:14.336 - 00:03:14.859 (1.63)

Prof. Alzina the formulation/ TC 00:03:16.494 - 00:03:17.304 (0.21)

Student 1 xxxx TC 00:03:17.518 - 00:03:18.246 (0.3)

Prof. Alzina yes the formulation of the pickle\ TC 00:03:18.554 - 00:03:20.498 (0.12)

Student 1 xx

TC 00:03:20.627 - 00:03:21.486  
(0.3)

Student 1 xx  
TC 00:03:21.789 - 00:03:22.516  
(0.86)

Prof. Alzina one hundred per cent water=  
TC 00:03:23.383 - 00:03:24.830

Student 1 =yes\  
TC 00:03:24.737 - 00:03:25.257  
(0.08)

Prof. Alzina possible/  
TC 00:03:25.346 - 00:03:26.709  
(0.87)

Prof. Alzina ah::  
TC 00:03:27.581 - 00:03:28.580

Student 1 xx per cent salt\  
TC 00:03:28.481 - 00:03:30.192  
(1.38)

Prof. Alzina salt/  
TC 00:03:31.574 - 00:03:32.403  
(0.1)

Student 2 [ten per cent\  
TC 00:03:32.509 - 00:03:33.296

Prof. Alzina [ho:w m-] salt is the question no/  
TC 00:03:32.550 - 00:03:35.276  
(0.03)

Student 1 yes\  
TC 00:03:35.308 - 00:03:35.775  
(2.89)

Prof. Alzina and  
TC 00:03:38.674 - 00:03:39.501  
(0.27)

Prof. Alzina eh::  
TC 00:03:39.779 - 00:03:40.609  
(0.03)

Student 1 one per cent/  
TC 00:03:40.644 - 00:03:41.500  
(0.31)

Prof. Alzina one per cent/=  
TC 00:03:41.810 - 00:03:42.765

Student 1 =sulfuric=  
TC 00:03:42.745 - 00:03:43.480

Prof. Alzina =sulfuric acid\  
TC 00:03:43.465 - 00:03:44.574  
(3.69)

Prof. Alzina bueno vinga\  
TC 00:03:48.268 - 00:03:49.071  
(0.08)

Prof. Alzina estem en això eh/  
TC 00:03:49.153 - 00:03:50.186  
(2.51)

Prof. Alzina això vem fer problema  
TC 00:03:52.697 - 00:03:54.440  
(0.9)

Prof. Alzina eh i vam parlar sobre pells escorregudes i tal- sense escorrer perdo\_  
TC 00:03:55.346 - 00:03:59.679  
(0.49)

Prof. Alzina pells sense escòrrer si no recordo malament\_  
TC 00:04:00.170 - 00:04:02.729  
(1.66)

Prof. Alzina i:  
TC 00:04:04.389 - 00:04:05.118  
(0.31)

Prof. Alzina això ens donava\_

TC 00:04:05.431 - 00:04:06.540  
(1.87)

Prof. Alzina cinc boumé no the last problem\_  
TC 00:04:08.417 - 00:04:10.266  
(0.28)

Prof. Alzina what's the result of that/  
TC 00:04:10.552 - 00:04:11.660  
(0.04)

Student 4 cinc\  
TC 00:04:11.702 - 00:04:12.202  
(0.27)

Prof. Alzina cinc\  
TC 00:04:12.473 - 00:04:13.071  
(0.59)

Prof. Alzina eh/  
TC 00:04:13.661 - 00:04:14.289  
(0.58)

Prof. Alzina quant la sal- quant era la sal\  
TC 00:04:14.871 - 00:04:16.668  
(1.8)

Prof. Alzina deu per cent\  
TC 00:04:18.472 - 00:04:19.395

Student 4 deu  
TC 00:04:19.068 - 00:04:19.538  
(5.54)

Prof. Alzina i ara el que volem saber  
TC 00:04:25.078 - 00:04:26.723  
(0.71)

Prof. Alzina és quanta sal hauríem d'afegir aquí/  
TC 00:04:27.441 - 00:04:29.803  
(0.27)

Prof. Alzina per passar de cinc a sis\  
TC 00:04:30.077 - 00:04:31.312  
(0.58)

Prof. Alzina ah/  
TC 00:04:31.897 - 00:04:32.422  
(0.65)

Prof. Alzina the problem\_  
TC 00:04:33.078 - 00:04:33.909  
(0.25)

Prof. Alzina is\  
TC 00:04:34.165 - 00:04:34.691  
(0.56)

Prof. Alzina <how many> kilograms of salt/  
TC 00:04:35.256 - 00:04:38.422  
(0.32)

Prof. Alzina we have to add\_  
TC 00:04:38.748 - 00:04:39.782  
(1.25)

Prof. Alzina to increase\_  
TC 00:04:41.037 - 00:04:41.964  
(0.33)

Prof. Alzina the baumé  
TC 00:04:42.300 - 00:04:43.135  
(0.18)

Prof. Alzina in one unity\  
TC 00:04:43.324 - 00:04:44.354  
(1.06)

Prof. Alzina ok/  
TC 00:04:45.414 - 00:04:46.041  
(1.01)

Student 3 hm hm/  
TC 00:04:47.054 - 00:04:47.678  
(0.8)

Prof. Alzina vale/

TC 00:04:48.482 - 00:04:48.905  
(1.45)

Prof. Alzina the:  
TC 00:04:50.360 - 00:04:51.116  
(0.46)

Prof. Alzina els litres d'aigua  
TC 00:04:51.579 - 00:04:52.921  
(0.73)

Prof. Alzina els quilos d'aigua seran els mateixos\  
TC 00:04:53.657 - 00:04:55.738  
(0.79)

Prof. Alzina perquè simplement és afegir baumé al bombo en tot cas\  
TC 00:04:56.528 - 00:04:59.906  
(0.71)

Prof. Alzina huh/  
TC 00:05:00.617 - 00:05:01.139  
(1.12)

Prof. Alzina the:  
TC 00:05:02.265 - 00:05:02.995  
(0.18)

Prof. Alzina litres and the kilograms of water\_  
TC 00:05:03.177 - 00:05:05.427  
(0.81)

Prof. Alzina will be the same\  
TC 00:05:06.238 - 00:05:07.270  
(1.2)

Prof. Alzina no xx\  
TC 00:05:08.475 - 00:05:09.000  
(0.25)

Prof. Alzina hah/ ok/  
TC 00:05:09.251 - 00:05:10.286  
(0.09)

Prof. Alzina two hundred  
TC 00:05:10.383 - 00:05:11.117  
(0.21)

Prof. Alzina do you remember\  
TC 00:05:11.328 - 00:05:12.265  
(1.16)

Prof. Alzina heh/ dos cents\  
TC 00:05:13.434 - 00:05:14.468  
(0.27)

Prof. Alzina vem dir no/  
TC 00:05:14.741 - 00:05:15.466  
(0.58)

Prof. Alzina per tant en aquest cas l'únic que s'ha de fer és\_  
TC 00:05:16.051 - 00:05:19.252  
(0.13)

Prof. Alzina substituir en aquí\_  
TC 00:05:19.382 - 00:05:20.931  
(0.12)

Prof. Alzina el cinc/  
TC 00:05:21.057 - 00:05:21.785  
(0.92)

Prof. Alzina i anar-te'n a buscar els quilos de sal que no coneixes\  
TC 00:05:22.710 - 00:05:25.164  
(1.0)

Prof. Alzina heh/  
TC 00:05:26.170 - 00:05:26.595  
(0.65)

Prof. Alzina es a dir\  
TC 00:05:27.245 - 00:05:27.975  
(0.3)

Prof. Alzina la fórmula serà\_  
TC 00:05:28.278 - 00:05:29.514  
(0.38)

Prof. Alzina TC	sis graus baumé 00:05:29.899 - 00:05:31.429 (0.6)
Prof. Alzina TC	igual 00:05:32.035 - 00:05:32.763 (0.29)
Prof. Alzina TC	a 00:05:33.058 - 00:05:33.786 (1.59)
Prof. Alzina TC	x 00:05:35.377 - 00:05:36.104 (0.61)
Prof. Alzina TC	quilograms de sal/ 00:05:36.722 - 00:05:38.162 (0.83)
Prof. Alzina TC	dividit 00:05:38.998 - 00:05:39.827 (0.54)
Prof. Alzina TC	per dos cents 00:05:40.370 - 00:05:41.303 (0.84)
Prof. Alzina TC	quilograms d'aigua/ 00:05:42.144 - 00:05:43.480 (1.32)
Prof. Alzina TC	i pel factor de conversió que ens diu_ 00:05:44.803 - 00:05:47.560 (0.3)
Prof. Alzina TC	que deu grams baumé equivalen/ 00:05:47.861 - 00:05:50.350 (0.85)
Prof. Alzina TC	a deu quilos de sal 00:05:51.206 - 00:05:52.956 (0.76)
Prof. Alzina TC	dividit 00:05:53.718 - 00:05:54.446 (0.47)
Prof. Alzina TC	per 00:05:54.918 - 00:05:55.700 (0.75)
Prof. Alzina TC	cent quilos d'aigua 00:05:56.450 - 00:05:57.788 (2.14)
Prof. Alzina TC	heh/ 00:05:59.932 - 00:06:00.456 (2.25)
Prof. Alzina TC	d'acord/ 00:06:02.712 - 00:06:03.542 (1.4)
Prof. Alzina TC	ok/ 00:06:04.951 - 00:06:05.577
Student 5 TC	I don't know because- 00:06:05.570 - 00:06:06.452
Prof. Alzina TC	=it's the same 00:06:06.452 - 00:06:07.487 (0.51)
Prof. Alzina TC	it- it only change 00:06:08.005 - 00:06:09.851
Student 5 TC	=xxx 00:06:09.700 - 00:06:10.395
Prof. Alzina TC	the::: 00:06:10.392 - 00:06:11.727 (1.07)
Student 5 TC	xxxx 00:06:12.800 - 00:06:13.737 (1.29)

Prof. Alzina this factor\  
TC 00:06:15.032 - 00:06:16.073  
(0.45)

Prof. Alzina huh/  
TC 00:06:16.523 - 00:06:17.049  
(0.49)

Prof. Alzina the factor we need to calculate/  
TC 00:06:17.539 - 00:06:19.281  
(2.32)

Prof. Alzina huh/  
TC 00:06:21.610 - 00:06:22.035  
(1.33)

Prof. Alzina ok/  
TC 00:06:23.367 - 00:06:23.897  
(0.7)

Prof. Alzina llavorens\  
TC 00:06:24.598 - 00:06:25.455  
(1.25)

Prof. Alzina si:: nosaltres calculem  
TC 00:06:26.710 - 00:06:28.660  
(0.89)

Prof. Alzina aquests cent  
TC 00:06:29.553 - 00:06:30.585  
(0.92)

Prof. Alzina i aquests dos cents se'n van/  
TC 00:06:31.514 - 00:06:33.101  
(0.63)

Student 2 xxx  
TC 00:06:33.740 - 00:06:34.527  
(0.9)

Prof. Alzina heh/  
TC 00:06:35.429 - 00:06:36.052

Student 2 =xxx=  
TC 00:06:36.060 - 00:06:36.725  
(0.78)

Prof. Alzina aquest deu  
TC 00:06:37.505 - 00:06:38.748  
(0.22)

Prof. Alzina i aquest deu se'n van/  
TC 00:06:38.975 - 00:06:40.414  
(1.75)

Prof. Alzina no/  
TC 00:06:42.166 - 00:06:42.589  
(0.9)

Prof. Alzina i per tant ens queda/  
TC 00:06:43.489 - 00:06:44.824  
(0.25)

Student 1 twelve\  
TC 00:06:45.080 - 00:06:45.794  
(0.49)

Prof. Alzina quilos de sal quilos de sal fora/  
TC 00:06:46.290 - 00:06:48.942  
(0.15)

Prof. Alzina quilos d'aigua quilos de aigua fora/  
TC 00:06:49.093 - 00:06:51.442  
(4.13)

Prof. Alzina xx se'n va tot  
TC 00:06:55.576 - 00:06:57.005  
(0.31)

Prof. Alzina va quilos de sal xxx  
TC 00:06:57.316 - 00:06:59.057  
(0.3)

Student 3 twelve  
TC 00:06:59.357 - 00:07:00.596  
(1.74)



Prof. Alzina x és igual a  
TC 00:07:02.340 - 00:07:03.987  
(0.28)

Prof. Alzina sis per dos\  
TC 00:07:04.273 - 00:07:05.408  
(3.69)

Prof. Alzina hm/  
TC 00:07:09.102 - 00:07:09.930  
(1.62)

Prof. Alzina sis per dos\  
TC 00:07:11.558 - 00:07:12.587  
(4.1)

Prof. Alzina dotze/  
TC 00:07:16.694 - 00:07:17.522  
(0.1)

Prof. Alzina °aixo no hi és\  
TC 00:07:17.625 - 00:07:18.660  
(3.71)

Prof. Alzina °així ens surt\  
TC 00:07:22.370 - 00:07:23.196  
(2.94)

Prof. Alzina dotze quilos de sal\  
TC 00:07:26.138 - 00:07:27.351  
(1.07)

Prof. Alzina eh/  
TC 00:07:28.430 - 00:07:28.955  
(0.11)

Prof. Alzina hem de afegir dotze quilos de sal- bueno hem d'afegir\_  
TC 00:07:29.069 - 00:07:32.136  
(0.16)

Prof. Alzina no hem d'afegir\ hem de posar\  
TC 00:07:32.298 - 00:07:34.144  
(0.93)

Prof. Alzina dotze quilos de sal perquè això funcioni\  
TC 00:07:35.078 - 00:07:37.536  
(0.56)

Prof. Alzina eh/  
TC 00:07:38.097 - 00:07:38.621  
(1.89)

Prof. Alzina o sigui  
TC 00:07:40.515 - 00:07:41.061  
(0.15)

Prof. Alzina que si n' haviem posat  
TC 00:07:41.211 - 00:07:42.243  
(1.42)

Prof. Alzina deu  
TC 00:07:43.667 - 00:07:44.400  
(0.59)

Prof. Alzina per fer un deu per cent/  
TC 00:07:44.998 - 00:07:46.134  
(0.37)

Prof. Alzina sobre l'aigua/  
TC 00:07:46.505 - 00:07:47.439  
(0.23)

Prof. Alzina n'hauríem de posar dos més\  
TC 00:07:47.669 - 00:07:49.108  
(1.17)

Prof. Alzina d'acord/  
TC 00:07:50.281 - 00:07:51.133  
(0.25)

Prof. Alzina dos més\  
TC 00:07:51.392 - 00:07:52.221  
(1.99)

Prof. Alzina d'acord\  
TC 00:07:54.212 - 00:07:54.923

(2.64)

Prof. Alzina that's the total  
TC 00:07:57.568 - 00:07:59.310  
(1.05)

Prof. Alzina quantity of the salt\  
TC 00:08:00.367 - 00:08:01.818  
(0.32)

Prof. Alzina then/  
TC 00:08:02.141 - 00:08:02.870  
(0.46)

Prof. Alzina if you have  
TC 00:08:03.334 - 00:08:04.288  
(0.61)

Prof. Alzina a float with  
TC 00:08:04.900 - 00:08:06.295  
(0.65)

Prof. Alzina of a hundred per cent of water\_  
TC 00:08:06.948 - 00:08:08.587  
(0.27)

Prof. Alzina with five degrees baumé/  
TC 00:08:08.858 - 00:08:10.582  
(0.4)

Prof. Alzina you have to add  
TC 00:08:10.987 - 00:08:12.831  
(0.37)

Prof. Alzina two  
TC 00:08:13.204 - 00:08:14.031  
(1.52)

Prof. Alzina kilograms\  
TC 00:08:15.558 - 00:08:16.285  
(2.26)

Prof. Alzina of salt\  
TC 00:08:18.554 - 00:08:19.872  
(0.51)

Prof. Alzina ok/  
TC 00:08:20.385 - 00:08:21.013  
(0.78)

Prof. Alzina because  
TC 00:08:21.796 - 00:08:22.424  
(0.52)

Prof. Alzina to::  
TC 00:08:22.951 - 00:08:24.186  
(0.45)

Prof. Alzina to arrive  
TC 00:08:24.638 - 00:08:25.769  
(0.07)

Prof. Alzina to:  
TC 00:08:25.840 - 00:08:26.470  
(0.51)

Prof. Alzina ten  
TC 00:08:26.987 - 00:08:27.716  
(1.86)

Prof. Alzina a::  
TC 00:08:29.576 - 00:08:30.607  
(0.26)

Prof. Alzina to five degrees baumés/  
TC 00:08:30.871 - 00:08:32.312  
(0.26)

Prof. Alzina you have add/  
TC 00:08:32.579 - 00:08:33.597  
(0.24)

Prof. Alzina firstly/  
TC 00:08:33.843 - 00:08:34.674  
(0.58)

Prof. Alzina ten kilograms of salt\  
TC

TC 00:08:35.254 - 00:08:36.592  
(0.61)

Prof. Alzina and you have to add  
TC 00:08:37.209 - 00:08:38.256  
(0.43)

Prof. Alzina two more\  
TC 00:08:38.690 - 00:08:39.418  
(1.57)

Prof. Alzina ok/  
TC 00:08:40.991 - 00:08:41.716  
(1.85)

Prof. Alzina vale/  
TC 00:08:43.575 - 00:08:44.201  
(2.43)

Prof. Alzina es pot complicar aquest tipus de problema/  
TC 00:08:46.639 - 00:08:49.067  
(0.41)

Prof. Alzina si\  
TC 00:08:49.484 - 00:08:50.168  
(1.22)

Prof. Alzina m:/  
TC 00:08:51.388 - 00:08:51.811  
(0.7)

Prof. Alzina com es pot complicar/  
TC 00:08:52.520 - 00:08:53.781  
(1.85)

Prof. Alzina quan/  
TC 00:08:55.637 - 00:08:56.400  
(0.72)

Prof. Alzina quan  
TC 00:08:57.121 - 00:08:57.846  
(0.54)

Prof. Alzina per exemple  
TC 00:08:58.390 - 00:08:59.414  
(0.49)

Prof. Alzina en comptes de fer servir  
TC 00:08:59.910 - 00:09:01.490  
(0.57)

Prof. Alzina en comptes de fer servir  
TC 00:09:02.068 - 00:09:03.406  
(1.12)

Prof. Alzina a::m  
TC 00:09:04.532 - 00:09:05.291  
(0.52)

Prof. Alzina sal sòlida  
TC 00:09:05.819 - 00:09:07.077  
(2.78)

Prof. Alzina ens(.) entra la sal  
TC 00:09:09.864 - 00:09:12.063  
(0.51)

Prof. Alzina amb salmorra o amb una dissolució de sal amb aigua  
TC 00:09:12.574 - 00:09:15.263  
(0.96)

Prof. Alzina e/  
TC 00:09:16.230 - 00:09:16.563  
(0.42)

Prof. Alzina es a dir el bany ja ve salat\  
TC 00:09:16.992 - 00:09:18.403  
(2.61)

Prof. Alzina °doncs° si xx es mes complicat\_  
TC 00:09:21.020 - 00:09:23.091  
(0.35)

Prof. Alzina e/  
TC 00:09:23.447 - 00:09:24.017  
(0.94)

Prof. Alzina es més complicat/ (.) perquè bueno hi poden variar les quantitats d'aigua les  
quantitats de tot\  
TC 00:09:24.965 - 00:09:29.860  
(1.57)

Student 4 perque aquesta sal sense escórrer =es te quexxxx=  
TC 00:09:31.434 - 00:09:35.837

Prof. Alzina =no aquesta- aquesta la sal tu la tires en gra\  
TC 00:09:34.455 - 00:09:37.659  
(0.87)

Prof. Alzina obres un sac de sal el peses/  
TC 00:09:38.529 - 00:09:40.343  
(0.39)

Prof. Alzina i cap dintre=  
TC 00:09:40.738 - 00:09:41.415  
(0.24)

Student 4 perquè les pells estaven sense escórrer\_  
TC 00:09:41.659 - 00:09:43.009

Prof. Alzina =NO NO NO no >no perquè les pells estiguin sense escórrer perque les hem de posar  
amb sal\  
TC 00:09:43.009 - 00:09:46.490

Student 4 =mm=  
TC 00:09:46.100 - 00:09:46.680  
(0.69)

Prof. Alzina però (.) a vegades\_  
TC 00:09:47.379 - 00:09:48.926  
(0.52)

Prof. Alzina les fàbriques\_  
TC 00:09:49.449 - 00:09:50.252  
(0.34)

Prof. Alzina per evitar pesar la sal\_  
TC 00:09:50.599 - 00:09:52.575  
(0.23)

Prof. Alzina el que fan  
TC 00:09:52.810 - 00:09:53.655  
(0.36)

Prof. Alzina es/  
TC 00:09:54.018 - 00:09:54.496  
(0.26)

Prof. Alzina comprar  
TC 00:09:54.760 - 00:09:55.698  
(1.07)

Prof. Alzina un ah::  
TC 00:09:56.770 - 00:09:58.091  
(0.59)

Prof. Alzina un dipòsit  
TC 00:09:58.684 - 00:09:59.536  
(0.88)

Prof. Alzina amb aigua salada  
TC 00:10:00.418 - 00:10:01.538  
(0.67)

Prof. Alzina ja introduir l'aigua salada directament/  
TC 00:10:02.217 - 00:10:04.960  
(2.94)

Prof. Alzina entens/  
TC 00:10:07.907 - 00:10:08.591  
(0.67)

Student 4 al final no xxx/  
TC 00:10:09.270 - 00:10:10.528  
(0.6)

Prof. Alzina no no tinc ja- aigua salada directament llavors clar\_  
TC 00:10:11.130 - 00:10:14.802  
(2.02)

Prof. Alzina el calcul- el calcul haura de determinar  
TC 00:10:16.830 - 00:10:19.457  
(1.08)

Prof. Alzina TC tenint en compta la relació que tens ja de sal\  
00:10:20.540 - 00:10:23.239  
(2.21)

Prof. Alzina TC vale/  
00:10:25.449 - 00:10:25.764  
(0.95)

Prof. Alzina TC okay-  
00:10:26.719 - 00:10:27.269  
(0.55)

Prof. Alzina TC qua-  
00:10:27.823 - 00:10:28.378  
(1.87)

Prof. Alzina TC the problem could be more complicated°\  
00:10:30.249 - 00:10:32.925  
(0.55)

Prof. Alzina TC m/  
00:10:33.479 - 00:10:33.868  
(0.46)

Prof. Alzina TC why  
00:10:34.330 - 00:10:34.997  
(0.33)

Prof. Alzina TC because sometimes  
00:10:35.327 - 00:10:36.413  
(1.13)

Prof. Alzina TC the::  
00:10:37.550 - 00:10:38.437  
(2.36)

Prof. Alzina TC the tanning  
00:10:40.800 - 00:10:41.627  
(2.27)

Prof. Alzina TC buy  
00:10:43.904 - 00:10:44.779  
(2.06)

Prof. Alzina TC a solution of brine (.) or water with- with salt  
00:10:46.839 - 00:10:49.940  
(0.4)

Prof. Alzina TC m/  
00:10:50.349 - 00:10:50.656  
(0.95)

Prof. Alzina TC and/  
00:10:51.613 - 00:10:52.231  
(0.74)

Prof. Alzina TC en- enter directly in the drum  
00:10:52.979 - 00:10:55.924  
(0.5)

Student 1 TC mm/  
00:10:56.430 - 00:10:56.852  
(0.65)

Prof. Alzina TC water with salt  
00:10:57.509 - 00:10:58.413  
(0.32)

Student 1 TC mm\  
00:10:58.740 - 00:10:59.263  
(0.74)

Prof. Alzina TC in a fixed concentration  
00:11:00.009 - 00:11:01.221  
(1.61)

Prof. Alzina TC okay/  
00:11:02.840 - 00:11:03.329  
(0.39)

Prof. Alzina TC then you have to::  
00:11:03.725 - 00:11:05.408  
(0.46)

Prof. Alzina TC to variate (.) for example  
00:11:05.870 - 00:11:07.632  
(1.35)

Prof. Alzina TC the quantity of water  
00:11:08.984 - 00:11:09.897  
(0.91)

Prof. Alzina TC but  
00:11:10.815 - 00:11:11.163  
(0.51)

Prof. Alzina TC apPArt of the water  
00:11:11.676 - 00:11:13.358  
(0.79)

Prof. Alzina TC its (.) e::m  
00:11:14.150 - 00:11:15.482  
(5.69)

Prof. Alzina TC determines  
00:11:21.174 - 00:11:22.152  
(1.17)

Prof. Alzina TC the quantity of salt\°  
00:11:23.322 - 00:11:24.250  
(1.78)

Prof. Alzina TC okay/  
00:11:26.032 - 00:11:26.490  
(0.62)

Prof. Alzina TC dos fac-  
00:11:27.117 - 00:11:27.753  
(0.39)

Prof. Alzina TC e::  
00:11:28.147 - 00:11:28.486  
(0.23)

Prof. Alzina TC two factors that are  
00:11:28.717 - 00:11:29.928  
(1.1)

Prof. Alzina TC a: bonded\  
00:11:31.037 - 00:11:31.535  
(1.2)

Prof. Alzina TC a/  
00:11:32.740 - 00:11:32.996  
(0.78)

Prof. Alzina TC okay/  
00:11:33.780 - 00:11:34.254  
(2.85)

Prof. Alzina TC per exemple  
00:11:37.110 - 00:11:37.891  
(0.29)

Prof. Alzina TC ara anem a fer un exemple  
00:11:38.188 - 00:11:39.462  
(0.36)

Prof. Alzina TC anem a fer un exemple  
00:11:39.825 - 00:11:40.788  
(2.24)

Prof. Alzina TC imagem/  
00:11:43.030 - 00:11:43.921  
(1.76)

Prof. Alzina TC imagem que\  
00:11:45.690 - 00:11:47.086  
(2.85)

Prof. Alzina TC al-algú sa- a veure algú sap/  
00:11:49.940 - 00:11:51.707  
(3.24)

Prof. Alzina TC l'aigua amb sal/  
00:11:54.950 - 00:11:56.193  
(0.63)

Prof. Alzina TC a quina concentracio::  
00:11:56.830 - 00:11:58.626  
(0.61)

Prof. Alzina TC pot arribar a estar/  
00:11:59.240 - 00:12:00.252

(1.39)

Prof. Alzina no\ no/  
TC 00:12:01.644 - 00:12:02.071  
(0.67)

Prof. Alzina do you know the concentration/  
TC 00:12:02.750 - 00:12:04.545  
(0.68)

Prof. Alzina you can buy the water  
TC 00:12:05.230 - 00:12:06.919  
(0.58)

Prof. Alzina solved in salt/  
TC 00:12:07.500 - 00:12:08.535  
(3.17)

Student 1 xxx/  
TC 00:12:11.710 - 00:12:12.127  
(0.27)

Student 2 °no°  
TC 00:12:12.400 - 00:12:12.945  
(0.24)

Prof. Alzina six/  
TC 00:12:13.190 - 00:12:13.648  
(0.43)

Student 1 boumé/  
TC 00:12:14.085 - 00:12:14.680  
(0.38)

Prof. Alzina no no the concentration of  
TC 00:12:15.060 - 00:12:16.767

Student 1 xxx  
TC 00:12:16.130 - 00:12:16.792  
(0.04)

Student 2 xxx  
TC 00:12:16.832 - 00:12:17.396  
(0.14)

Prof. Alzina the:  
TC 00:12:17.540 - 00:12:18.167  
(0.39)

Prof. Alzina you- you:::  
TC 00:12:18.563 - 00:12:20.078  
(0.32)

Prof. Alzina you goes to:  
TC 00:12:20.403 - 00:12:21.597  
(0.89)

Prof. Alzina a man and says  
TC 00:12:22.493 - 00:12:23.168  
(0.42)

Prof. Alzina I want to buy  
TC 00:12:23.590 - 00:12:24.769  
(1.78)

Prof. Alzina a solution of  
TC 00:12:26.550 - 00:12:27.408  
(1.63)

Prof. Alzina no/  
TC 00:12:29.040 - 00:12:29.419  
(1.54)

Student 1 °xxxxxxxxx°  
TC 00:12:30.960 - 00:12:33.080  
(0.25)

Prof. Alzina (?va fem)\  
TC 00:12:33.330 - 00:12:34.157  
(1.51)

Prof. Alzina you can/  
TC 00:12:35.670 - 00:12:36.561  
(1.93)

Prof. Alzina a::  
TC 00:12:38.500 - 00:12:39.157

(1.37)

Prof. Alzina bump it  
TC 00:12:40.532 - 00:12:41.265  
(0.64)

Prof. Alzina xx  
TC 00:12:41.913 - 00:12:42.667  
(0.78)

Prof. Alzina then search it  
TC 00:12:43.453 - 00:12:44.304  
(0.7)

Prof. Alzina search it  
TC 00:12:45.013 - 00:12:45.520  
(0.68)

Prof. Alzina que ho busqueu als llibres  
TC 00:12:46.200 - 00:12:47.203  
(0.34)

Prof. Alzina a veure a quant venen/  
TC 00:12:47.550 - 00:12:48.728  
(0.84)

Prof. Alzina a quan comercialment a quant es venen les solucions així  
TC 00:12:49.570 - 00:12:52.421  
(0.95)

Prof. Alzina vale/  
TC 00:12:53.380 - 00:12:53.644  
(1.86)

Prof. Alzina suposem  
TC 00:12:55.510 - 00:12:56.481  
(1.08)

Prof. Alzina suposem  
TC 00:12:57.570 - 00:12:58.493  
(5.06)

Prof. Alzina que sigui una solució de sal (.) del trenta per cent\  
TC 00:13:03.560 - 00:13:06.426  
(5.02)

Prof. Alzina thirty per cent\ (.) for example eh/  
TC 00:13:11.450 - 00:13:13.342  
(0.14)

Prof. Alzina °just for example°  
TC 00:13:13.490 - 00:13:14.732  
(6.57)

Prof. Alzina suposem  
TC 00:13:21.310 - 00:13:22.458  
(2.91)

Prof. Alzina aquesta formulació\  
TC 00:13:25.370 - 00:13:26.493  
(1.13)

Prof. Alzina °xxxxxx° (writing formulation on board)  
TC 00:13:27.630 - 00:13:29.245  
(1.16)

Prof. Alzina °va° suposem que volem fer un piquel  
TC 00:13:30.410 - 00:13:32.444  
(1.16)

Prof. Alzina un piquel/  
TC 00:13:33.610 - 00:13:34.397  
(0.58)

Prof. Alzina a sis graus baumé\  
TC 00:13:34.980 - 00:13:36.173  
(2.47)

Prof. Alzina final baumé\  
TC 00:13:38.650 - 00:13:39.739  
(0.91)

Prof. Alzina m/  
TC 00:13:40.650 - 00:13:40.956  
(5.74)

Prof. Alzina what's the problem\  
TC



TC	00:13:46.700 - 00:13:47.823 (9.65)
Prof. Alzina TC	what's de problem\ 00:13:57.480 - 00:13:58.401 (0.11)
Student 3 TC	xxx 00:13:58.520 - 00:13:59.405 (0.32)
Prof. Alzina TC	quin es el problema n'hi ha/ 00:13:59.730 - 00:14:00.936 (0.42)
Prof. Alzina TC	to do the pickle\ 00:14:01.360 - 00:14:02.139 (0.35)
Student 3 TC	I think it's not enough 00:14:02.490 - 00:14:03.989 (0.31)
Student 3 TC	the pickle because 00:14:04.305 - 00:14:05.955 (0.19)
Student 3 TC	e::: found 00:14:06.153 - 00:14:07.638 (1.08)
Student 3 TC	e::: salts 00:14:08.727 - 00:14:10.311 (0.72)
Student 3 TC	inside the: leather = 00:14:11.037 - 00:14:13.235
Prof. Alzina TC	=it's enough (.) it's too much 00:14:13.190 - 00:14:14.726 (0.49)
Student 3 TC	°too much xxx° 00:14:15.216 - 00:14:17.004
Prof. Alzina TC	thirty per cent 00:14:16.580 - 00:14:17.917
Student 3 TC	that's thirty per cent xxx 00:14:17.301 - 00:14:19.367
Prof. Alzina TC	yeah 00:14:18.570 - 00:14:19.109 (0.55)
Prof. Alzina TC	ten baumé:/ 00:14:19.660 - 00:14:20.823 (1.92)
Prof. Alzina TC	implies 00:14:22.748 - 00:14:23.639 (1.14)
Prof. Alzina TC	ten kilograms 00:14:24.780 - 00:14:26.206 (0.59)
Prof. Alzina TC	in 00:14:26.800 - 00:14:27.094 (1.44)
Prof. Alzina TC	a hundred 00:14:28.540 - 00:14:29.367 (0.75)
Prof. Alzina TC	ten kilograms of salt 00:14:30.120 - 00:14:31.611 (0.73)
Prof. Alzina TC	in a hundred (.) kilograms 00:14:32.350 - 00:14:34.327 (0.62)
Prof. Alzina TC	of water  00:14:34.950 - 00:14:35.553 (1.43)

Prof. Alzina YES/  
TC 00:14:36.990 - 00:14:37.541  
(0.46)

Prof. Alzina okay/  
TC 00:14:38.010 - 00:14:38.544  
(1.41)

Prof. Alzina okay/ ah- you can see  
TC 00:14:39.960 - 00:14:41.859  
(0.59)

Prof. Alzina on the screen yeah/  
TC 00:14:42.450 - 00:14:43.333  
(0.49)

Student 3 yes\  
TC 00:14:43.824 - 00:14:44.251  
(0.13)

Prof. Alzina okay/ then  
TC 00:14:44.387 - 00:14:45.641  
(0.09)

Prof. Alzina if you have  
TC 00:14:45.740 - 00:14:46.943  
(0.26)

Prof. Alzina thirty (.) kilograms (.) salt:  
TC 00:14:47.207 - 00:14:50.109  
(0.44)

Prof. Alzina in a hundred  
TC 00:14:50.550 - 00:14:51.520  
(0.46)

Prof. Alzina kilograms water  
TC 00:14:51.980 - 00:14:53.454  
(0.3)

Student 1 too much  
TC 00:14:53.760 - 00:14:53.999  
(1.4)

Prof. Alzina the baumé is/  
TC 00:14:55.407 - 00:14:56.462  
(2.82)

Student 3 xxx in water  
TC 00:14:59.287 - 00:15:01.262

Student 2 xxx  
TC 00:15:00.351 - 00:15:00.992  
(0.96)

Prof. Alzina ten ten thirty  
TC 00:15:01.957 - 00:15:04.009  
(0.13)

Student 2 thirty\  
TC 00:15:04.140 - 00:15:04.623  
(0.21)

Prof. Alzina thirty  
TC 00:15:04.840 - 00:15:05.581  
(0.84)

Prof. Alzina okay/  
TC 00:15:06.430 - 00:15:07.056  
(2.78)

Prof. Alzina then in this case  
TC 00:15:09.840 - 00:15:11.043  
(0.47)

Prof. Alzina e/ in this option  
TC 00:15:11.520 - 00:15:13.063  
(0.83)

Prof. Alzina you have  
TC 00:15:13.900 - 00:15:14.861  
(0.75)

Prof. Alzina too much  
TC 00:15:15.620 - 00:15:16.472  
(1.2)

Prof. Alzina TC baumè\  
00:15:17.680 - 00:15:18.315  
(0.3)

Student 1 TC yes  
00:15:18.620 - 00:15:19.118  
(0.21)

Prof. Alzina TC in the float\  
00:15:19.330 - 00:15:20.183  
(5.06)

Prof. Alzina TC then you need  
00:15:25.250 - 00:15:26.262  
(0.29)

Prof. Alzina TC add  
00:15:26.559 - 00:15:27.265  
(0.61)

Student 2 TC em: (.) two hundred water\  
00:15:27.877 - 00:15:30.523  
(0.09)

Student 3 TC °water°  
00:15:30.617 - 00:15:31.379  
(0.19)

Prof. Alzina TC water  
00:15:31.570 - 00:15:32.275  
(1.03)

Prof. Alzina TC yeah- but/  
00:15:33.310 - 00:15:34.193  
(0.43)

Prof. Alzina TC but  
00:15:34.630 - 00:15:35.242  
(0.82)

Student 2 TC but/  
00:15:36.067 - 00:15:36.542  
(3.48)

Prof. Alzina TC you have to think  
00:15:40.030 - 00:15:41.322  
(0.21)

Student 2 TC later\  
00:15:41.537 - 00:15:42.456  
(0.36)

Student 2 TC (student nodding)  
00:15:42.825 - 00:15:43.525

Prof. Alzina TC the::  
00:15:43.540 - 00:15:44.759  
(0.68)

Prof. Alzina TC if you add water/  
00:15:45.447 - 00:15:46.743  
(1.78)

Prof. Alzina TC then the proportions change\  
00:15:48.530 - 00:15:50.372  
(0.36)

Prof. Alzina TC the rates change\  
00:15:50.740 - 00:15:52.394  
(1.69)

Prof. Alzina TC m/  
00:15:54.090 - 00:15:54.354  
(0.92)

Prof. Alzina TC that the problem  
00:15:55.278 - 00:15:56.393  
(0.33)

Prof. Alzina TC for the next day  
00:15:56.730 - 00:15:57.556  
(0.92)

Prof. Alzina TC as you haven't done (.) the problem\_  
00:15:58.480 - 00:16:00.794  
(1.99)

Prof. Alzina °the last problem/°  
TC 00:16:02.790 - 00:16:03.720  
(0.61)

Prof. Alzina do that\  
TC 00:16:04.330 - 00:16:04.901  
(1.17)

Prof. Alzina per vosaltres\_  
TC 00:16:06.080 - 00:16:06.972  
(0.53)

Prof. Alzina explico\_  
TC 00:16:07.506 - 00:16:07.978  
(0.74)

Prof. Alzina si jo fico una- un:  
TC 00:16:08.726 - 00:16:10.288  
(0.33)

Prof. Alzina una solució de sal\_  
TC 00:16:10.618 - 00:16:12.018  
(0.36)

Prof. Alzina de trenta per cent baumé\_  
TC 00:16:12.380 - 00:16:14.158  
(0.65)

Prof. Alzina què em trobo- que això té trenta graus baumé\_  
TC 00:16:14.817 - 00:16:17.068  
(1.53)

Prof. Alzina per tant/  
TC 00:16:18.598 - 00:16:19.246  
(0.28)

Prof. Alzina si jo vull un boumé de sis\_  
TC 00:16:19.528 - 00:16:20.979  
(1.29)

Prof. Alzina aixó no pot funcionar\  
TC 00:16:22.278 - 00:16:23.664  
(0.89)

Prof. Alzina vale/  
TC 00:16:24.554 - 00:16:25.133  
(1.51)

Student 4 per què trenta/  
TC 00:16:26.650 - 00:16:27.379  
(0.66)

Prof. Alzina no puc tenir només els trenta per cent aquí\_  
TC 00:16:28.043 - 00:16:30.219  
(0.23)

Prof. Alzina perquè tindrè un baumé molt alt\_  
TC 00:16:30.451 - 00:16:31.980  
(3.49)

Prof. Alzina no puc omplir tot el bany\_  
TC 00:16:35.478 - 00:16:37.150  
(1.05)

Prof. Alzina no puc agafar les pells\_  
TC 00:16:38.200 - 00:16:39.888  
(0.56)

Prof. Alzina i posar-hi (.) aigua amb sal\_  
TC 00:16:40.449 - 00:16:42.586  
(1.16)

Prof. Alzina amb trenta graus boumé i quedar-me tant ample  
TC 00:16:43.751 - 00:16:45.994  
(1.15)

Prof. Alzina perquè la densitat serà massa gran\_  
TC 00:16:47.151 - 00:16:48.897  
(0.44)

Prof. Alzina la buida sí que hi va un de trenta\_  
TC 00:16:49.340 - 00:16:50.830  
(0.59)

Prof. Alzina per tant què he de fer/ diluir\  
TC 00:16:51.425 - 00:16:53.180  
(1.58)

Prof. Alzina eh/ diluir  
TC 00:16:54.760 - 00:16:56.034  
(0.89)

Prof. Alzina pero es CLAR/  
TC 00:16:56.925 - 00:16:57.871  
(0.62)

Prof. Alzina cuidado perquè jo\_  
TC 00:16:58.498 - 00:17:00.056  
(0.51)

Prof. Alzina quan vagi afegint aigua\_  
TC 00:17:00.570 - 00:17:01.980  
(0.29)

Prof. Alzina les proporcions van canviant totes perquè l'aigua que té la pell/  
TC 00:17:02.270 - 00:17:05.261  
(0.46)

Prof. Alzina tot aixó va canviant\  
TC 00:17:05.730 - 00:17:06.909  
(0.58)

Prof. Alzina per tant\_  
TC 00:17:07.490 - 00:17:08.141  
(0.48)

Prof. Alzina feu-me el càlcul\_  
TC 00:17:08.630 - 00:17:09.882  
(0.72)

Prof. Alzina e/ a casa\_  
TC 00:17:10.610 - 00:17:11.340  
(0.15)

Prof. Alzina i me'l porteu perquè ja que no m'heu fet l'últim problema/ em feu aquest\  
TC 00:17:11.490 - 00:17:14.260  
(1.74)

Prof. Alzina em feu el càlcul a casa\_  
TC 00:17:16.000 - 00:17:17.520  
(0.72)

Prof. Alzina de/  
TC 00:17:18.240 - 00:17:18.960  
(0.86)

Prof. Alzina com fer-ho/  
TC 00:17:19.820 - 00:17:21.001  
(1.29)

Prof. Alzina si l'aigua l'he de posar (.) en forma de:.\_  
TC 00:17:22.300 - 00:17:24.779  
(1.17)

Prof. Alzina de- concentrat de: de sal amb aigua  
TC 00:17:25.950 - 00:17:28.503  
(0.15)

Prof. Alzina concentrada al 30 per cent- com fer ho\_  
TC 00:17:28.660 - 00:17:30.767  
(0.31)

Prof. Alzina per obtenir un baumé de sis/  
TC 00:17:31.080 - 00:17:32.562  
(0.22)

Prof. Alzina amb unes proporcions regulables d'aigua e/  
TC 00:17:32.791 - 00:17:35.353  
(1.73)

Prof. Alzina d'acord/  
TC 00:17:37.091 - 00:17:37.574  
(1.81)

Prof. Alzina e/ és a dir que heu d'aplicar la fórmula/  
TC 00:17:39.391 - 00:17:41.602  
(0.33)

Student 4 però (.) la fórmula és diferent a xx\_  
TC 00:17:41.940 - 00:17:43.772  
(0.21)

Prof. Alzina bueno sí: heu d'anar canviant-ho tot\_  
TC 00:17:43.991 - 00:17:46.061

(0.46)

Student 4 xx-  
TC 00:17:46.521 - 00:17:46.949

Prof. Alzina però la base es la mateixa  
TC 00:17:46.711 - 00:17:48.027  
(0.22)

Student 4 però es a dir-  
TC 00:17:48.247 - 00:17:48.778

Prof. Alzina =la base es la mateixa=  
TC 00:17:48.450 - 00:17:49.531  
(0.21)

Student 4 és a dir a sis graus baumé/  
TC 00:17:49.750 - 00:17:51.119  
(0.42)

Student 4 fins q-  
TC 00:17:51.540 - 00:17:51.847

Prof. Alzina =a veure\ el problema aquí serà\_  
TC 00:17:51.750 - 00:17:53.581  
(0.33)

Prof. Alzina si sabem si serà el baumé=  
TC 00:17:53.920 - 00:17:55.031  
(0.02)

Student 4 dividir-  
TC 00:17:55.060 - 00:17:55.586

Prof. Alzina =el problema serà\_  
TC 00:17:55.500 - 00:17:56.769  
(0.23)

Prof. Alzina que aquesta cantitat de sal\_  
TC 00:17:57.000 - 00:17:58.455  
(1.22)

Prof. Alzina estarà relacionada\_  
TC 00:17:59.680 - 00:18:00.955  
(0.66)

Prof. Alzina amb una part d'aquesta cantitat d'aigua\  
TC 00:18:01.619 - 00:18:03.507  
(1.58)

Student 4 perquè xx vuit  
TC 00:18:05.090 - 00:18:05.981  
(0.79)

Prof. Alzina per- clar- perquè xx una solució per xxx\  
TC 00:18:06.779 - 00:18:08.395  
(1.17)

Prof. Alzina o sigui- hi haurà un factor que vindrà\_  
TC 00:18:09.570 - 00:18:11.421  
(0.93)

Prof. Alzina si aquí tens una x aquí també tindràs una x\  
TC 00:18:12.360 - 00:18:14.505  
(2.08)

Prof. Alzina vale/  
TC 00:18:16.590 - 00:18:17.072  
(2.2)

Prof. Alzina a DAlt/  
TC 00:18:19.280 - 00:18:19.897  
(0.8)

student 6 la xx sera la mateixa/  
TC 00:18:20.700 - 00:18:22.128  
(0.77)

Prof. Alzina serà la mateixa pero l'has de tr- però la fórmula serà (.) canviarà noi és un  
altre sistema de càlcul  
TC 00:18:22.900 - 00:18:28.190  
(0.25)

Prof. Alzina si no es difícil\_  
TC 00:18:28.447 - 00:18:29.247  
(0.37)

Prof. Alzina TC és una equació de primer grau\_ 00:18:29.617 - 00:18:30.610 (0.86)

Student 5 TC vale 00:18:31.470 - 00:18:32.032 (0.28)

Prof. Alzina TC només que la y quan la tindràs xx relacionada ja està 00:18:32.317 - 00:18:34.991 (0.8)

Prof. Alzina TC yes/ 00:18:35.793 - 00:18:36.137 (0.46)

Prof. Alzina TC the question is or the problem is here 00:18:36.603 - 00:18:38.733 (3.09)

Prof. Alzina TC you don't know the the kilograms of salt\ 00:18:41.823 - 00:18:44.097 (0.72)

Prof. Alzina TC but these kilograms of salt is related/ 00:18:44.823 - 00:18:46.868 (0.53)

Prof. Alzina TC with this water 00:18:47.403 - 00:18:48.077 (0.83)

Prof. Alzina TC then y- 00:18:48.913 - 00:18:49.482 (0.19)

Prof. Alzina TC that is 00:18:49.673 - 00:18:50.337 (0.5)

Prof. Alzina TC a::: x 00:18:50.843 - 00:18:51.871 (3.63)

Prof. Alzina TC here 00:18:55.510 - 00:18:56.080 (1.41)

Prof. Alzina TC it will 00:18:57.490 - 00:18:58.307 (0.81)

Prof. Alzina TC appear 00:18:59.120 - 00:18:59.883 (1.13)

Prof. Alzina TC the same 00:19:01.020 - 00:19:01.625 (0.61)

Prof. Alzina TC incògnita\ 00:19:02.240 - 00:19:02.833 (0.75)

Prof. Alzina TC °the same question xx°/ 00:19:03.590 - 00:19:04.951 (0.56)

Prof. Alzina TC okay/ 00:19:05.512 - 00:19:06.097 (1.56)

Prof. Alzina TC °e/ think in that and xx° 00:19:07.660 - 00:19:09.239 (1.46)

Prof. Alzina TC MOLT bé\ 00:19:10.700 - 00:19:11.346 (0.33)

Prof. Alzina TC venga 00:19:11.680 - 00:19:12.178 (0.59)

Prof. Alzina TC continuem 00:19:12.772 - 00:19:13.463 (4.19)

Prof. Alzina productes/  
TC 00:19:17.658 - 00:19:18.779  
(0.29)

Prof. Alzina productes (.) que es fan servir\_  
TC 00:19:19.071 - 00:19:21.234  
(2.86)

Prof. Alzina productes\_  
TC 00:19:24.097 - 00:19:25.005  
(0.46)

Prof. Alzina que es fan servir\_  
TC 00:19:25.471 - 00:19:26.744  
(4.27)

Prof. Alzina en el piquel/ haviem vist la sal\_  
TC 00:19:31.017 - 00:19:33.206  
(0.51)

Prof. Alzina i ara  
TC 00:19:33.720 - 00:19:34.597  
(0.16)

Prof. Alzina anem a veure m:  
TC 00:19:34.762 - 00:19:36.111  
(1.44)

Prof. Alzina anem a veure\_  
TC 00:19:37.557 - 00:19:38.558  
(1.12)

Prof. Alzina els àcids\  
TC 00:19:39.687 - 00:19:40.336  
(0.84)

Prof. Alzina eh/  
TC 00:19:41.177 - 00:19:41.634  
(1.61)

Prof. Alzina per què hi posem/  
TC 00:19:43.253 - 00:19:44.616  
(2.47)

Prof. Alzina àcids\  
TC 00:19:47.088 - 00:19:47.622  
(1.16)

Prof. Alzina m/  
TC 00:19:48.789 - 00:19:49.020  
(1.43)

Prof. Alzina què fan els acides/  
TC 00:19:50.450 - 00:19:51.579  
(1.17)

Prof. Alzina ah  
TC 00:19:52.750 - 00:19:53.384  
(0.87)

Prof. Alzina els àcids acidifiquen\  
TC 00:19:54.260 - 00:19:56.163  
(1.46)

Prof. Alzina eh/  
TC 00:19:57.630 - 00:19:57.924  
(1.82)

Prof. Alzina vale/  
TC 00:19:59.749 - 00:20:00.191  
(1.18)

Prof. Alzina per tant\_  
TC 00:20:01.379 - 00:20:02.141  
(1.28)

Prof. Alzina què acidifiquen/ la pell clar  
TC 00:20:03.428 - 00:20:04.967  
(1.05)

Prof. Alzina la pell  
TC 00:20:06.023 - 00:20:06.764  
(0.21)

Prof. Alzina canvia  
TC 00:20:06.979 - 00:20:07.679



(1.07)

Prof. Alzina de carga  
TC 00:20:08.750 - 00:20:09.487  
(1.11)

Prof. Alzina i:  
TC 00:20:10.600 - 00:20:11.226  
(0.95)

Prof. Alzina el crom o el alumini qualsevol curtient mineral CATIÒNIC  
TC 00:20:12.180 - 00:20:15.858  
(4.64)

Prof. Alzina NO es basifica\_  
TC 00:20:20.500 - 00:20:22.117  
(0.73)

Prof. Alzina i per tant NO precipita °en la flor°\  
TC 00:20:22.850 - 00:20:26.331  
(0.72)

Prof. Alzina °bueno al- a la superficie de la pell°\  
TC 00:20:27.060 - 00:20:28.848  
(0.64)

Prof. Alzina e/ o sigui (.) evita\_  
TC 00:20:29.490 - 00:20:31.124  
(0.31)

Prof. Alzina la precipitació instantània\_  
TC 00:20:31.440 - 00:20:33.490  
(0.99)

Prof. Alzina del crom\  
TC 00:20:34.480 - 00:20:35.081  
(0.18)

Prof. Alzina si no hi posessim l'àcid precipitaria/ si\_  
TC 00:20:35.270 - 00:20:38.008  
(0.23)

Prof. Alzina per què/  
TC 00:20:38.239 - 00:20:38.911  
(0.26)

Prof. Alzina perquè la pell després d'un desenclat rendit/  
TC 00:20:39.180 - 00:20:41.828  
(0.35)

Prof. Alzina està a ph vuit nou  
TC 00:20:42.180 - 00:20:43.291  
(0.25)

Prof. Alzina i és aniònic  
TC 00:20:43.550 - 00:20:44.288  
(2.01)

Prof. Alzina per tant el que fem és tranformar-la en catiònica per evitar aquest tipus de\_  
TC 00:20:46.298 - 00:20:50.110  
(0.64)

Prof. Alzina sobrecurtició no/  
TC 00:20:50.758 - 00:20:52.047  
(0.95)

Prof. Alzina d'acord/  
TC 00:20:52.998 - 00:20:53.305  
(3.0)

Prof. Alzina the first  
TC 00:20:56.308 - 00:20:57.248  
(0.31)

Prof. Alzina thing\  
TC 00:20:57.558 - 00:20:57.961  
(0.16)

Prof. Alzina WHY/  
TC 00:20:58.126 - 00:20:58.809  
(0.43)

Prof. Alzina we add acids\  
TC 00:20:59.248 - 00:21:00.930  
(0.45)

Prof. Alzina eh/

TC	00:21:01.388 - 00:21:01.843 (0.85)
Prof. Alzina TC	to avoid_ 00:21:02.701 - 00:21:03.729 (0.26)
Prof. Alzina TC	to avoid_ 00:21:03.993 - 00:21:04.776 (0.59)
Prof. Alzina TC	the (.) precipitation_ 00:21:05.369 - 00:21:07.180 (1.17)
Prof. Alzina TC	the (.) precipitation_ 00:21:08.358 - 00:21:10.049 (0.39)
Prof. Alzina TC	of the 00:21:10.445 - 00:21:11.204 (0.39)
Prof. Alzina TC	mineral_ 00:21:11.600 - 00:21:12.361 (0.81)
Prof. Alzina TC	tanning_ 00:21:13.180 - 00:21:13.710 (0.89)
Prof. Alzina TC	chemicals\ 00:21:14.601 - 00:21:15.170 (1.04)
Prof. Alzina TC	because_ 00:21:16.210 - 00:21:16.852 (0.14)
Prof. Alzina TC	the hide_ 00:21:17.000 - 00:21:17.774 (1.86)
Prof. Alzina TC	after_ 00:21:19.640 - 00:21:20.322 (0.45)
Prof. Alzina TC	m: deliming_ 00:21:20.780 - 00:21:21.998 (0.96)
Prof. Alzina TC	is_ 00:21:22.960 - 00:21:23.498 (0.65)
Prof. Alzina TC	anionic 00:21:24.150 - 00:21:24.916 (1.65)
Prof. Alzina TC	and_ 00:21:26.570 - 00:21:27.065 (1.0)
Prof. Alzina TC	the:: 00:21:28.070 - 00:21:28.531 (0.49)
Prof. Alzina TC	chemicals_ 00:21:29.030 - 00:21:29.690 (1.24)
Prof. Alzina TC	xxx to tan_ 00:21:30.930 - 00:21:32.052 (1.02)
Prof. Alzina TC	are 00:21:33.080 - 00:21:33.674 (0.42)
Prof. Alzina TC	cationic\ 00:21:34.100 - 00:21:34.638 (1.17)
Prof. Alzina TC	then_ 00:21:35.810 - 00:21:36.286 (0.73)

Prof. Alzina TC to avoid\_ 00:21:37.020 - 00:21:37.830 (0.56)

Prof. Alzina TC a::: 00:21:38.390 - 00:21:39.236 (2.0)

Prof. Alzina TC supertanning\_ 00:21:41.240 - 00:21:42.230 (0.33)

Prof. Alzina TC only in surface\_ 00:21:42.560 - 00:21:43.583 (0.58)

Prof. Alzina TC e/ 00:21:44.170 - 00:21:44.401 (0.34)

Prof. Alzina TC too much tanning on the surface\_ 00:21:44.750 - 00:21:46.426 (1.84)

Prof. Alzina TC precipitation on surface\_ 00:21:48.270 - 00:21:49.622 (0.58)

Prof. Alzina TC we add (.) °acids°\ 00:21:50.210 - 00:21:51.706 (0.25)

Prof. Alzina TC okay/ 00:21:51.960 - 00:21:52.257 (0.46)

Prof. Alzina TC then 00:21:52.719 - 00:21:53.280 (2.07)

Prof. Alzina TC it depends on the kind of acid and the:: 00:21:55.350 - 00:21:58.125 (0.19)

Prof. Alzina TC quantity\_ 00:21:58.320 - 00:21:58.975 (0.33)

Prof. Alzina TC you add 00:21:59.310 - 00:21:59.873 (0.85)

Prof. Alzina TC the effect is different\ 00:22:00.730 - 00:22:01.722 (0.6)

Prof. Alzina TC m/ 00:22:02.330 - 00:22:02.623 (0.45)

Prof. Alzina TC l'efecte\_ 00:22:03.080 - 00:22:03.970 (0.62)

Prof. Alzina TC vindrà marcat per dues condicions\ 00:22:04.590 - 00:22:06.521 (0.15)

Prof. Alzina TC el tipus d'àcid que hi posem/ 00:22:06.680 - 00:22:08.297 (0.5)

Prof. Alzina TC i la quantitat d'àcid que hi posem\ 00:22:08.800 - 00:22:10.984 (1.78)

Student 5 TC una pregunta/ 00:22:12.770 - 00:22:13.548 (0.23)

Student 5 TC la sobrecurtició és el mateix que dir que descurtició no/ 00:22:13.780 - 00:22:16.914

Prof. Alzina TC =digues= 00:22:13.860 - 00:22:14.190 (3.07)

Prof. Alzina la/  
TC 00:22:17.260 - 00:22:17.735  
(0.56)

Prof. Alzina no\ la sobrecurtició vol dir=  
TC 00:22:18.300 - 00:22:19.824

Student 5 =descurtició=  
TC 00:22:19.710 - 00:22:20.810

Prof. Alzina que tot el crom  
TC 00:22:20.320 - 00:22:21.545  
(0.5)

Student 5 =xxx=  
TC 00:22:22.050 - 00:22:22.815

Prof. Alzina et quedaria precipitat a sobre\_  
TC 00:22:22.380 - 00:22:24.559  
(0.51)

Prof. Alzina la flor  
TC 00:22:25.070 - 00:22:25.704  
(1.0)

Prof. Alzina sobre- sobre sobrecurtició curtició per sobre  
TC 00:22:26.710 - 00:22:29.254  
(0.12)

Student 5 i-  
TC 00:22:29.375 - 00:22:29.565

Prof. Alzina sense aparentar\  
TC 00:22:29.550 - 00:22:30.630

Student 5 descurtim/  
TC 00:22:30.460 - 00:22:31.213  
(0.42)

Prof. Alzina no descurtim- ja no curtim  
TC 00:22:31.642 - 00:22:33.333

Student 5 aixó  
TC 00:22:33.333 - 00:22:33.833

Prof. Alzina perquè  
TC 00:22:33.730 - 00:22:34.205  
(0.09)

Prof. Alzina descurtir es- quan tu dius curtir/  
TC 00:22:34.304 - 00:22:36.133  
(0.36)

Student 5 precipitar precipitar  
TC 00:22:36.493 - 00:22:37.533

Prof. Alzina =crear una nova curtició\  
TC 00:22:36.694 - 00:22:37.766  
(0.3)

Prof. Alzina NO\  
TC 00:22:38.074 - 00:22:38.644  
(0.16)

Prof. Alzina treure-la\  
TC 00:22:38.804 - 00:22:39.487  
(1.54)

Prof. Alzina contrari\_  
TC 00:22:41.034 - 00:22:41.749  
(0.25)

Prof. Alzina trencar els enllaços i fer-la fora\  
TC 00:22:42.004 - 00:22:43.735

Student 1  
TC 00:22:42.004 - 00:22:43.735  
(1.14)

Prof. Alzina vale/  
TC 00:22:44.884 - 00:22:45.331  
(0.29)

Prof. Alzina descurtir és aixó\  
TC 00:22:45.624 - 00:22:46.575  
(0.55)

Prof. Alzina      trencar els enllaços\_  
TC                    00:22:47.130 - 00:22:48.246  
                         (0.19)

Prof. Alzina      que ja estan  
TC                    00:22:48.440 - 00:22:49.083  
                         (0.16)

Prof. Alzina      enganxats que enganxen  
TC                    00:22:49.250 - 00:22:50.503  
                         (0.23)

Prof. Alzina      les fibres del col.lagen\_  
TC                    00:22:50.734 - 00:22:51.831  
                         (0.81)

Prof. Alzina      i treure la cortina a fora  
TC                    00:22:52.650 - 00:22:53.690  
                         (0.85)

Prof. Alzina      sobrecurtir  
TC                    00:22:54.540 - 00:22:55.379  
                         (0.57)

Prof. Alzina      vol dir (.) curtir (.) massa la flor\_  
TC                    00:22:55.950 - 00:22:58.910  
                         (0.32)

Prof. Alzina      bloquejem (.) bloquejant els punts reactius\_  
TC                    00:22:59.238 - 00:23:01.776  
                         (0.74)

Prof. Alzina      de com  
TC                    00:23:02.516 - 00:23:03.201  
                         (0.5)

Prof. Alzina      fem un precipitat que fa com una crosta\_  
TC                    00:23:03.710 - 00:23:06.054  
                         (0.78)

Prof. Alzina      i evita  
TC                    00:23:06.840 - 00:23:07.562  
                         (0.36)

Prof. Alzina      que la resta de curtiert pugui penetrar dintre per tant ja no curteixi\  
TC                    00:23:07.925 - 00:23:11.559  
                         (0.59)

Prof. Alzina      però la pell la tenim sense curtir  
TC                    00:23:12.155 - 00:23:13.517  
                         (0.06)

Student 4        descurtida  
TC                    00:23:13.585 - 00:23:14.342  
                         (0.41)

Prof. Alzina      NO descurteix NO: descurteix (.) per a fer descurtir ha d'estar previament  
curtida  
TC                    00:23:14.755 - 00:23:19.677  
                         (0.44)

Prof. Alzina      ° i en aquest cas no ho està°  
TC                    00:23:20.120 - 00:23:21.113  
                         (1.48)

Prof. Alzina      °en aquest cas no ho està de curtido°\  
TC                    00:23:22.600 - 00:23:24.376  
                         (1.24)

Prof. Alzina      m/  
TC                    00:23:25.620 - 00:23:25.943  
                         (0.27)

Prof. Alzina      descurtir és quan tu tens un wet-blue/  
TC                    00:23:26.220 - 00:23:28.586  
                         (0.08)

Student 4        ah vale si  
TC                    00:23:28.675 - 00:23:29.422

Prof. Alzina      eh:/  
TC                    00:23:29.400 - 00:23:29.838  
                         (0.52)

Prof. Alzina      i llavors li treus lo de sobre però perquè ja està curtida  
TC                    00:23:30.360 - 00:23:33.672  
                         (0.76)

Prof. Alzina ara no ara xxx precipita fora i se't curteix una mica la part de fora\  
TC 00:23:34.432 - 00:23:38.102  
(1.78)

Prof. Alzina però a dintre es queda cru\  
TC 00:23:39.890 - 00:23:41.180  
(0.65)

Prof. Alzina e/ entien-/  
TC 00:23:41.830 - 00:23:42.838  
(3.08)

Prof. Alzina anem a veure l'efecte del sulfuric  
TC 00:23:45.920 - 00:23:47.594  
(0.41)

Prof. Alzina e/  
TC 00:23:48.010 - 00:23:48.416  
(0.23)

Prof. Alzina comencem pel sulfuric\  
TC 00:23:48.650 - 00:23:49.640  
(0.99)

Prof. Alzina el sulfuric té dues dissociacions\_  
TC 00:23:50.632 - 00:23:52.824  
(0.49)

Prof. Alzina primer fa  
TC 00:23:53.319 - 00:23:54.303  
(0.23)

Prof. Alzina l'hidrògen sulfat  
TC 00:23:54.534 - 00:23:55.945  
(0.94)

Prof. Alzina i després dona\_  
TC 00:23:56.890 - 00:23:58.341  
(0.93)

Prof. Alzina això és una::  
TC 00:23:59.272 - 00:24:00.540  
(0.75)

Prof. Alzina és immediat és quan es:  
TC 00:24:01.299 - 00:24:02.580  
(0.15)

Prof. Alzina °immediat es:°  
TC 00:24:02.730 - 00:24:03.653  
(0.56)

Prof. Alzina total la dissociació  
TC 00:24:04.219 - 00:24:05.886  
(0.52)

Prof. Alzina i després hi ha una segona dissociació una mica més fluixa  
TC 00:24:06.414 - 00:24:10.153  
(0.71)

Prof. Alzina però bueno de deu a menys dos vol dir que\_  
TC 00:24:10.866 - 00:24:12.373  
(0.21)

Prof. Alzina Déu n'hi do  
TC 00:24:12.586 - 00:24:13.194  
(0.45)

Prof. Alzina la dissociació que hi ha  
TC 00:24:13.646 - 00:24:14.821  
(1.06)

Prof. Alzina de: de hidrògen sulfat a sulfat\  
TC 00:24:15.890 - 00:24:17.947  
(0.69)

Prof. Alzina e/ a la pràctica vol dir que\_  
TC 00:24:18.640 - 00:24:20.241  
(0.49)

Prof. Alzina a la solució tens això/  
TC 00:24:20.740 - 00:24:22.174  
(0.53)

Prof. Alzina això és un sulfat/  
TC 00:24:22.710 - 00:24:23.792

(0.26)

Prof. Alzina tens sulfat i °tens xxx°\  
TC 00:24:24.056 - 00:24:25.577  
(3.32)

Prof. Alzina quines\ característiques\  
TC 00:24:28.900 - 00:24:30.963  
(1.22)

Prof. Alzina te\  
TC 00:24:32.188 - 00:24:32.670  
(1.37)

Prof. Alzina primer  
TC 00:24:34.040 - 00:24:34.882  
(0.26)

Prof. Alzina es que té un- cert efecte emmascarant del crom  
TC 00:24:35.146 - 00:24:39.089  
(0.67)

Prof. Alzina eh/  
TC 00:24:39.760 - 00:24:40.089  
(0.93)

Prof. Alzina es a dir  
TC 00:24:41.023 - 00:24:41.730  
(0.56)

Prof. Alzina que es (.) capa:ç  
TC 00:24:42.291 - 00:24:44.093  
(0.76)

Prof. Alzina de: combinar-se  
TC 00:24:44.862 - 00:24:46.964  
(1.3)

Prof. Alzina amb la sal del curtient de crom que hi afegirem després  
TC 00:24:48.270 - 00:24:50.965  
(0.34)

Prof. Alzina això ho veurem més  
TC 00:24:51.310 - 00:24:52.453  
(0.37)

Prof. Alzina acuradament  
TC 00:24:52.830 - 00:24:53.751  
(0.46)

Prof. Alzina quan arribi el:  
TC 00:24:54.213 - 00:24:55.668  
(1.32)

Prof. Alzina capítol de curtició\  
TC 00:24:56.988 - 00:24:58.430  
(0.8)

Prof. Alzina °d'adobament°  
TC 00:24:59.238 - 00:24:59.982  
(1.56)

Prof. Alzina un altre efecte  
TC 00:25:01.548 - 00:25:02.544  
(0.82)

Prof. Alzina xxx  
TC 00:25:03.368 - 00:25:04.072  
(0.16)

Prof. Alzina per tant la penetració es baixa  
TC 00:25:04.237 - 00:25:06.040  
(0.89)

Prof. Alzina li costa de penetrar el sulfuro  
TC 00:25:06.939 - 00:25:08.257  
(0.46)

Prof. Alzina què passa Mercè/  
TC 00:25:08.719 - 00:25:09.706  
(0.44)

Prof. Alzina pregunta filla pregunta va  
TC 00:25:10.149 - 00:25:11.941  
(1.86)

Prof. Alzina digues

TC 00:25:13.809 - 00:25:14.203  
(0.39)

Prof. Alzina que et vec aqui estressada ja  
TC 00:25:14.599 - 00:25:15.885  
(1.0)

Student 4 no que m: enmascarant xxxx amb el crom\_  
TC 00:25:16.889 - 00:25:21.171

Prof. Alzina =sí es pot combinar amb el curtient sí i te uns certs efectes/  
TC 00:25:20.949 - 00:25:23.770  
(0.26)

Prof. Alzina però els veurem més endavant e/  
TC 00:25:24.034 - 00:25:25.812  
(0.36)

Prof. Alzina en el fons l'enmascarant vol dir que ajuda a: a la penetració del crom\  
TC 00:25:26.181 - 00:25:29.703  
(0.78)

Prof. Alzina a la curtició\  
TC 00:25:30.484 - 00:25:31.244

Student 4 xxx complexa\_  
TC 00:25:31.263 - 00:25:32.305  
(0.31)

Student 4 i això-  
TC 00:25:32.620 - 00:25:33.232

Prof. Alzina =si però això ho veurem acuradament en un moment  
TC 00:25:33.200 - 00:25:35.702  
(0.89)

Prof. Alzina e/  
TC 00:25:36.600 - 00:25:36.922  
(2.38)

Prof. Alzina penetracions  
TC 00:25:39.310 - 00:25:40.558  
(1.93)

Prof. Alzina e/ costa d'entrar\  
TC 00:25:42.490 - 00:25:44.088  
(0.9)

Prof. Alzina pells gruixudes hi podem tenir molts problemes\  
TC 00:25:44.990 - 00:25:47.784  
(1.47)

Prof. Alzina m/  
TC 00:25:49.260 - 00:25:49.428  
(1.51)

Prof. Alzina ara bé  
TC 00:25:50.940 - 00:25:51.694  
(0.43)

Prof. Alzina ara bé\  
TC 00:25:52.130 - 00:25:52.749  
(1.26)

Prof. Alzina aquesta penetració com la podem augmentar/  
TC 00:25:54.013 - 00:25:56.061  
(0.42)

Prof. Alzina rebaixant els banys\  
TC 00:25:56.490 - 00:25:57.450  
(0.96)

Prof. Alzina si/ o augmentant la concentració (?de sulfúric)  
TC 00:25:58.410 - 00:26:00.588  
(0.52)

Prof. Alzina clar  
TC 00:26:01.113 - 00:26:01.724  
(1.05)

Prof. Alzina aqui s'ha d'anar amb cuidat\_  
TC 00:26:02.780 - 00:26:04.023  
(0.82)

Prof. Alzina perquè dius augmentar la concentració\_  
TC 00:26:04.850 - 00:26:06.955  
(1.7)



Prof. Alzina si tu poses més sulfuric  
TC 00:26:08.660 - 00:26:10.710  
(0.19)

Prof. Alzina el pH et baixarà molt\  
TC 00:26:10.908 - 00:26:12.117  
(1.06)

Prof. Alzina i això ja serà (.) dolent\_  
TC 00:26:13.178 - 00:26:14.865  
(0.38)

Prof. Alzina desinflarà massa la pell\_  
TC 00:26:15.248 - 00:26:16.449  
(1.37)

Prof. Alzina e/  
TC 00:26:17.820 - 00:26:18.157  
(1.25)

Prof. Alzina perdó no desinflarà massa- inflarà\  
TC 00:26:19.413 - 00:26:21.439  
(0.28)

Prof. Alzina e/ tendirà a més inflament (.) a més  
TC 00:26:21.720 - 00:26:23.684  
(0.62)

Prof. Alzina a llavors (.) hi ha una manera\_  
TC 00:26:24.310 - 00:26:26.112  
(0.75)

Prof. Alzina baixar la quantitat d'aigua  
TC 00:26:26.871 - 00:26:28.059  
(2.26)

Prof. Alzina això sí que ho podem fer  
TC 00:26:30.323 - 00:26:31.272  
(0.75)

Prof. Alzina perquè el que importa en el ph\_  
TC 00:26:32.031 - 00:26:33.932  
(0.33)

Prof. Alzina és la quantitat de bany\  
TC 00:26:34.262 - 00:26:35.318  
(0.36)

Prof. Alzina ai perdó d'àcid\_  
TC 00:26:35.682 - 00:26:36.931  
(0.29)

Prof. Alzina no la quantitat de bany°  
TC 00:26:37.229 - 00:26:37.987  
(1.67)

Prof. Alzina baixar  
TC 00:26:39.660 - 00:26:40.445  
(0.75)

Prof. Alzina la quantitat de bany\  
TC 00:26:41.200 - 00:26:42.084  
(1.2)

Prof. Alzina això no ens modificarà res del ph\_  
TC 00:26:43.290 - 00:26:44.914  
(1.21)

Student 4 perquè la penetració serà (.) igual no/  
TC 00:26:46.130 - 00:26:48.260  
(0.38)

Prof. Alzina per què  
TC 00:26:48.640 - 00:26:49.274  
(0.44)

Prof. Alzina variarà una mica\_  
TC 00:26:49.720 - 00:26:50.720  
(0.54)

Prof. Alzina clar  
TC 00:26:51.260 - 00:26:51.941  
(0.33)

Prof. Alzina si tu tens un: un piquel amb dos per cent d'acid\_  
TC 00:26:52.271 - 00:26:55.200

(0.75)

Prof. Alzina i l'hi poses un tres per cent per augmentar la concentració el ph baixarà\_  
TC 00:26:55.951 - 00:26:58.635  
(0.81)

Prof. Alzina molt\  
TC 00:26:59.451 - 00:27:00.069  
(0.68)

Prof. Alzina en canvi si tu dius tens un- un píquel amb un dos per cent d'aigua amb un cent  
per cent d'es- d'aigua  
TC 00:27:00.750 - 00:27:04.645  
(0.77)

Prof. Alzina i el cent per cent d'aigua baixa un vuitanta\_  
TC 00:27:05.420 - 00:27:07.193  
(2.09)

Prof. Alzina el pH baixarà poquíssim  
TC 00:27:09.290 - 00:27:10.515  
(0.45)

Prof. Alzina canviarà poquíssim\  
TC 00:27:10.970 - 00:27:11.676  
(1.01)

Prof. Alzina i en canvi has augmentat  
TC 00:27:12.690 - 00:27:14.119  
(0.26)

Prof. Alzina °la concentració°\  
TC 00:27:14.380 - 00:27:15.303  
(0.79)

Prof. Alzina què passa quan hi fiques menys aigua//  
TC 00:27:16.100 - 00:27:17.570  
(0.64)

Prof. Alzina quan fiques menys aigua en el fons\_  
TC 00:27:18.210 - 00:27:20.460  
(0.42)

Prof. Alzina en el fons que estàs fent/  
TC 00:27:20.889 - 00:27:22.432  
(0.7)

Prof. Alzina disminuir això  
TC 00:27:23.136 - 00:27:24.145  
(1.66)

Prof. Alzina disminueixes això\  
TC 00:27:25.809 - 00:27:26.839  
(1.15)

Prof. Alzina val/  
TC 00:27:27.994 - 00:27:28.509  
(0.16)

Prof. Alzina per tant l'equilibri\_  
TC 00:27:28.675 - 00:27:29.924  
(0.75)

Prof. Alzina se't desplaça cap a l'esquerra  
TC 00:27:30.683 - 00:27:32.157  
(0.33)

Prof. Alzina si disminueixes els dos components de l'esquerra l'equilibri de l'esquerra\_  
TC 00:27:32.487 - 00:27:35.309  
(0.35)

Prof. Alzina i hi haura (.) més concentració\_  
TC 00:27:35.667 - 00:27:37.671  
(0.35)

Prof. Alzina d'hidrògen sulfat\_  
TC 00:27:38.030 - 00:27:39.177  
(0.48)

Prof. Alzina que de sulfat\  
TC 00:27:39.660 - 00:27:40.428  
(1.88)

Prof. Alzina i el hidrogen sulfat que té només una carga\_  
TC 00:27:42.310 - 00:27:44.533  
(1.04)

Prof. Alzina negativa\  
TC 00:27:45.573 - 00:27:46.335  
(0.18)

Prof. Alzina és  
TC 00:27:46.523 - 00:27:46.983  
(0.33)

Prof. Alzina penetra més fàcilment  
TC 00:27:47.313 - 00:27:48.620  
(0.11)

Prof. Alzina °que el sulfat°\  
TC 00:27:48.733 - 00:27:49.323  
(2.33)

Prof. Alzina d'acord/  
TC 00:27:51.653 - 00:27:52.184  
(2.58)

Prof. Alzina s'ha de diluir (.) la xx  
TC 00:27:54.769 - 00:27:56.737  
(0.36)

Prof. Alzina perquè es molt oxidant  
TC 00:27:57.100 - 00:27:58.471  
(1.09)

Prof. Alzina e/  
TC 00:27:59.569 - 00:27:59.957  
(0.36)

Prof. Alzina i recordeu  
TC 00:28:00.320 - 00:28:01.421  
(0.72)

Prof. Alzina sempre (.) el sulfuric sobre l'aigua\  
TC 00:28:02.147 - 00:28:04.411  
(1.44)

Prof. Alzina e/ els esquitxos\  
TC 00:28:05.853 - 00:28:06.877  
(0.83)

Prof. Alzina si tu tires els sulfurics al aigua i t'esquitxes  
TC 00:28:07.713 - 00:28:09.953  
(1.01)

Prof. Alzina hi ha molta aigua i molt poc sulfuric\_  
TC 00:28:10.963 - 00:28:12.929  
(0.42)

Prof. Alzina que si el tires a l'inrevés\_  
TC 00:28:13.358 - 00:28:14.825 -  
(0.66)

Prof. Alzina l'esquitx serà de molt sulfuric i molt poc- i molt poca aigua amb lo qual xxxx  
TC 00:28:15.490 - 00:28:18.947  
(1.3)

Prof. Alzina vale/  
TC 00:28:20.250 - 00:28:20.764  
(1.03)

Student 5 o sigui primer[ l'aigua]  
TC 00:28:21.800 - 00:28:22.699

Prof. Alzina =[aquest] es prepara fora  
TC 00:28:22.210 - 00:28:23.817  
(0.29)

Prof. Alzina i es va afegint e/  
TC 00:28:24.110 - 00:28:25.016  
(1.88)

Prof. Alzina i molt lentament\  
TC 00:28:26.904 - 00:28:27.880  
(0.39)

Prof. Alzina per què/  
TC 00:28:28.276 - 00:28:28.917  
(0.42)

Prof. Alzina perquè allà on cau com que tens un-  
TC 00:28:29.344 - 00:28:31.330  
(0.35)

Prof. Alzina un bany  
TC 00:28:31.684 - 00:28:32.416  
(0.55)

Prof. Alzina de pH vuit (.) allà on cau  
TC 00:28:32.974 - 00:28:35.048  
(0.2)

Prof. Alzina es faria un canvi bruscat de ph  
TC 00:28:35.254 - 00:28:36.633  
(1.02)

Prof. Alzina i- i podria provocar-te (.) tocar la pe:ll\_  
TC 00:28:37.656 - 00:28:40.679  
(0.71)

Prof. Alzina i fer canvis bruscos en aquell punt\_  
TC 00:28:41.390 - 00:28:43.879  
(0.6)

Prof. Alzina i després donar desigualtats xxx\  
TC 00:28:44.485 - 00:28:46.061  
(0.49)

student 6 hi ha que anar ficant i movent no/  
TC 00:28:46.560 - 00:28:48.566  
(0.23)

Prof. Alzina si: no- e: a veure\ al remoure és al bombo mateix\  
TC 00:28:48.800 - 00:28:51.600  
(0.59)

Prof. Alzina sempre per l'eix diluït  
TC 00:28:52.197 - 00:28:53.614  
(0.08)

student 6 si es-  
TC 00:28:53.697 - 00:28:54.540

Prof. Alzina =amb- amb molt poca dossificació\  
TC 00:28:54.210 - 00:28:55.986  
(0.66)

Prof. Alzina de tal manera que cau  
TC 00:28:56.647 - 00:28:58.357  
(0.62)

Prof. Alzina i es reparteix molt be- té temps de repartir-se molt bé\_  
TC 00:28:58.984 - 00:29:01.863  
(1.12)

Prof. Alzina no- no hi ha una concentració constant forta en un lloc determinat  
TC 00:29:02.985 - 00:29:06.084  
(0.87)

Prof. Alzina sino que hi ha molt pero °xxx°\  
TC 00:29:06.963 - 00:29:08.214  
(0.79)

Prof. Alzina que es lo que interessa per obtenir homogeneïtat\  
TC 00:29:09.009 - 00:29:11.327  
(2.07)

Prof. Alzina bueno els hi explico: (referint-se als erasmus)  
TC 00:29:13.399 - 00:29:14.649  
(2.36)

Prof. Alzina sulfuric acid\  
TC 00:29:17.012 - 00:29:17.814  
(1.08)

Prof. Alzina very common  
TC 00:29:18.899 - 00:29:19.597  
(0.44)

Prof. Alzina e/ °very used°\  
TC 00:29:20.039 - 00:29:21.096  
(1.6)

Prof. Alzina that's the:  
TC 00:29:22.699 - 00:29:23.581  
(0.29)

Prof. Alzina equilibrium/  
TC 00:29:23.879 - 00:29:24.600  
(1.09)

Prof. Alzina yeah/  
TC 00:29:25.699 - 00:29:26.116  
(1.4)

Prof. Alzina in the float you have\_  
TC 00:29:27.519 - 00:29:28.897  
(0.44)

Prof. Alzina that\_  
TC 00:29:29.339 - 00:29:29.926  
(0.29)

Prof. Alzina °that that and that° [assenyala les dades a la pissarra]  
TC 00:29:30.219 - 00:29:31.347  
(0.83)

Prof. Alzina okay/  
TC 00:29:32.179 - 00:29:32.570  
(0.47)

Prof. Alzina because that's\_  
TC 00:29:33.040 - 00:29:33.754  
(1.05)

Prof. Alzina °a:: constant you can have is°\_ [gesticula amb les mans]  
TC 00:29:34.810 - 00:29:36.885  
(3.22)

Prof. Alzina the problem- the:: sulfuric acid\_  
TC 00:29:40.111 - 00:29:42.371  
(0.5)

Prof. Alzina has  
TC 00:29:42.877 - 00:29:43.452  
(0.33)

Prof. Alzina a:  
TC 00:29:43.782 - 00:29:44.293  
(1.0)

Prof. Alzina sol- a::  
TC 00:29:45.300 - 00:29:46.688  
(0.25)

Prof. Alzina masking effect\_  
TC 00:29:46.940 - 00:29:47.893  
(0.97)

Prof. Alzina over the chrome°\  
TC 00:29:48.870 - 00:29:49.513  
(0.57)

Prof. Alzina °yeah/ and °  
TC 00:29:50.090 - 00:29:50.635  
(0.73)

Prof. Alzina it's (.) good\_  
TC 00:29:51.370 - 00:29:52.580  
(0.78)

Prof. Alzina for m: °tanning°\  
TC 00:29:53.360 - 00:29:54.646  
(1.78)

Prof. Alzina we'll explain (.) °in the next question°\  
TC 00:29:56.430 - 00:29:59.215  
(1.1)

Prof. Alzina °xxx chromium°\  
TC 00:30:00.320 - 00:30:01.522  
(1.11)

Prof. Alzina then/ penetration  
TC 00:30:02.640 - 00:30:03.718  
(0.96)

Prof. Alzina yeah/  
TC 00:30:04.680 - 00:30:05.082  
(2.49)

Prof. Alzina it has (.) bad (.) penetration\  
TC 00:30:07.580 - 00:30:09.817  
(0.65)

Prof. Alzina okay/  
TC 00:30:10.470 - 00:30:10.968  
(0.65)

Prof. Alzina bad °penetration°\  
TC 00:30:11.618 - 00:30:12.755  
(1.72)

Prof. Alzina then  
TC 00:30:14.477 - 00:30:15.120  
(1.01)

Prof. Alzina if:  
TC 00:30:16.130 - 00:30:16.651  
(0.39)

Prof. Alzina we di- e:: if we want  
TC 00:30:17.047 - 00:30:20.343  
(1.95)

Prof. Alzina increase  
TC 00:30:22.300 - 00:30:23.142  
(0.34)

Prof. Alzina this penetration/  
TC 00:30:23.482 - 00:30:24.637  
(2.38)

Prof. Alzina we will  
TC 00:30:27.026 - 00:30:27.978  
(0.4)

Prof. Alzina decrease  
TC 00:30:28.380 - 00:30:29.232  
(2.3)

Prof. Alzina the  
TC 00:30:31.539 - 00:30:32.103  
(0.42)

Prof. Alzina float\  
TC 00:30:32.530 - 00:30:33.211  
(1.6)

Prof. Alzina not  
TC 00:30:34.820 - 00:30:35.591  
(0.76)

Prof. Alzina e/ the other alternative  
TC 00:30:36.360 - 00:30:37.745  
(0.9)

Prof. Alzina is (.) increasing  
TC 00:30:38.646 - 00:30:40.042  
(1.36)

Prof. Alzina it would be increasing  
TC 00:30:41.406 - 00:30:42.846  
(0.82)

Prof. Alzina the quantity  
TC 00:30:43.671 - 00:30:44.743  
(0.36)

Prof. Alzina of (.) sulfuric/  
TC 00:30:45.110 - 00:30:46.263  
(1.83)

Prof. Alzina yes/ that- that's: that would be\_  
TC 00:30:48.100 - 00:30:50.376  
(1.03)

Prof. Alzina the other °alternative°  
TC 00:30:51.409 - 00:30:52.652  
(0.31)

Prof. Alzina BUT it's a bad °alternative°  
TC 00:30:52.970 - 00:30:54.507 -  
(0.73)

Prof. Alzina increase °the quantity of sulfuric°  
TC 00:30:55.240 - 00:30:56.628  
(0.42)

Prof. Alzina because  
TC 00:30:57.050 - 00:30:57.630  
(0.29)

Prof. Alzina the ph  
TC 00:30:57.927 - 00:30:58.809

(1.02)

Prof. Alzina diminish a lot then\  
TC 00:30:59.832 - 00:31:00.969  
(0.64)

Prof. Alzina e/ too much\  
TC 00:31:01.610 - 00:31:02.636  
(1.11)

Prof. Alzina the initial of- of the (.) the pH\_  
TC 00:31:03.750 - 00:31:06.159  
(0.35)

Prof. Alzina will be very important  
TC 00:31:06.510 - 00:31:07.784  
(0.89)

Prof. Alzina that m- is not good for us  
TC 00:31:08.680 - 00:31:10.167  
(1.51)

Prof. Alzina we want  
TC 00:31:11.680 - 00:31:12.425  
(0.99)

Prof. Alzina a pH\_  
TC 00:31:13.420 - 00:31:13.981  
(0.64)

Prof. Alzina regular pH yeah/  
TC 00:31:14.630 - 00:31:15.952  
(0.64)

Prof. Alzina then  
TC 00:31:16.600 - 00:31:17.169  
(0.39)

Prof. Alzina the- the- the solution (.) the good solution is\_  
TC 00:31:17.565 - 00:31:20.106  
(0.49)

Prof. Alzina to (.) decrease\_  
TC 00:31:20.601 - 00:31:22.141  
(0.92)

Prof. Alzina the quantity of water\  
TC 00:31:23.070 - 00:31:24.176  
(2.49)

Prof. Alzina okay/  
TC 00:31:26.671 - 00:31:27.249  
(1.96)

Prof. Alzina xx effect to increase the mechanical effect and then\_  
TC 00:31:29.210 - 00:31:32.079  
(0.53)

Prof. Alzina then  
TC 00:31:32.610 - 00:31:33.005  
(1.57)

Prof. Alzina the chemical reason\_  
TC 00:31:34.580 - 00:31:35.798  
(0.29)

Prof. Alzina about\_  
TC 00:31:36.095 - 00:31:36.640  
(0.66)

Prof. Alzina the increase of penetration\_  
TC 00:31:37.300 - 00:31:38.588  
(0.52)

Prof. Alzina is that\_  
TC 00:31:39.110 - 00:31:39.538  
(0.88)

Prof. Alzina if you diminish\_  
TC 00:31:40.420 - 00:31:41.344  
(0.93)

Prof. Alzina water\_  
TC 00:31:42.280 - 00:31:43.021  
(2.34)

Prof. Alzina you diminish\_

TC 00:31:45.370 - 00:31:46.122  
(0.61)

Prof. Alzina this component  
TC 00:31:46.740 - 00:31:47.992  
(0.77)

Prof. Alzina of the:::  
TC 00:31:48.770 - 00:31:50.189  
(0.52)

Prof. Alzina left side of the equilibrium\_  
TC 00:31:50.710 - 00:31:52.456  
(2.02)

Prof. Alzina then the equilibrium do that  
TC 00:31:54.480 - 00:31:55.944  
(2.4)

Prof. Alzina if (.) you diminish that  
TC 00:31:58.350 - 00:31:59.637  
(1.32)

Prof. Alzina that  
TC 00:32:00.957 - 00:32:01.676  
(1.14)

Prof. Alzina will increase automatically\  
TC 00:32:02.820 - 00:32:04.102  
(0.62)

Prof. Alzina okay/  
TC 00:32:04.729 - 00:32:05.339  
(0.68)

Prof. Alzina then  
TC 00:32:06.020 - 00:32:06.611  
(0.29)

Prof. Alzina you will have (.) in the float\_  
TC 00:32:06.908 - 00:32:08.857  
(0.66)

Prof. Alzina more  
TC 00:32:09.520 - 00:32:10.312  
(0.34)

Prof. Alzina ironized sulfate  
TC 00:32:10.660 - 00:32:11.894  
(1.46)

Prof. Alzina and less (.) sulfate\  
TC 00:32:13.360 - 00:32:14.863  
(2.18)

Prof. Alzina and  
TC 00:32:17.043 - 00:32:17.713  
(1.83)

Prof. Alzina this  
TC 00:32:19.550 - 00:32:20.078  
(0.82)

Prof. Alzina anionic (?is the anion)  
TC 00:32:20.900 - 00:32:22.358  
(0.4)

Prof. Alzina yeah/  
TC 00:32:22.760 - 00:32:23.057  
(2.5)

Prof. Alzina penetrate (.) will penetrate better °penetrate° better \_  
TC 00:32:25.560 - 00:32:29.185  
(1.64)

Prof. Alzina that the other\  
TC 00:32:30.830 - 00:32:31.633  
(1.16)

Prof. Alzina because  
TC 00:32:32.800 - 00:32:33.328  
(0.62)

Prof. Alzina it has only  
TC 00:32:33.955 - 00:32:34.957  
(2.79)



Prof. Alzina a cha- one charge\_ TC 00:32:37.750 - 00:32:38.704 (0.38)

Prof. Alzina one (.) negative charge TC 00:32:39.090 - 00:32:40.378 (0.82)

Prof. Alzina °has two ° TC 00:32:41.200 - 00:32:42.146 (0.99)

Prof. Alzina si si two TC 00:32:43.140 - 00:32:43.813 (0.76)

Prof. Alzina dif- more difficult to penetrate\ TC 00:32:44.580 - 00:32:46.455 (0.94)

Prof. Alzina okay/ TC 00:32:47.400 - 00:32:47.806 (0.88)

Prof. Alzina I repeat\ TC 00:32:48.690 - 00:32:49.514 (0.8)

Prof. Alzina I: diminish TC 00:32:50.320 - 00:32:51.442 (0.89)

Prof. Alzina that\ TC 00:32:52.333 - 00:32:52.870 (0.77)

Prof. Alzina automatically/ xxx TC 00:32:53.640 - 00:32:55.833 (0.42)

Prof. Alzina xxx yeah TC 00:32:56.260 - 00:32:57.268 (1.01)

Prof. Alzina °it's an equilibrium/ then° TC 00:32:58.280 - 00:32:59.866 (1.92)

Prof. Alzina °that increase\° TC 00:33:01.790 - 00:33:02.530 (1.9)

Prof. Alzina okay/ TC 00:33:04.430 - 00:33:04.774 (0.38)

Prof. Alzina °if that increase that diminish\_° TC 00:33:05.160 - 00:33:06.538 (2.13)

Prof. Alzina and that's TC 00:33:08.670 - 00:33:09.264 (0.26)

Prof. Alzina better for penetration than that°\ TC 00:33:09.528 - 00:33:11.048 (1.23)

Prof. Alzina that's the reason TC 00:33:12.280 - 00:33:13.006 (1.08)

Prof. Alzina of the better penetration when you diminish that\° TC 00:33:14.090 - 00:33:15.948 (3.65)

Prof. Alzina question TC 00:33:19.600 - 00:33:20.161 (1.1)

Student 1 xxxxxx I can't understand xx penetration xxxxxxxxxxxx- TC 00:33:21.270 - 00:33:32.600

Prof. Alzina BETTER penetration if you decrease the quantity of water TC 00:33:32.080 - 00:33:34.819 (0.51)

Prof. Alzina in the float\  
TC 00:33:35.330 - 00:33:35.929  
(0.02)

Student 1 but why- why do the xxx/  
TC 00:33:35.950 - 00:33:38.907  
(2.01)

Prof. Alzina °to- to: to:: adding/  
TC 00:33:40.920 - 00:33:42.979  
(0.42)

Prof. Alzina less water  
TC 00:33:43.400 - 00:33:44.419  
(0.58)

Student 1 okay I see but\_  
TC 00:33:45.000 - 00:33:46.040  
(0.49)

Student 1 e:::: you e- you go inside the: leather/  
TC 00:33:46.535 - 00:33:50.495

Prof. Alzina =WHY/=  
TC 00:33:47.610 - 00:33:48.143  
(4.09)

Prof. Alzina no  
TC 00:33:52.240 - 00:33:52.785  
(0.55)

Prof. Alzina you put xxx  
TC 00:33:53.340 - 00:33:54.722  
(0.59)

Student 1 yes  
TC 00:33:55.320 - 00:33:55.764  
(0.39)

Prof. Alzina then  
TC 00:33:56.160 - 00:33:56.529  
(0.82)

Prof. Alzina °all I'm saying °\  
TC 00:33:57.349 - 00:33:57.903  
(2.63)

Prof. Alzina to: increase penetration  
TC 00:34:00.540 - 00:34:02.412  
(0.93)

Prof. Alzina is better a float  
TC 00:34:03.347 - 00:34:04.756  
(0.29)

Prof. Alzina of a hundred per cent  
TC 00:34:05.047 - 00:34:06.412  
(1.65)

Prof. Alzina or a float  
TC 00:34:08.062 - 00:34:09.121  
(0.44)

Prof. Alzina of sixty per cent/  
TC 00:34:09.563 - 00:34:10.443  
(1.74)

Prof. Alzina °I say °  
TC 00:34:12.183 - 00:34:12.687  
(0.36)

Prof. Alzina sixty per cent\  
TC 00:34:13.051 - 00:34:13.799  
(2.21)

Prof. Alzina yeah/  
TC 00:34:16.013 - 00:34:16.376  
(0.66)

Prof. Alzina sixty per cent is better\  
TC 00:34:17.036 - 00:34:18.061  
(1.06)

Prof. Alzina WHY/  
TC 00:34:19.123 - 00:34:19.755  
(0.23)

Prof. Alzina because in sixty per cent  
TC 00:34:19.986 - 00:34:21.628  
(0.42)

Prof. Alzina the relative quantity  
TC 00:34:22.057 - 00:34:23.423  
(0.82)

Prof. Alzina the rate  
TC 00:34:24.247 - 00:34:25.024  
(0.39)

Prof. Alzina between  
TC 00:34:25.420 - 00:34:26.237  
(0.36)

Prof. Alzina sixty per cent  
TC 00:34:26.600 - 00:34:27.442  
(0.63)

Prof. Alzina the rate between [escriu a la pissarra]  
TC 00:34:28.080 - 00:34:29.427  
(4.42)

Prof. Alzina these two concentration  
TC 00:34:33.850 - 00:34:35.112  
(4.0)

Prof. Alzina m/  
TC 00:34:39.120 - 00:34:39.434  
(0.39)

Prof. Alzina this rate  
TC 00:34:39.830 - 00:34:40.599  
(2.38)

Prof. Alzina it's (.) a:  
TC 00:34:42.980 - 00:34:44.260  
(1.34)

Prof. Alzina higher  
TC 00:34:45.600 - 00:34:46.282  
(1.63)

Prof. Alzina in- in sixty per cent  
TC 00:34:47.920 - 00:34:49.767  
(1.03)

Prof. Alzina it's higher  
TC 00:34:50.800 - 00:34:51.598  
(2.98)

Prof. Alzina than the same rate  
TC 00:34:54.580 - 00:34:55.965  
(2.49)

Prof. Alzina the same rate  
TC 00:34:58.460 - 00:34:59.446  
(4.25)

Prof. Alzina in a hundred per cent\  
TC 00:35:03.700 - 00:35:04.663  
(8.12)

Prof. Alzina yeah/  
TC 00:35:12.790 - 00:35:13.237  
(1.3)

Prof. Alzina WHY/  
TC 00:35:14.540 - 00:35:15.126  
(0.27)

Prof. Alzina because the equilibrium\  
TC 00:35:15.400 - 00:35:16.338  
(1.41)

Student 1 okay  
TC 00:35:17.749 - 00:35:18.111  
(0.69)

Prof. Alzina yeah/  
TC 00:35:18.810 - 00:35:19.138  
(0.27)

Student 1 mh  
TC 00:35:19.409 - 00:35:19.809  
(0.51)

Prof. Alzina do you understand now/  
TC 00:35:20.326 - 00:35:21.168  
(0.75)

Prof. Alzina and that's u- better\_  
TC 00:35:21.920 - 00:35:23.697  
(2.15)

Prof. Alzina that's tannion e/  
TC 00:35:25.850 - 00:35:26.903  
(0.32)

Prof. Alzina is better  
TC 00:35:27.231 - 00:35:27.872  
(1.07)

Prof. Alzina to penetrate than this one- this one\  
TC 00:35:28.950 - 00:35:30.424  
(5.09)

Prof. Alzina yeah/  
TC 00:35:35.520 - 00:35:35.751  
(0.89)

Prof. Alzina as more  
TC 00:35:36.642 - 00:35:37.693  
(1.57)

Prof. Alzina hydrogen sulfate  
TC 00:35:39.270 - 00:35:40.392  
(0.54)

Prof. Alzina you have\_  
TC 00:35:40.937 - 00:35:41.597  
(0.69)

Prof. Alzina better penetration\  
TC 00:35:42.290 - 00:35:43.115  
(1.24)

Prof. Alzina as lights\_  
TC 00:35:44.360 - 00:35:45.299  
(1.35)

Prof. Alzina sulfate (.) better penetration\  
TC 00:35:46.650 - 00:35:48.183  
(1.12)

Prof. Alzina yeah/  
TC 00:35:49.310 - 00:35:49.660  
(1.92)

Prof. Alzina okay then  
TC 00:35:51.580 - 00:35:52.306  
(0.72)

Prof. Alzina two more things\_  
TC 00:35:53.030 - 00:35:53.756  
(3.12)

Prof. Alzina you have to (.) dilute\_  
TC 00:35:56.880 - 00:35:58.453  
(1.4)

Prof. Alzina m/  
TC 00:35:59.860 - 00:36:00.157  
(0.82)

Prof. Alzina to dilute (.) to solve\_  
TC 00:36:00.982 - 00:36:02.334  
(2.44)

Prof. Alzina e/ you understand disolute/  
TC 00:36:04.782 - 00:36:06.213  
(0.41)

Prof. Alzina °dilute°  
TC 00:36:06.630 - 00:36:06.998  
(0.46)

Prof. Alzina dilution\_  
TC 00:36:07.460 - 00:36:08.078  
(0.94)

Prof. Alzina m/  
TC 00:36:09.020 - 00:36:09.234

(0.9)

Prof. Alzina one tenth for example  
TC 00:36:10.140 - 00:36:11.638  
(0.7)

Prof. Alzina with water  
TC 00:36:12.340 - 00:36:12.868  
(1.56)

Prof. Alzina a:: with a: before  
TC 00:36:14.430 - 00:36:16.509  
(0.26)

Prof. Alzina to add  
TC 00:36:16.770 - 00:36:17.459  
(0.94)

Prof. Alzina the acid in the bath\ WHY/  
TC 00:36:18.400 - 00:36:20.153  
(1.67)

Prof. Alzina first  
TC 00:36:21.830 - 00:36:22.325  
(0.9)

Prof. Alzina the isothermic  
TC 00:36:23.230 - 00:36:24.287  
(0.37)

Prof. Alzina e:: reaction\  
TC 00:36:24.660 - 00:36:25.484  
(1.53)

Prof. Alzina and  
TC 00:36:27.020 - 00:36:27.406  
(0.77)

Prof. Alzina yeah/  
TC 00:36:28.180 - 00:36:28.510  
(0.84)

Prof. Alzina and  
TC 00:36:29.350 - 00:36:29.647  
(0.76)

Prof. Alzina better  
TC 00:36:30.410 - 00:36:30.933  
(0.38)

Prof. Alzina °good dilution°\  
TC 00:36:31.320 - 00:36:32.018  
(0.68)

Prof. Alzina °yeah°/  
TC 00:36:32.700 - 00:36:32.914  
(0.79)

Prof. Alzina and then  
TC 00:36:33.710 - 00:36:34.238  
(1.35)

Prof. Alzina always  
TC 00:36:35.590 - 00:36:36.382  
(0.74)

Prof. Alzina always  
TC 00:36:37.130 - 00:36:37.757  
(1.22)

Prof. Alzina acid  
TC 00:36:38.980 - 00:36:39.772  
(0.46)

Prof. Alzina over  
TC 00:36:40.240 - 00:36:40.966  
(0.21)

Prof. Alzina water\  
TC 00:36:41.180 - 00:36:41.741  
(2.71)

Prof. Alzina because the drops\_ (gestures with finger towards his eyes)  
TC 00:36:44.460 - 00:36:45.653  
(0.87)

Prof. Alzina e/

TC 00:36:46.530 - 00:36:46.858  
(0.46)

Prof. Alzina is possible  
TC 00:36:47.320 - 00:36:47.749  
(0.35)

Prof. Alzina drop/  
TC 00:36:48.100 - 00:36:48.590  
(0.98)

Prof. Alzina the drop came to you\  
TC 00:36:49.570 - 00:36:50.875  
(0.22)

Prof. Alzina is possible  
TC 00:36:51.100 - 00:36:51.628  
(0.45)

Prof. Alzina is an accident that's possible  
TC 00:36:52.080 - 00:36:53.490  
(0.46)

Prof. Alzina then these drops have (.) a lot of water\_  
TC 00:36:53.950 - 00:36:56.454  
(0.73)

Prof. Alzina °and little part sulfuric°\  
TC 00:36:57.190 - 00:36:58.905  
(0.83)

Prof. Alzina if you do  
TC 00:36:59.740 - 00:37:00.498  
(0.79)

Prof. Alzina m::  
TC 00:37:01.290 - 00:37:01.752  
(0.49)

Prof. Alzina water over (.) sulfuric/  
TC 00:37:02.250 - 00:37:04.628  
(0.99)

Prof. Alzina it would be e:: different\  
TC 00:37:05.620 - 00:37:07.472  
(3.85)

Prof. Alzina always sulfuric over water\  
TC 00:37:11.330 - 00:37:13.069  
(1.08)

Prof. Alzina is a security norm\  
TC 00:37:14.150 - 00:37:15.352  
(0.7)

Prof. Alzina okay/  
TC 00:37:16.060 - 00:37:16.420  
(1.78)

Prof. Alzina and also  
TC 00:37:18.200 - 00:37:19.157  
(1.38)

Prof. Alzina very slowly  
TC 00:37:20.540 - 00:37:21.517  
(0.5)

Prof. Alzina e/  
TC 00:37:22.020 - 00:37:22.185  
(0.23)

Prof. Alzina to avoid  
TC 00:37:22.416 - 00:37:23.240  
(0.5)

Prof. Alzina e::  
TC 00:37:23.740 - 00:37:24.532  
(0.29)

Prof. Alzina long change of the pH (.) local change of the pH (.) too much\_  
TC 00:37:24.829 - 00:37:29.444  
(0.79)

Prof. Alzina too strong\  
TC 00:37:30.239 - 00:37:30.804  
(2.23)

Prof. Alzina °too strong°\  
TC 00:37:33.039 - 00:37:33.855  
(1.5)

Prof. Alzina okay/  
TC 00:37:35.359 - 00:37:35.821  
(1.91)

Prof. Alzina Okay\  
TC 00:37:37.739 - 00:37:38.311  
(5.3)

Prof. Alzina UN Altre::  
TC 00:37:43.612 - 00:37:44.874  
(1.0)

Prof. Alzina acid  
TC 00:37:45.878 - 00:37:46.571  
(0.94)

Prof. Alzina un altre acid  
TC 00:37:47.515 - 00:37:48.604  
(0.76)

Prof. Alzina seria (.) el clorhídric\  
TC 00:37:49.368 - 00:37:51.050  
(0.77)

Prof. Alzina aquest e: avui en dia pràcticament no es fa servir\ això es feia servir abans\_  
TC 00:37:51.820 - 00:37:55.806  
(0.65)

Prof. Alzina a::: amb vegetal\  
TC 00:37:56.460 - 00:37:58.120  
(0.59)

Prof. Alzina e/  
TC 00:37:58.710 - 00:37:58.974  
(0.56)

Prof. Alzina amb vegetal\  
TC 00:37:59.535 - 00:38:00.265  
(0.16)

Prof. Alzina el clorhídric només té una dissociació/  
TC 00:38:00.430 - 00:38:02.508  
(0.83)

Prof. Alzina e/ que és instantània  
TC 00:38:03.340 - 00:38:04.479  
(1.24)

Prof. Alzina no es enmascarant sobre el crom\_  
TC 00:38:05.720 - 00:38:07.618  
(0.16)

Prof. Alzina per tant la pell absorbeix\_  
TC 00:38:07.784 - 00:38:09.330  
(0.29)

Prof. Alzina menys crom i més- més:  
TC 00:38:09.627 - 00:38:11.387  
(0.8)

Prof. Alzina fines més més (.) primes  
TC 00:38:12.194 - 00:38:14.003  
(0.57)

Prof. Alzina e/ i ja us dic sobre el crom pràcticament no °es fa servir°\  
TC 00:38:14.573 - 00:38:17.036  
(0.54)

Prof. Alzina e/  
TC 00:38:17.583 - 00:38:17.780  
(0.99)

Prof. Alzina s'hauria de diluir: o a cinc\_  
TC 00:38:18.771 - 00:38:20.646  
(1.57)

Prof. Alzina e/ perquè a:: si no fa fumegin e/  
TC 00:38:22.216 - 00:38:25.042  
(1.11)

Prof. Alzina també pel mateix eh que abans\_  
TC 00:38:26.160 - 00:38:27.600  
(0.21)

Prof. Alzina    és un àcid fort\ per evitar cremades\_  
TC               00:38:27.810 - 00:38:30.044  
(0.16)

Prof. Alzina    per evitar reacció isotèrmica/ per evitar\_  
TC               00:38:30.209 - 00:38:32.706  
(0.75)

Prof. Alzina    tota una sèrie de problemes però a més fumeja\_  
TC               00:38:33.460 - 00:38:35.726  
(0.29)

Prof. Alzina    i si figures el::  
TC               00:38:36.020 - 00:38:37.153  
(0.76)

Prof. Alzina    a: aigua (.) deixa de fumejar\  
TC               00:38:37.917 - 00:38:39.821  
(0.41)

Prof. Alzina    per això us deia abans  
TC               00:38:40.238 - 00:38:41.449  
(0.17)

Prof. Alzina    és un intròpic\_  
TC               00:38:41.622 - 00:38:42.592  
(0.39)

Prof. Alzina    no us ho he posat però es un intropic\_  
TC               00:38:42.988 - 00:38:44.604  
(0.39)

Prof. Alzina    és a dir\_  
TC               00:38:45.000 - 00:38:45.594  
(0.23)

Prof. Alzina    que menja\_  
TC               00:38:45.825 - 00:38:46.700  
(1.29)

Prof. Alzina    buida la pell  
TC               00:38:47.998 - 00:38:49.102  
(0.29)

Prof. Alzina    e/  
TC               00:38:49.400 - 00:38:49.776  
(1.05)

Prof. Alzina    i això  
TC               00:38:50.828 - 00:38:51.559  
(0.37)

Prof. Alzina    era bo pel vegetal\  
TC               00:38:51.938 - 00:38:53.067  
(0.65)

Prof. Alzina    però per motius de seguretat  
TC               00:38:53.726 - 00:38:55.450  
(0.55)

Prof. Alzina    e::  
TC               00:38:56.008 - 00:38:56.932  
(1.1)

Prof. Alzina    fàbriques alguna vegada que la gent havia hagut de marxar corrent\_  
TC               00:38:58.036 - 00:39:01.043  
(0.56)

Prof. Alzina    s`ha deixat i es va deixar de servir\_  
TC               00:39:01.603 - 00:39:03.528  
(0.41)

Prof. Alzina    pel vegetal anava bé però  
TC               00:39:03.945 - 00:39:05.427  
(0.27)

Prof. Alzina    pel crom no xxx\  
TC               00:39:05.705 - 00:39:07.639  
(3.31)

Prof. Alzina    vale/  
TC               00:39:10.955 - 00:39:11.334  
(1.94)

Prof. Alzina    clorhidric acid/  
TC               00:39:13.275 - 00:39:14.774



(1.79)

Prof. Alzina TC it's not  
00:39:16.570 - 00:39:17.362  
(0.33)

Prof. Alzina TC used today  
00:39:17.692 - 00:39:18.451  
(3.31)

Prof. Alzina TC no masking  
00:39:21.763 - 00:39:22.746  
(1.53)

Prof. Alzina TC a::  
00:39:24.281 - 00:39:24.763  
(0.33)

Prof. Alzina TC of the chromium°  
00:39:25.101 - 00:39:25.751  
(0.83)

Prof. Alzina TC then  
00:39:26.581 - 00:39:27.144  
(0.71)

Prof. Alzina TC a::  
00:39:27.859 - 00:39:28.373  
(1.17)

Prof. Alzina TC bad absorption (.) °chromium°  
00:39:29.544 - 00:39:31.072  
(0.53)

Prof. Alzina TC hides  
00:39:31.610 - 00:39:32.156  
(0.65)

Prof. Alzina TC and  
00:39:32.810 - 00:39:33.428  
(1.03)

Prof. Alzina TC firm hides  
00:39:34.460 - 00:39:35.079  
(0.44)

Prof. Alzina TC e/ it's not interesting\  
00:39:35.520 - 00:39:36.970  
(1.71)

Prof. Alzina TC only in vegetable  
00:39:38.680 - 00:39:39.855  
(0.23)

Prof. Alzina TC tanning  
00:39:40.086 - 00:39:40.559  
(0.85)

Prof. Alzina TC e:: (.) are some years ago  
00:39:41.410 - 00:39:43.804  
(0.79)

Prof. Alzina TC because:  
00:39:44.600 - 00:39:45.578  
(0.33)

Prof. Alzina TC clorhidric is::  
00:39:45.908 - 00:39:46.963  
(1.65)

Prof. Alzina TC chloride is: is: a:  
00:39:48.620 - 00:39:49.758  
(0.7)

Prof. Alzina TC biotropic\  
00:39:50.460 - 00:39:51.246  
(1.17)

Prof. Alzina TC and it helps  
00:39:52.424 - 00:39:53.417  
(0.95)

Prof. Alzina TC to empty  
00:39:54.370 - 00:39:55.312  
(0.72)

Prof. Alzina TC the hide\_

TC 00:39:56.036 - 00:39:56.647  
(0.49)

Prof. Alzina and  
TC 00:39:57.146 - 00:39:57.443  
(0.47)

Prof. Alzina more penetration °and vegetable extracts°\  
TC 00:39:57.920 - 00:39:59.936  
(0.86)

Prof. Alzina BUT  
TC 00:40:00.797 - 00:40:01.424  
(0.79)

Prof. Alzina time ago beca- because  
TC 00:40:02.216 - 00:40:04.052  
(1.07)

Prof. Alzina m::  
TC 00:40:05.130 - 00:40:05.625  
(0.72)

Prof. Alzina it`s dangerous  
TC 00:40:06.350 - 00:40:07.619  
(1.06)

Prof. Alzina too much dangerous\  
TC 00:40:08.680 - 00:40:09.611  
(0.47)

Prof. Alzina e/  
TC 00:40:10.090 - 00:40:10.477  
(0.42)

Prof. Alzina they m::  
TC 00:40:10.900 - 00:40:12.212  
(1.51)

Prof. Alzina used to::  
TC 00:40:13.730 - 00:40:14.984  
(1.42)

Prof. Alzina dilute/  
TC 00:40:16.410 - 00:40:17.087  
(0.79)

Prof. Alzina one  
TC 00:40:17.880 - 00:40:18.328  
(0.36)

Prof. Alzina five  
TC 00:40:18.691 - 00:40:19.113  
(0.31)

Prof. Alzina °water°  
TC 00:40:19.430 - 00:40:19.917  
(0.29)

Prof. Alzina to avoid °xx penetration° AND ALSO\_  
TC 00:40:20.214 - 00:40:22.374  
(0.57)

Prof. Alzina because  
TC 00:40:22.950 - 00:40:23.656  
(0.76)

Prof. Alzina e: the pro- the concentrated chloride\_  
TC 00:40:24.424 - 00:40:26.583  
(0.89)

Prof. Alzina chloride  
TC 00:40:27.474 - 00:40:28.090  
(1.32)

Prof. Alzina a: it a::  
TC 00:40:29.414 - 00:40:30.808  
(1.35)

Prof. Alzina °gives°  
TC 00:40:32.164 - 00:40:32.750  
(0.84)

Prof. Alzina SMOKES (gestures upward)  
TC 00:40:33.594 - 00:40:34.291  
(1.32)

Prof. Alzina TC smoke\  
00:40:35.614 - 00:40:36.232  
(0.74)

Prof. Alzina TC yeah/  
00:40:36.974 - 00:40:37.303  
(0.39)

Prof. Alzina TC and TOxic smoke\  
00:40:37.700 - 00:40:39.134  
(0.94)

Prof. Alzina TC yeah/  
00:40:40.074 - 00:40:40.371  
(0.5)

Prof. Alzina TC a/ with water\_  
00:40:40.880 - 00:40:42.023  
(0.79)

Prof. Alzina TC °not smoking°\  
00:40:42.820 - 00:40:43.662  
(0.93)

Prof. Alzina TC okay/  
00:40:44.600 - 00:40:45.000  
(2.62)

Prof. Alzina TC but today\_  
00:40:47.627 - 00:40:48.769  
(0.78)

Prof. Alzina TC °not used°\  
00:40:49.557 - 00:40:50.300  
(1.86)

Prof. Alzina TC °too dangerous°\  
00:40:52.167 - 00:40:52.846  
(0.52)

Student 4 TC professor  
00:40:53.375 - 00:40:53.931  
(0.4)

Prof. Alzina TC diguem  
00:40:54.337 - 00:40:55.020  
(0.06)

Student 4 TC va bé perquè trenca els enllaços no/  
00:40:55.082 - 00:40:56.735  
(0.14)

Prof. Alzina TC perdó/  
00:40:56.877 - 00:40:57.343  
(0.16)

Student 4 TC pot anar bé perquè trenca els enllaços\  
00:40:57.505 - 00:40:58.940

Prof. Alzina TC =sí trenca trenca buida- sí trenca els enllaços - sí\  
00:40:58.784 - 00:41:01.804  
(1.12)

Prof. Alzina TC i creava punts reactius\ pot crear punts reactius\_  
00:41:02.924 - 00:41:05.614  
(0.27)

Prof. Alzina TC que van bé pel vegetal això si-  
00:41:05.884 - 00:41:07.302  
(0.03)

Student 4 TC =i al xxx no els va be els xxx/  
00:41:07.335 - 00:41:09.403  
(0.16)

Prof. Alzina TC no per que- no- no\_  
00:41:09.564 - 00:41:11.175  
(0.81)

Prof. Alzina TC no són els mateixos\  
00:41:11.994 - 00:41:13.312  
(1.0)

Prof. Alzina TC además amb el crom tu no- tu- tu si et mires el crom- si el vegetal\_  
00:41:14.314 - 00:41:17.876  
(0.66)

Prof. Alzina TC el vegetal és fusta\  
00:41:18.544 - 00:41:19.811  
(1.91)

Prof. Alzina TC si tu buides la pell i després hi poses fusta\_  
00:41:21.724 - 00:41:23.740  
(0.3)

Prof. Alzina entens/  
TC no passa- al contrari millor (.) quant més fusticat millor (.) en certa manera  
00:41:24.044 - 00:41:28.429  
(0.77)

Prof. Alzina TC perquè mes  
00:41:29.204 - 00:41:29.984  
(0.68)

Prof. Alzina TC enllaços amb el xxx fas\  
00:41:30.664 - 00:41:32.082  
(1.09)

Prof. Alzina TC però en canvi el crom- el crom molt- molt xxx  
00:41:33.174 - 00:41:36.152  
(0.87)

Prof. Alzina TC llavors sí poden haver punts reactius però tu no vols xxx  
00:41:37.024 - 00:41:39.738  
(0.8)

Prof. Alzina TC la pell només ens serveix\_  
00:41:40.544 - 00:41:41.730  
(0.36)

Prof. Alzina TC ics quantitat de vegades i s'ha acabat el bròquil\  
00:41:42.094 - 00:41:43.903  
(1.95)

Prof. Alzina TC vale/  
00:41:45.854 - 00:41:46.119

Student 4 TC perquè això d'utilitzar tampons tampoc és sol.lució/ sus\_  
00:41:45.970 - 00:41:47.624  
(0.25)

Prof. Alzina TC perdó/  
00:41:47.877 - 00:41:48.295

Student 4 TC =xx tapons  
00:41:48.127 - 00:41:49.292  
(0.68)

Student 4 TC serà fàcil per fer la forma\  
00:41:49.977 - 00:41:52.050

Prof. Alzina TC que això no són tampons e/  
00:41:51.450 - 00:41:52.677  
(0.06)

Student 4 TC ja però amb que ho fem/ amb acid- amb: si els acids formen tampons i així baixen  
ells i =xxx=  
00:41:52.743 - 00:41:58.272

Prof. Alzina TC =si si n'hi ha és clar però amb el recurtient precisament no ho fem servir=  
00:41:57.503 - 00:42:01.431

Student 4 TC =però n'hi ha:=  
00:42:00.353 - 00:42:01.350  
(0.2)

Prof. Alzina TC no ho fem servir\  
00:42:01.550 - 00:42:02.299  
(0.42)

Prof. Alzina TC directament hi posem\  
00:42:02.720 - 00:42:03.870  
(0.26)

Student 4 TC però es bo tambe l'acid  
00:42:04.133 - 00:42:05.257  
(0.65)

Prof. Alzina TC sí/  
00:42:05.910 - 00:42:06.131  
(0.03)

Student 4 TC ho dic per més fort\  
00:42:06.164 - 00:42:07.039

(0.52)

Prof. Alzina si però fa un efecte enmascarant\  
TC 00:42:07.560 - 00:42:09.107  
(0.5)

Prof. Alzina mentres que el clorhídric no  
TC 00:42:09.610 - 00:42:11.037

Student 4 i els tampons també no/  
TC 00:42:10.940 - 00:42:11.936  
(0.39)

Student 4 i van millor per-  
TC 00:42:12.330 - 00:42:13.620

Prof. Alzina =per això\ per això\ que si fas servir- fas (.) sulfídric/  
TC 00:42:13.100 - 00:42:16.839  
(0.36)

Prof. Alzina com i ara veurem amb formic\  
TC 00:42:17.207 - 00:42:18.897  
(0.41)

Prof. Alzina un d'orgànic\  
TC 00:42:19.310 - 00:42:20.185  
(0.32)

Prof. Alzina es barreja sulfúric i- i formic\_  
TC 00:42:20.512 - 00:42:22.498  
(0.29)

Prof. Alzina es fa: un píquel- això ho veurem ara\  
TC 00:42:22.795 - 00:42:24.827  
(0.35)

Prof. Alzina un píquel temporal i ja està\  
TC 00:42:25.180 - 00:42:26.606  
(0.59)

Student 4 o sigui-  
TC 00:42:27.200 - 00:42:27.834

Prof. Alzina el clorhídric/ el clorhídric no ens serveixes no ens- no\_  
TC 00:42:27.390 - 00:42:30.703  
(0.32)

Student 4 i al- i al: als- als d'abans si/  
TC 00:42:31.023 - 00:42:32.873  
(0.51)

Student 4 °el sulfuric°-  
TC 00:42:33.390 - 00:42:33.911

Prof. Alzina =si perquè com que fa un efecte emmascarant\_  
TC 00:42:33.845 - 00:42:35.889  
(0.24)

Prof. Alzina ens ajuda a posar el ph  
TC 00:42:36.130 - 00:42:37.468  
(0.78)

Prof. Alzina e: amb un cantó el problema és que si tires només l'àcid orgànic \_  
TC 00:42:38.250 - 00:42:41.525  
(0.36)

Prof. Alzina el- el ph baixa poc\  
TC 00:42:41.890 - 00:42:43.381  
(1.18)

Prof. Alzina per el que tu vols doncs llavorens\_  
TC 00:42:44.570 - 00:42:45.898  
(0.21)

Prof. Alzina hi has de posar una mica d'àcid fort  
TC 00:42:46.110 - 00:42:47.488  
(0.46)

Prof. Alzina si tenim l'alternativa del sulfúric i el clorhídric/  
TC 00:42:47.950 - 00:42:50.210  
(0.44)

Prof. Alzina quin posaràs/ el que va més bé\ l' enmascaran\t (.) el sulfuric  
TC 00:42:50.650 - 00:42:53.479  
(0.36)

Prof. Alzina i el clorhídric\_

TC 00:42:53.844 - 00:42:54.606  
(0.59)

Prof. Alzina adiós muy buenas  
TC 00:42:55.200 - 00:42:55.969  
(1.12)

Prof. Alzina e/  
TC 00:42:57.094 - 00:42:57.391  
(1.23)

Prof. Alzina aquest és el xx/  
TC 00:42:58.630 - 00:42:59.235  
(1.27)

Prof. Alzina però aquí tenim el formic\  
TC 00:43:00.510 - 00:43:01.785  
(0.71)

Prof. Alzina el fòrmic és un àcid dèbil\  
TC 00:43:02.500 - 00:43:04.006  
(0.6)

Prof. Alzina un piquel de tres coma setanta set\_  
TC 00:43:04.610 - 00:43:06.676  
(0.65)

Prof. Alzina e:: abans us he posat en ph\_  
TC 00:43:07.330 - 00:43:09.646  
(0.24)

Prof. Alzina però aixó vol dir- un (?pk) piquel de setanta set vol dir\_  
TC 00:43:09.890 - 00:43:12.701  
(0.41)

Prof. Alzina un::::  
TC 00:43:13.120 - 00:43:14.481  
(1.7)

Prof. Alzina deu a la menys tres/ deu a la menys quatre\_  
TC 00:43:16.190 - 00:43:18.756  
(1.09)

Prof. Alzina e/  
TC 00:43:19.854 - 00:43:20.250  
(0.23)

Prof. Alzina és a dir\_  
TC 00:43:20.481 - 00:43:21.141  
(0.51)

Prof. Alzina que és  
TC 00:43:21.654 - 00:43:22.475  
(0.22)

Prof. Alzina més fluix encara (.) QUE el segon equilibri °que el segon equilibri xxx°\  
TC 00:43:22.700 - 00:43:27.460  
(1.04)

Prof. Alzina el sulfuric te que estar més fluix\_  
TC 00:43:28.500 - 00:43:30.317  
(2.02)

Prof. Alzina té la característica de ser REDuctor\_  
TC 00:43:32.344 - 00:43:35.215  
(1.04)

Prof. Alzina reductor\_  
TC 00:43:36.264 - 00:43:37.485  
(0.39)

Prof. Alzina e/  
TC 00:43:37.884 - 00:43:38.247  
(0.86)

Prof. Alzina °el sulfuric es xxxx i es° reductor\_  
TC 00:43:39.115 - 00:43:41.603  
(0.07)

Student 4 és millor/  
TC 00:43:41.680 - 00:43:42.187  
(0.67)

Prof. Alzina e/  
TC 00:43:42.860 - 00:43:43.082

Student 4 és millor/

TC 00:43:43.082 - 00:43:43.516  
(1.52)

Prof. Alzina home (.) en aquest moment  
TC 00:43:45.044 - 00:43:46.724  
(0.83)

Prof. Alzina en aquest moment  
TC 00:43:47.554 - 00:43:48.643  
(2.11)

Prof. Alzina simplement és una propietat\  
TC 00:43:50.760 - 00:43:52.322  
(1.4)

Prof. Alzina m/ després ho veurem quan juntem amb l' altre les precaucions que hem de treure°  
TC 00:43:53.730 - 00:43:57.352  
(0.86)

Prof. Alzina i què passa/ (.) m/  
TC 00:43:58.220 - 00:43:59.604  
(2.69)

Prof. Alzina és monovalent\_  
TC 00:44:02.294 - 00:44:03.415  
(0.61)

Prof. Alzina e/ només hi ha una carga negativa\_  
TC 00:44:04.030 - 00:44:05.728  
(0.46)

Prof. Alzina i per tant\_  
TC 00:44:06.194 - 00:44:07.066  
(0.56)

Prof. Alzina te una bona penetració perquè no hi ha fixació\_  
TC 00:44:07.634 - 00:44:10.052  
(1.14)

Prof. Alzina hi ha poca fixació\_  
TC 00:44:11.194 - 00:44:12.721  
(0.99)

Prof. Alzina ° i quan es fixa bloqueja només un cantó\ on queda fixat \_ molt avall quan passa\  
TC 00:44:13.720 - 00:44:17.983  
(1.41)

Student 4 s'hi fixa on hi ha el crom//  
TC 00:44:19.400 - 00:44:20.579  
(1.01)

Prof. Alzina perdó/  
TC 00:44:21.594 - 00:44:22.122

Student 4 =has dit que no es fixa/  
TC 00:44:22.120 - 00:44:23.242  
(0.13)

Prof. Alzina a la pell\  
TC 00:44:23.378 - 00:44:24.036  
(2.33)

Prof. Alzina °és més difícil de fixar que si fós bivalent°\  
TC 00:44:26.370 - 00:44:28.447  
(0.51)

Prof. Alzina °per tant la penetració és més fàcil°\  
TC 00:44:28.960 - 00:44:30.289  
(1.16)

Prof. Alzina enmascara el crom  
TC 00:44:31.453 - 00:44:32.707  
(0.72)

Prof. Alzina e/  
TC 00:44:33.433 - 00:44:33.697  
(0.72)

Prof. Alzina enmascara el crom  
TC 00:44:34.423 - 00:44:35.346  
(0.51)

Prof. Alzina i això fa que li  
TC 00:44:35.860 - 00:44:36.829  
(0.09)

Prof. Alzina que en puguis entrar més de crom al cuir \_

TC 00:44:36.928 - 00:44:38.798  
(0.17)

Prof. Alzina i que el cuiro doni més tou\  
TC 00:44:38.970 - 00:44:40.757  
(2.09)

Prof. Alzina i molt sovint es barreja (.) amb el sulfuric\_  
TC 00:44:42.850 - 00:44:45.434  
(0.34)

Prof. Alzina per fer  
TC 00:44:45.777 - 00:44:46.547  
(0.54)

Prof. Alzina píquels d'aquests (.) a::  
TC 00:44:47.090 - 00:44:48.964  
(1.34)

Prof. Alzina barrejats\ no/  
TC 00:44:50.307 - 00:44:51.363  
(1.01)

Prof. Alzina °que después veurem°\  
TC 00:44:52.378 - 00:44:53.348  
(2.69)

Prof. Alzina formic acid  
TC 00:44:56.040 - 00:44:57.112  
(1.84)

Prof. Alzina e/  
TC 00:44:58.954 - 00:44:59.251  
(0.14)

Prof. Alzina here the- that's the\_  
TC 00:44:59.400 - 00:45:00.338  
(0.61)

Prof. Alzina the dissociation/  
TC 00:45:00.950 - 00:45:01.936  
(0.48)

Prof. Alzina yeah/  
TC 00:45:02.420 - 00:45:02.717  
(2.13)

Prof. Alzina a:: is\_  
TC 00:45:04.848 - 00:45:05.735  
(0.88)

Prof. Alzina weaker\_  
TC 00:45:06.620 - 00:45:07.332  
(0.21)

Prof. Alzina °than the sulfuric°/  
TC 00:45:07.550 - 00:45:08.320  
(1.26)

Prof. Alzina °that's weaker e/°  
TC 00:45:09.584 - 00:45:10.745  
(1.1)

Prof. Alzina reductor\ eh not\_  
TC 00:45:11.850 - 00:45:13.462  
(0.72)

Prof. Alzina not oxidation\_  
TC 00:45:14.190 - 00:45:15.024  
(3.95)

Prof. Alzina better penetration  
TC 00:45:18.974 - 00:45:20.248  
(0.98)

Prof. Alzina because only one negative charge\_  
TC 00:45:21.234 - 00:45:23.597  
(1.22)

Prof. Alzina yeah/  
TC 00:45:24.824 - 00:45:25.088  
(0.75)

Prof. Alzina then less fixation\  
TC 00:45:25.840 - 00:45:27.148  
(2.91)



Prof. Alzina masking  
TC 00:45:30.064 - 00:45:30.922  
(1.8)

Prof. Alzina with chromium  
TC 00:45:32.730 - 00:45:33.564  
(0.4)

Prof. Alzina yeah/  
TC 00:45:33.970 - 00:45:34.234  
(2.12)

Prof. Alzina then  
TC 00:45:36.360 - 00:45:36.921  
(0.48)

Prof. Alzina you can add  
TC 00:45:37.404 - 00:45:38.262  
(0.44)

Prof. Alzina you can:  
TC 00:45:38.704 - 00:45:39.529  
(0.5)

Prof. Alzina add more chromium  
TC 00:45:40.030 - 00:45:41.282  
(0.13)

Prof. Alzina in  
TC 00:45:41.414 - 00:45:41.975  
(0.69)

Prof. Alzina bonded  
TC 00:45:42.670 - 00:45:43.409  
(0.5)

Prof. Alzina in the hair  
TC 00:45:43.910 - 00:45:44.640  
(0.52)

Prof. Alzina and  
TC 00:45:45.168 - 00:45:45.663  
(0.73)

Prof. Alzina the hair  
TC 00:45:46.400 - 00:45:47.226  
(0.82)

Prof. Alzina the hide  
TC 00:45:48.051 - 00:45:48.786  
(0.52)

Prof. Alzina hide in the hide  
TC 00:45:49.314 - 00:45:50.282  
(1.51)

Prof. Alzina and the hide  
TC 00:45:51.800 - 00:45:52.602  
(0.69)

Prof. Alzina become (.) softer\  
TC 00:45:53.295 - 00:45:54.649  
(4.61)

Prof. Alzina secondly  
TC 00:45:59.260 - 00:46:00.108  
(0.3)

Prof. Alzina you- a: we use a::: mixed  
TC 00:46:00.417 - 00:46:03.640  
(0.72)

Prof. Alzina with  
TC 00:46:04.360 - 00:46:04.723  
(0.69)

Prof. Alzina sulfuric\ but  
TC 00:46:05.416 - 00:46:06.346  
(0.86)

Prof. Alzina the next (.) lesson  
TC 00:46:07.210 - 00:46:08.371  
(0.91)

Prof. Alzina I'll explain the  
TC 00:46:09.290 - 00:46:10.369  
(0.79)

Prof. Alzina TC the properties of these:  
00:46:11.166 - 00:46:12.582  
(0.62)

Prof. Alzina TC °mixes°\  
00:46:13.210 - 00:46:13.810  
(0.89)

Prof. Alzina TC mix-tures  
00:46:14.700 - 00:46:15.634  
(1.92)

Prof. Alzina TC okay/  
00:46:17.562 - 00:46:18.156  
(2.78)

Prof. Alzina TC d'acord/ el proxim dia continuarem amb les barrejes aquestes\_  
00:46:20.942 - 00:46:24.048  
(1.45)

Prof. Alzina TC e/  
00:46:25.500 - 00:46:25.731  
(3.55)

Prof. Alzina TC el acid més baix- a:i sulfuric més\_  
00:46:29.290 - 00:46:32.029  
(0.57)

Prof. Alzina TC mes crom\  
00:46:32.600 - 00:46:33.106  
(0.22)

Prof. Alzina TC feu-me els problemes  
00:46:33.330 - 00:46:34.372  
(1.58)

Prof. Alzina TC make the problems  
00:46:35.956 - 00:46:36.766  
(0.55)

Prof. Alzina TC the problem\_  
00:46:37.320 - 00:46:38.056  
(0.2)

Prof. Alzina TC °un nomes eh no en feu dos°\  
00:46:38.260 - 00:46:39.745  
(1.05)

Prof. Alzina TC vale/  
00:46:40.800 - 00:46:41.493  
(0.33)

Prof. Alzina TC venga\  
00:46:41.823 - 00:46:42.186  
(1.99)

Prof. Alzina TC xxx  
00:46:44.180 - 00:46:44.737  
(5.98)

Prof. Alzina TC ja está e/  
00:46:50.720 - 00:46:51.644  
(1.58)

Prof. Alzina TC ja pots tallar\_ [investigadora riu]  
00:46:53.230 - 00:46:54.366  
(8.08)

Prof. Alzina TC [d'aquí en endavant parla amb investigadora. No s'enten gaire bé]  
00:47:02.451 - 00:47:06.098

## APÈNDIX

### ii.2 Transcripci3 de CM2

prof okay  
TC 00:00:06.710 - 00:00:07.236  
(1.58)

prof bueno venga \ el otro dia estuvimos hablando de pelambre y calero no/  
TC 00:00:08.816 - 00:00:12.821  
(0.83)

prof y vimos el video  
TC 00:00:13.660 - 00:00:14.948  
(0.6)

prof si no me acuerdo mal  
TC 00:00:15.551 - 00:00:16.942  
(0.82)

prof vimos el video de:  
TC 00:00:17.770 - 00:00:19.090  
(0.16)

prof como se hacia  
TC 00:00:19.250 - 00:00:20.596  
(1.68)

prof el pelambre y la recuperaci3n de pelo  
TC 00:00:22.280 - 00:00:24.930  
(0.31)

prof m:/  
TC 00:00:25.240 - 00:00:25.900  
(0.32)

prof que esto corresponde m3s o menos al apartado siete cinco\_  
TC 00:00:26.220 - 00:00:30.214  
(0.28)

prof contaminaci3n\  
TC 00:00:30.500 - 00:00:32.099  
(0.43)

prof que ahora vamos a::  
TC 00:00:32.530 - 00:00:34.167  
(0.88)

prof explicar un poco como va la formulaci3n\_  
TC 00:00:35.050 - 00:00:37.911  
(0.65)

prof de este pelambre y calero  
TC 00:00:38.564 - 00:00:39.991  
(4.47)

prof °xxx°  
TC 00:00:44.470 - 00:00:44.829  
(3.81)

prof bueno  
TC 00:00:48.640 - 00:00:49.372  
(1.96)

prof a ver  
TC 00:00:51.340 - 00:00:52.067  
(0.55)

prof si se acuerdan/  
TC 00:00:52.620 - 00:00:53.857  
(0.24)

prof el primer paso  
TC 00:00:54.100 - 00:00:55.412  
(0.42)

prof ah  
TC 00:00:55.840 - 00:00:56.461  
(0.32)

prof we have to:  
TC 00:00:56.790 - 00:00:58.118

(2.03)

prof explain  
TC 00:01:00.150 - 00:01:01.177  
(0.64)

prof the:  
TC 00:01:01.820 - 00:01:02.443  
(0.11)

prof unhairing  
TC 00:01:02.560 - 00:01:03.386  
(0.8)

prof with second xxx\  
TC 00:01:04.190 - 00:01:05.628  
(0.25)

prof okay/  
TC 00:01:05.880 - 00:01:06.565  
(0.52)

prof then it  
TC 00:01:07.090 - 00:01:07.720  
(0.15)

prof corresponds  
TC 00:01:07.870 - 00:01:09.067  
(0.66)

prof at  
TC 00:01:09.729 - 00:01:10.351  
(0.34)

prof point seven point five  
TC 00:01:10.698 - 00:01:12.848  
(0.66)

prof of the: book\  
TC 00:01:13.510 - 00:01:15.220  
(1.26)

prof m/  
TC 00:01:16.480 - 00:01:16.909  
(2.59)

prof okay/  
TC 00:01:19.500 - 00:01:20.083  
(5.3)

prof hay que recordar primero que esto es una cuestión (.) de:\_  
TC 00:01:25.390 - 00:01:28.804  
(0.75)

prof contaminación e/ osea es para evitar\_  
TC 00:01:29.560 - 00:01:32.171  
(0.32)

prof la contaminación\  
TC 00:01:32.500 - 00:01:33.737  
(4.26)

prof entonces/  
TC 00:01:38.000 - 00:01:38.941  
(0.49)

prof el primer paso\_  
TC 00:01:39.440 - 00:01:40.750  
(0.42)

prof si ustedes recuerdan  
TC 00:01:41.170 - 00:01:42.749  
(1.34)

prof era  
TC 00:01:44.090 - 00:01:44.921  
(1.57)

prof que nosotros\_  
TC 00:01:46.500 - 00:01:47.637  
(0.92)

prof teníamos que inmunizar °el pelo°\  
TC 00:01:48.560 - 00:01:50.896  
(1.63)

prof e/

TC 00:01:52.530 - 00:01:52.954  
(0.27)

prof y entonces esto de inmunizar el pelo\_  
TC 00:01:53.230 - 00:01:55.579  
(1.64)

prof como se hace/  
TC 00:01:57.220 - 00:01:58.157  
(2.27)

prof se hace con cal\  
TC 00:02:00.430 - 00:02:01.866  
(0.57)

prof pero/  
TC 00:02:02.440 - 00:02:03.303  
(0.32)

prof pero  
TC 00:02:03.630 - 00:02:04.427  
(1.32)

prof debemos  
TC 00:02:05.750 - 00:02:06.578  
(0.49)

prof poner  
TC 00:02:07.070 - 00:02:07.903  
(0.44)

prof el ph  
TC 00:02:08.350 - 00:02:09.395  
(0.34)

prof tener el ph  
TC 00:02:09.740 - 00:02:11.282  
(0.67)

prof a  
TC 00:02:11.960 - 00:02:12.552  
(1.5)

prof trece\  
TC 00:02:14.060 - 00:02:14.751  
(0.41)

prof eh/  
TC 00:02:15.170 - 00:02:15.402  
(0.14)

prof trece  
TC 00:02:15.550 - 00:02:16.329  
(0.54)

prof es el ph mínimo  
TC 00:02:16.870 - 00:02:18.299  
(2.66)

prof para inmunizar\  
TC 00:02:20.960 - 00:02:21.986

prof °a ver si logro poner la contraseña° ((refiriéndose al power point que está  
intentando proyectar))  
TC 00:02:21.986 - 00:02:25.197  
(3.09)

prof °un momento que pongo la transparencia::°  
TC 00:02:28.290 - 00:02:32.161  
(4.83)

prof entonces si nosotros necesitamos un ph trece\_  
TC 00:02:36.993 - 00:02:39.940  
(0.4)

prof el problema con la cal\_  
TC 00:02:40.340 - 00:02:41.888  
(0.82)

prof es que  
TC 00:02:42.710 - 00:02:43.437  
(1.02)

prof la cal\_  
TC 00:02:44.464 - 00:02:45.393  
(3.21)

prof no da/ este ph\  
TC 00:02:48.604 - 00:02:49.845  
(0.49)

prof e/ (..) llega aproximadamente a ph doce\_  
TC 00:02:50.344 - 00:02:54.003  
(1.92)

prof doce y medio\  
TC 00:02:55.923 - 00:02:56.754  
(1.75)

prof por tanto tenemos que introducir\_  
TC 00:02:58.510 - 00:03:00.661  
(0.59)

prof otro producto químico\_  
TC 00:03:01.260 - 00:03:03.304  
(2.76)

prof que en nuestro caso\_  
TC 00:03:06.070 - 00:03:07.402  
(0.97)

prof será  
TC 00:03:08.380 - 00:03:09.321  
(2.15)

prof el hidróxido sódico\  
TC 00:03:11.480 - 00:03:12.716  
(0.73)

prof m:/  
TC 00:03:13.450 - 00:03:13.810  
(1.22)

prof cuando ponemos el hidróxido sódico\_  
TC 00:03:15.030 - 00:03:17.243  
(0.23)

prof y ponemos luego la cal  
TC 00:03:17.480 - 00:03:19.329  
(0.12)

prof se produce el efecto de inmunización\  
TC 00:03:19.450 - 00:03:21.609  
(1.2)

prof e/ que si recuerdan  
TC 00:03:22.809 - 00:03:24.356  
(0.34)

prof lo vimos el otro día (.) en la:\_  
TC 00:03:24.699 - 00:03:27.428  
(0.53)

prof aquí en la pantalla pasamos unas diapositivas\_  
TC 00:03:27.960 - 00:03:30.585  
(0.28)

prof que se formaban compuestos como la lantionina y todo esto\_  
TC 00:03:30.870 - 00:03:34.237  
(0.36)

prof tipos de compuestos- de: de compuestos parecidos\_  
TC 00:03:34.600 - 00:03:38.562  
(0.74)

prof que lo que hacían era\_  
TC 00:03:39.310 - 00:03:40.647  
(0.42)

prof que  
TC 00:03:41.070 - 00:03:41.698  
(0.13)

prof el pelo aguantase el ataque del sulfuro de la cal\_  
TC 00:03:41.830 - 00:03:45.395  
(0.14)

prof y no se (.) deshiciese\  
TC 00:03:45.540 - 00:03:47.117  
(0.97)

prof m/  
TC 00:03:48.090 - 00:03:48.200  
(0.83)

prof no había hidrolisis del pelo\  
TC 00:03:49.030 - 00:03:51.272  
(0.27)

prof con el tiempo la hay  
TC 00:03:51.550 - 00:03:52.886  
(1.38)

prof pero en el tiempo que dura el pelambre (.) no/- el pelo no se deshace por lo  
tanto baja espectacularmente la °xxx°\  
TC 00:03:54.270 - 00:04:01.070  
(0.99)

prof e/ sobre todo en materias en suspensión y en xxx  
TC 00:04:02.060 - 00:04:04.456  
(0.99)

prof e/  
TC 00:04:05.450 - 00:04:05.540  
(1.14)

prof the first step  
TC 00:04:06.680 - 00:04:07.716  
(0.84)

prof is immunization\  
TC 00:04:08.560 - 00:04:09.694  
(0.71)

prof m:/  
TC 00:04:10.410 - 00:04:10.748  
(0.39)

prof you need  
TC 00:04:11.140 - 00:04:11.864  
(0.51)

prof ph thirteen\  
TC 00:04:12.380 - 00:04:13.668  
(1.95)

prof if you do  
TC 00:04:15.620 - 00:04:16.864  
(0.25)

prof the immunization with (.) a: only lime\_  
TC 00:04:17.120 - 00:04:20.434  
(0.72)

prof you  
TC 00:04:21.160 - 00:04:21.897  
(0.58)

prof a: will arrive\_  
TC 00:04:22.480 - 00:04:24.231  
(0.77)

prof to ph (.) thirteen/  
TC 00:04:25.010 - 00:04:26.645  
(0.29)

prof then you need another chemical product\  
TC 00:04:26.940 - 00:04:29.195  
(0.67)

prof m:/  
TC 00:04:29.870 - 00:04:30.119  
(1.08)

prof we use  
TC 00:04:31.200 - 00:04:32.132  
(0.17)

prof e: sodium/ (.) hydroxide\  
TC 00:04:32.310 - 00:04:34.469  
(2.0)

prof m:/  
TC 00:04:36.470 - 00:04:36.896  
(0.7)

prof sodium hydroxide  
TC 00:04:37.600 - 00:04:38.936  
(1.45)

prof to: reach (.) ph (..) thirteen\_

TC 00:04:40.390 - 00:04:43.194  
(0.84)

prof and  
TC 00:04:44.040 - 00:04:44.675  
(0.61)

prof lime  
TC 00:04:45.290 - 00:04:46.126  
(0.83)

prof to do (.) the immunization\  
TC 00:04:46.960 - 00:04:49.212  
(1.3)

prof you have to remember we e::: do that (.) we work\_  
TC 00:04:50.520 - 00:04:54.993  
(0.53)

prof in this way  
TC 00:04:55.530 - 00:04:56.588  
(1.09)

prof to avoid (.) contamination\  
TC 00:04:57.680 - 00:04:59.374  
(0.37)

prof to avoid  
TC 00:04:59.750 - 00:05:00.582  
(0.67)

prof a/:  
TC 00:05:01.260 - 00:05:02.288  
(0.19)

prof COD chemical oxygen demand/  
TC 00:05:02.480 - 00:05:05.643  
(0.49)

prof and  
TC 00:05:06.140 - 00:05:06.660  
(0.62)

prof mat: suspended solids\  
TC 00:05:07.280 - 00:05:09.435  
(0.71)

prof okay/  
TC 00:05:10.150 - 00:05:10.627  
(0.54)

prof this two pa- this two parameters\  
TC 00:05:11.170 - 00:05:12.805  
(0.85)

prof okay/  
TC 00:05:13.660 - 00:05:13.946  
(0.72)

prof and  
TC 00:05:14.670 - 00:05:15.370  
(1.87)

prof you make (.) some compounds as lantionin and similar\_  
TC 00:05:17.240 - 00:05:21.722  
(1.06)

prof but remember also that this immunization is not\_  
TC 00:05:22.790 - 00:05:26.851  
(0.84)

prof a:::  
TC 00:05:27.700 - 00:05:28.636  
(1.81)

prof it's partial immunization\  
TC 00:05:30.450 - 00:05:31.689  
(0.72)

prof yeah/  
TC 00:05:32.410 - 00:05:32.688  
(0.54)

prof you avoid  
TC 00:05:33.230 - 00:05:34.057  
(0.75)



prof to: hydro- hydrolize (evident mispronunciation)  
TC 00:05:34.810 - 00:05:37.055  
(0.47)

prof the hair  
TC 00:05:37.530 - 00:05:38.258  
(0.27)

prof but  
TC 00:05:38.530 - 00:05:39.339  
(0.27)

prof in a time  
TC 00:05:39.610 - 00:05:40.748  
(0.19)

prof the definite time (gesturing with hands)  
TC 00:05:40.940 - 00:05:42.084  
(0.48)

prof not all the time of the world\ (gesturing)  
TC 00:05:42.570 - 00:05:43.817  
(0.72)

prof okay/  
TC 00:05:44.540 - 00:05:44.849  
(0.85)

prof some hours\ but  
TC 00:05:45.700 - 00:05:47.345  
(0.31)

prof it's not (.) to avoid  
TC 00:05:47.660 - 00:05:49.792  
(0.87)

prof to avoid  
TC 00:05:50.670 - 00:05:51.501  
(0.28)

prof the destruction of the hair (.) during °unhairing°\  
TC 00:05:51.781 - 00:05:54.661  
(0.61)

prof okay/  
TC 00:05:55.280 - 00:05:55.706  
(0.66)

prof you can  
TC 00:05:56.366 - 00:05:56.864  
(1.15)

prof have on your hair ((da dos palmas))  
TC 00:05:58.016 - 00:05:59.256  
(3.8)

prof without a::  
TC 00:06:03.056 - 00:06:04.387  
(0.23)

prof °contamination°  
TC 00:06:04.620 - 00:06:05.456  
(0.37)

prof okay/  
TC 00:06:05.830 - 00:06:06.242  
(0.74)

prof VAle (.) entonces  
TC 00:06:06.990 - 00:06:08.569  
(1.92)

prof esto  
TC 00:06:10.490 - 00:06:11.316  
(0.31)

prof a::  
TC 00:06:11.630 - 00:06:12.561  
(1.73)

prof se prosigue  
TC 00:06:14.300 - 00:06:15.347  
(1.6)

prof poniendo (.) atacando la raíz del pelo\  
TC 00:06:16.950 - 00:06:19.517  
(0.47)

prof e/  
TC 00:06:19.990 - 00:06:20.370  
(0.33)

prof yendo directamente a la raíz del pelo\  
TC 00:06:20.700 - 00:06:22.539  
(0.58)

prof o sea  
TC 00:06:23.120 - 00:06:23.649  
(0.3)

prof tu cuando pones la cal no hemos de olvidar que\_  
TC 00:06:23.950 - 00:06:26.613  
(0.8)

prof lo que estás protegiendo es lo de fuera\  
TC 00:06:27.420 - 00:06:29.566  
(0.98)

prof entonces vamos a ir a atacar la raíz del pelo para deshacer esto y °sacar el  
pelo entero°\  
TC 00:06:30.550 - 00:06:34.531  
(1.13)

prof de acuerdo/  
TC 00:06:35.670 - 00:06:36.194  
(0.4)

prof entonces  
TC 00:06:36.600 - 00:06:37.422  
(0.61)

prof esto se hace con\_  
TC 00:06:38.041 - 00:06:39.480  
(0.23)

prof el::: sulfhidrato sódico\_  
TC 00:06:39.711 - 00:06:42.058  
(0.8)

prof e/  
TC 00:06:42.860 - 00:06:43.174  
(0.36)

prof algo de cal porque/ se acuerdan porque dijimos que hay que poner algo de cal/  
TC 00:06:43.540 - 00:06:47.948  
(0.1)

prof para evitar sulfhidrico\_  
TC 00:06:48.050 - 00:06:49.569

estl boy eso\  
TC 00:06:49.547 - 00:06:50.207  
(0.43)

prof e/  
TC 00:06:50.640 - 00:06:51.271  
(0.3)

prof y entonces  
TC 00:06:51.580 - 00:06:52.610  
(0.34)

prof en baño corto para que la suficiente efecto mecánico para una buena penetración  
del sulfuro a la raíz\  
TC 00:06:52.950 - 00:06:59.158  
(0.37)

prof vale/  
TC 00:06:59.530 - 00:07:00.063  
(0.39)

prof esto lo dejas un rato (.) lo suficiente\_  
TC 00:07:00.460 - 00:07:02.986  
(0.25)

prof para que (.) como vimos en el video del otro día se afloje el pelo\_  
TC 00:07:03.240 - 00:07:07.487  
(0.94)

prof e/  
TC 00:07:08.428 - 00:07:08.729  
(0.23)

prof piensen que el efecto mecánico de que las pieles (.) vayan golpeando unas con  
 otras\_ (gesturing circles and hitting with hands)  
 TC 00:07:08.968 - 00:07:13.632  
 (0.22)

prof e/ y el pelo se vaya saliendo\_  
 TC 00:07:13.859 - 00:07:16.102  
 (0.31)

prof y entonces una vez  
 TC 00:07:16.420 - 00:07:17.670  
 (0.35)

prof además baño corto también ayuda\_  
 TC 00:07:18.020 - 00:07:19.556  
 (0.17)

prof una vez que ya (.) hemos logrado  
 TC 00:07:19.730 - 00:07:21.880  
 (0.64)

prof este afeitado del pelo °por decirlo así°  
 TC 00:07:22.520 - 00:07:24.674  
 (0.45)

prof que hacemos/  
 TC 00:07:25.130 - 00:07:25.855  
 (0.53)

prof pasamos por un filtro (.) como también vimos en el video  
 TC 00:07:26.390 - 00:07:29.320  
 (0.56)

prof e/  
 TC 00:07:29.889 - 00:07:30.418  
 (0.32)

prof se pasa por el filtro\_  
 TC 00:07:30.740 - 00:07:31.971  
 (0.27)

prof el pelo  
 TC 00:07:32.250 - 00:07:33.283  
 (0.3)

prof se queda fuera (.) y el baño lo recuperamos\_ (moves arm forward in a  
 semicircle)  
 TC 00:07:33.590 - 00:07:37.362  
 (1.38)

prof y lo volvemos a °poner°\  
 TC 00:07:38.748 - 00:07:39.977  
 (0.97)

prof m/  
 TC 00:07:40.948 - 00:07:41.341  
 (1.06)

prof the second step\_  
 TC 00:07:42.410 - 00:07:43.638  
 (0.42)

prof is  
 TC 00:07:44.060 - 00:07:44.533  
 (1.29)

prof to:: attack the root of the hair (..) only the root\  
 TC 00:07:45.830 - 00:07:50.289  
 (0.6)

prof we have protected\_  
 TC 00:07:50.890 - 00:07:52.242  
 (1.16)

prof the:: extern part of the hair (..) the part\_ (gesturing)  
 TC 00:07:53.410 - 00:07:57.193  
 (0.37)

prof we see  
 TC 00:07:57.570 - 00:07:58.097  
 (0.88)

prof but now\_  
 TC 00:07:58.980 - 00:07:59.709  
 (0.6)

prof wu- a: will attack\_

TC 00:08:00.310 - 00:08:02.859  
(0.32)

prof the root °of the hair°\  
TC 00:08:03.180 - 00:08:04.604  
(0.24)

prof e/ °this part\ okay°/ ((hace un dibujo en la pizarra))  
TC 00:08:04.850 - 00:08:06.383  
(5.53)

prof we attack here  
TC 00:08:11.920 - 00:08:12.648  
(1.11)

prof then  
TC 00:08:13.760 - 00:08:14.397  
(0.22)

prof we put e: we use  
TC 00:08:14.620 - 00:08:17.030  
(1.01)

prof hydrogen sulfide  
TC 00:08:18.040 - 00:08:19.470  
(1.0)

prof okay/  
TC 00:08:20.470 - 00:08:21.336  
(0.05)

est2 girl mm mm\  
TC 00:08:21.390 - 00:08:22.240  
(0.31)

prof better penetration\ ha\ (nods while making eye contact)  
TC 00:08:22.550 - 00:08:24.099  
(0.8)

prof m/  
TC 00:08:24.900 - 00:08:25.111  
(1.4)

prof and some lime\  
TC 00:08:26.520 - 00:08:27.954  
(0.8)

prof to avoid/ to avoid  
TC 00:08:28.760 - 00:08:31.502  
(0.08)

prof the  
TC 00:08:31.590 - 00:08:32.418  
(1.78)

prof sulphidric acid  
TC 00:08:34.200 - 00:08:35.637  
(1.2)

prof okay/  
TC 00:08:36.840 - 00:08:37.598  
(0.12)

prof to avoid  
TC 00:08:37.720 - 00:08:38.528  
(0.41)

prof the danger of °suphidric acid°\  
TC 00:08:38.940 - 00:08:40.576  
(0.97)

prof a little part of lime and in a short float  
TC 00:08:41.550 - 00:08:45.902  
(1.07)

prof eighty percent approximately  
TC 00:08:46.980 - 00:08:48.627  
(0.9)

prof to increase the mechanical effect  
TC 00:08:49.530 - 00:08:51.470  
(0.8)

prof okay/  
TC 00:08:52.270 - 00:08:52.777  
(1.45)

prof then  
TC 00:08:54.230 - 00:08:54.857  
(0.47)

prof the necessary: time  
TC 00:08:55.330 - 00:08:57.174  
(0.12)

prof and (.) filtration\  
TC 00:08:57.300 - 00:08:58.642  
(0.9)

prof ei/ (.) you have seen the filltration in the video (.) yeah/  
TC 00:08:59.550 - 00:09:02.713  
(0.63)

prof last night  
TC 00:09:03.350 - 00:09:04.035  
(0.75)

prof okay/ then  
TC 00:09:04.790 - 00:09:05.432  
(0.37)

prof you RE USE the float\_ (makes circles with hands)  
TC 00:09:05.810 - 00:09:08.267  
(0.79)

prof e/ °and continue with that°  
TC 00:09:09.060 - 00:09:11.303  
(0.31)

prof e::: you are doing a- a shaving\ (gesturing shaving on face)  
TC 00:09:11.620 - 00:09:14.975  
(0.29)

prof a kind of shaving\_  
TC 00:09:15.270 - 00:09:16.495  
(0.47)

prof e/  
TC 00:09:16.970 - 00:09:17.324  
(0.33)

prof of the  
TC 00:09:17.660 - 00:09:18.909  
(1.14)

prof of the hide\  
TC 00:09:20.050 - 00:09:20.679  
(0.51)

prof okay  
TC 00:09:21.190 - 00:09:21.825  
(0.64)

prof VENGA vamos a ver\ que más  
TC 00:09:22.470 - 00:09:24.099  
(1.82)

prof luego  
TC 00:09:25.920 - 00:09:25.930

prof luego\_  
TC 00:09:25.930 - 00:09:26.733  
(1.49)

prof este- hemos hecho un pelambre\_  
TC 00:09:28.230 - 00:09:30.378  
(0.26)

prof pero falta hacer el calero\  
TC 00:09:30.640 - 00:09:32.278  
(0.4)

prof el vaciado xxx- la hidrólisis de partículas en cualquier punto xx\  
TC 00:09:32.680 - 00:09:36.050  
(0.52)

prof que/ ponemos °después °\  
TC 00:09:36.570 - 00:09:37.599  
(0.65)

prof le ponemos agua\_  
TC 00:09:38.250 - 00:09:40.006  
(0.96)

prof le ponemos cal\_  
TC 00:09:40.970 - 00:09:42.261  
(0.44)

prof y TAMBIÉN LE PONEMOS (.) más (.) sulfuro\  
TC 00:09:42.710 - 00:09:46.771  
(1.08)

prof porque/  
TC 00:09:47.860 - 00:09:48.693  
(1.46)

prof porque la raíz\_  
TC 00:09:50.160 - 00:09:51.296  
(0.9)

prof osea  
TC 00:09:52.200 - 00:09:52.401  
(0.37)

prof que hemos hecho/  
TC 00:09:52.780 - 00:09:53.509  
(0.26)

prof aunque hayamos atacado el pelo desde la raíz\_  
TC 00:09:53.770 - 00:09:56.553  
(0.56)

prof siempre puede pasar el problema del hinchamiento\_ (drawing)  
TC 00:09:57.120 - 00:10:00.489  
(1.28)

prof y que algunas raíces o parte de las raíces\_  
TC 00:10:01.774 - 00:10:04.504  
(0.48)

prof se hayan quedado dentro\  
TC 00:10:04.984 - 00:10:06.220  
(0.94)

prof vale/  
TC 00:10:07.164 - 00:10:07.486  
(0.36)

prof entonces cuando nosotros luego sigamos trabajando  
TC 00:10:07.854 - 00:10:10.945  
(0.5)

prof que pasaría/ que veríamos un cuerpo  
TC 00:10:11.454 - 00:10:13.393  
(0.49)

prof al final  
TC 00:10:13.884 - 00:10:14.676  
(0.27)

prof con puntos negros  
TC 00:10:14.954 - 00:10:15.951  
(0.23)

prof ((da golpes al banco)) una vez producido, veríamos el cuero con puntos negros  
TC 00:10:16.190 - 00:10:20.057  
(0.49)

prof esto es fatal si no °lo tienes que dejar en:°\  
TC 00:10:20.550 - 00:10:23.008  
(0.86)

prof no puede ser  
TC 00:10:23.870 - 00:10:24.798  
(0.4)

prof lo TIENES que sacar estos- estas raíces/ las tienes que sacar\ (gestures with  
hand)  
TC 00:10:25.200 - 00:10:29.608  
(0.34)

prof y entonces lo que haces es deshacerlas\ pero eso sí que vamos a sacarlas  
químicamente y a hidrolizarlas de nuevo\  
TC 00:10:29.950 - 00:10:34.742  
(0.41)

prof por eso metemos el sulfuro  
TC 00:10:35.160 - 00:10:36.594  
(0.4)

prof entonces la cal xxxx puntos negros y ya está\  
TC

TC 00:10:37.000 - 00:10:39.965  
(0.58)

prof UNA VEZ  
TC 00:10:40.550 - 00:10:41.522  
(1.16)

prof ya realizado esto  
TC 00:10:42.690 - 00:10:44.429  
(0.98)

prof e/  
TC 00:10:45.410 - 00:10:45.738  
(0.8)

prof una vez ya terminado  
TC 00:10:46.540 - 00:10:47.976  
(0.98)

prof lo tenemos- lo lavamos (.) lo lavamos abundantemente para evitar  
TC 00:10:48.960 - 00:10:52.850  
(0.44)

prof dejar sulfuro encima y que pueda haber luego  
TC 00:10:53.290 - 00:10:55.808  
(0.35)

prof la cal también fuera para que pueda- no pueda haber cal xxx\  
TC 00:10:56.160 - 00:10:59.478  
(0.77)

prof y lo que es un punto imp-  
TC 00:11:00.250 - 00:11:01.504  
(0.46)

prof importante\  
TC 00:11:01.970 - 00:11:02.833  
(0.31)

prof para que est- dos puntos importantes de hecho (..) para que esto funcione bien  
TC 00:11:03.150 - 00:11:06.959  
(0.32)

prof uno\ hay que tener el suficiente efecto mecánico  
TC 00:11:07.280 - 00:11:10.286  
(0.86)

prof y dos\ y MUY importante la temperatura  
TC 00:11:11.150 - 00:11:13.860  
(0.72)

prof si la- la temperatura- del baño debe estar entre veintidós y veintiocho  
TC 00:11:14.580 - 00:11:18.716  
(2.67)

prof veintidós\ límite inferior/ es para evitar  
TC 00:11:21.390 - 00:11:24.787  
(0.46)

prof b- perdón  
TC 00:11:25.250 - 00:11:26.089  
(0.54)

prof es  
TC 00:11:26.630 - 00:11:27.079  
(0.44)

prof para que  
TC 00:11:27.520 - 00:11:28.317  
(0.47)

prof haya suficiente energía cinética como para xxx temperatura como para que  
funcione y los puntos se disuelvan bien °y penetren bien °\  
TC 00:11:28.790 - 00:11:34.420  
(0.7)

prof si bajas de veintidós los productos no penetran y aquello no °funciona°\  
TC 00:11:35.120 - 00:11:37.869  
(1.19)

prof no xxx (.) no depilas\  
TC 00:11:39.060 - 00:11:40.258  
(0.9)

prof y veintiocho  
TC 00:11:41.160 - 00:11:42.133  
(0.21)

prof porque es el límite de seguridad  
TC 00:11:42.350 - 00:11:44.082  
(0.64)

prof para evitar una excesiva hidrólisis (.) de la piel\  
TC 00:11:44.730 - 00:11:47.669  
(0.88)

prof de acuerdo\  
TC 00:11:48.550 - 00:11:49.119  
(2.12)

prof y esto es lo que va a abrir  
TC 00:11:51.240 - 00:11:52.865  
(0.51)

prof e:/  
TC 00:11:53.380 - 00:11:53.698  
(0.19)

prof que >xx< repito  
TC 00:11:53.890 - 00:11:55.447  
(0.18)

prof menos agua  
TC 00:11:55.630 - 00:11:56.597  
(0.2)

prof menos contaminación  
TC 00:11:56.800 - 00:11:58.425  
(1.4)

prof más facilidad de que la xxx depuradora\_  
TC 00:11:59.830 - 00:12:02.416  
(0.45)

prof sin tanto coste económico  
TC 00:12:02.870 - 00:12:04.428  
(0.46)

prof m:/  
TC 00:12:04.890 - 00:12:05.276  
(0.5)

prof y posibilidad de recircular el agua\  
TC 00:12:05.780 - 00:12:07.973  
(1.28)

prof que de la otra manera no:- no existe esta posibilidad\  
TC 00:12:09.260 - 00:12:11.113  
(1.87)

prof OKAY  
TC 00:12:12.990 - 00:12:13.920  
(4.65)

prof afte:r penetration  
TC 00:12:18.570 - 00:12:20.431  
(2.41)

prof you have to do the liming\  
TC 00:12:22.850 - 00:12:24.231  
(0.18)

prof because  
TC 00:12:24.420 - 00:12:25.230  
(1.79)

prof we  
TC 00:12:27.020 - 00:12:27.490  
(0.24)

prof have done  
TC 00:12:27.730 - 00:12:28.720  
(1.1)

prof unhairing but not liming  
TC 00:12:29.820 - 00:12:31.635  
(1.22)

prof e/  
TC 00:12:32.860 - 00:12:33.035  
(0.28)

prof okay/ then  
TC 00:12:33.320 - 00:12:34.163



(0.17)

prof in the float  
TC 00:12:34.340 - 00:12:35.497  
(0.39)

prof you want  
TC 00:12:35.890 - 00:12:36.694  
(1.64)

prof some water °with the xxxxx°  
TC 00:12:38.340 - 00:12:40.630  
(0.95)

prof you have lost  
TC 00:12:41.580 - 00:12:42.316  
(0.67)

prof °some xxx°  
TC 00:12:42.990 - 00:12:43.598  
(1.58)

prof sulfide/  
TC 00:12:45.180 - 00:12:46.062  
(1.17)

prof sulfide\  
TC 00:12:47.240 - 00:12:48.097  
(1.88)

prof TO  
TC 00:12:49.980 - 00:12:50.841  
(0.49)

prof DESTROY THE RESTS  
TC 00:12:51.340 - 00:12:53.291  
(0.3)

prof of the roots  
TC 00:12:53.600 - 00:12:54.749  
(0.25)

prof you have  
TC 00:12:55.000 - 00:12:55.750  
(0.7)

prof because (.) if you (.) don't (.) destroy\_  
TC 00:12:56.450 - 00:12:59.914  
(1.46)

prof where:  
TC 00:13:01.380 - 00:13:02.357  
(1.63)

prof a::::  
TC 00:13:03.990 - 00:13:04.870  
(0.93)

prof no- when  
TC 00:13:05.800 - 00:13:06.930  
(1.13)

prof the::  
TC 00:13:08.060 - 00:13:08.882  
(0.32)

prof hide  
TC 00:13:09.210 - 00:13:10.031  
(2.29)

prof is tanned  
TC 00:13:12.330 - 00:13:13.468  
(1.71)

prof you'll see  
TC 00:13:15.180 - 00:13:16.341  
(1.57)

prof these black points  
TC 00:13:17.920 - 00:13:19.580  
(0.41)

prof °in the hider°  
TC 00:13:19.990 - 00:13:20.584  
(1.09)

prof the rest of the root

TC 00:13:21.680 - 00:13:22.898  
(0.36)

prof and that's very bad  
TC 00:13:23.260 - 00:13:24.695  
(0.63)

prof specially (.) if you (.) need\_  
TC 00:13:25.330 - 00:13:27.614  
(0.38)

prof to make  
TC 00:13:28.000 - 00:13:28.630  
(0.47)

prof anilines\  
TC 00:13:29.100 - 00:13:29.882  
(0.72)

prof yeah/  
TC 00:13:30.610 - 00:13:30.962  
(0.69)

prof °anilines°\  
TC 00:13:31.660 - 00:13:32.120  
(0.26)

prof okay/  
TC 00:13:32.380 - 00:13:32.876  
(0.36)

prof or vegetable  
TC 00:13:33.240 - 00:13:34.358  
(0.6)

prof vegetable:: goods/  
TC 00:13:34.960 - 00:13:36.372  
(0.64)

prof very bad (.) °to see th- to see this° (.) black points  
TC 00:13:37.020 - 00:13:40.381  
(0.95)

prof THEN (.) you need to destroy and you destroy with sulfides  
TC 00:13:41.340 - 00:13:44.580  
(0.55)

prof AND ALSO  
TC 00:13:45.130 - 00:13:46.150  
(0.16)

prof you put lime  
TC 00:13:46.310 - 00:13:47.548  
(0.19)

prof to do the liming  
TC 00:13:47.740 - 00:13:48.789  
(0.45)

prof and (.) to create  
TC 00:13:49.240 - 00:13:51.435  
(0.34)

prof to- to make  
TC 00:13:51.780 - 00:13:52.830  
(0.63)

prof the xx points you need  
TC 00:13:53.460 - 00:13:56.096  
(1.3)

prof to e: °tanning°\  
TC 00:13:57.400 - 00:13:59.006  
(0.51)

prof e:/  
TC 00:13:59.520 - 00:13:59.981  
(2.09)

prof okay  
TC 00:14:02.080 - 00:14:02.707  
(0.89)

prof then  
TC 00:14:03.600 - 00:14:04.228  
(0.26)

prof finally  
TC 00:14:04.490 - 00:14:05.286  
(1.02)

prof when we have finished that/  
TC 00:14:06.310 - 00:14:07.542  
(0.48)

prof it's necessary  
TC 00:14:08.030 - 00:14:09.380  
(0.35)

prof you need (.) to (.) wash:  
TC 00:14:09.730 - 00:14:11.861  
(0.99)

prof e:::::  
TC 00:14:12.860 - 00:14:13.593  
(1.18)

prof a good  
TC 00:14:14.780 - 00:14:15.627  
(0.8)

prof °yeah° yeah/ good wash°  
TC 00:14:16.430 - 00:14:18.619  
(0.92)

prof °e/ good washing°  
TC 00:14:19.540 - 00:14:20.469  
(0.8)

prof m: to: avoid  
TC 00:14:21.270 - 00:14:23.083  
(0.71)

prof the rest (.) of sulfides  
TC 00:14:23.800 - 00:14:25.509  
(0.48)

prof and °the rest of lime°\  
TC 00:14:25.990 - 00:14:27.355  
(0.33)

prof e/ e/  
TC 00:14:27.690 - 00:14:28.578  
(0.14)

prof to avoid the danger to produce/  
TC 00:14:28.720 - 00:14:31.076  
(0.84)

prof sulfides  
TC 00:14:31.920 - 00:14:32.589  
(0.26)

prof sulfhidric acid/  
TC 00:14:32.850 - 00:14:34.082  
(0.65)

prof or carbonations\  
TC 00:14:34.740 - 00:14:36.344  
(1.87)

prof °°xxx (.) enough°°  
TC 00:14:38.220 - 00:14:40.331  
(0.39)

prof okay/  
TC 00:14:40.730 - 00:14:41.182  
(0.35)

prof there are two points important in all the process\  
TC 00:14:41.540 - 00:14:43.944  
(0.48)

prof first (.) mechanical effect\  
TC 00:14:44.430 - 00:14:46.165  
(0.64)

prof is necessary to: to increase the penetration of the products\  
TC 00:14:46.810 - 00:14:50.410  
(0.13)

prof °the chemicals°  
TC 00:14:50.540 - 00:14:51.305  
(0.33)

prof yeah/  
 TC 00:14:51.640 - 00:14:52.173  
 (0.36)

prof and (.) SECOND very important temperature\  
 TC 00:14:52.540 - 00:14:55.072  
 (0.96)

prof the temperature (.) has to be  
 TC 00:14:56.040 - 00:14:58.301  
 (0.55)

prof between twenty two (.) and twenty eight  
 TC 00:14:58.860 - 00:15:01.700  
 (0.43)

prof degrees centigrade\  
 TC 00:15:02.130 - 00:15:03.067  
 (0.44)

prof m/  
 TC 00:15:03.510 - 00:15:03.866  
 (0.88)

prof twenty two (.) to increase  
 TC 00:15:04.750 - 00:15:06.626  
 (0.47)

prof the solution  
 TC 00:15:07.100 - 00:15:08.205  
 (1.32)

prof e/  
 TC 00:15:09.530 - 00:15:09.896  
 (0.48)

prof to solve the products  
 TC 00:15:10.380 - 00:15:11.540  
 (0.56)

prof is not- an- and:  
 TC 00:15:12.100 - 00:15:13.673  
 (1.99)

prof to:: add the reaction with some\_  
 TC 00:15:15.670 - 00:15:18.561  
 (0.52)

prof kinetic element  
 TC 00:15:19.090 - 00:15:20.871  
 (0.69)

prof m/  
 TC 00:15:21.570 - 00:15:22.044  
 (0.43)

prof and twenty eight is the- is the high point- is the: the:  
 TC 00:15:22.480 - 00:15:26.811  
 (1.45)

prof the- the same xxx  
 TC 00:15:28.270 - 00:15:29.905  
 (0.18)

prof a/ to save a/ to avoid  
 TC 00:15:30.090 - 00:15:32.634  
 (0.4)

prof a: to: attack too much lime  
 TC 00:15:33.040 - 00:15:35.634  
 (0.82)

prof okay/  
 TC 00:15:36.460 - 00:15:37.092  
 (1.57)

prof all right  
 TC 00:15:38.670 - 00:15:39.475  
 (1.9)

prof then: °xxx°  
 TC 00:15:41.380 - 00:15:43.077  
 (0.75)

prof bien (.) sistemas de trabajo  
 TC 00:15:43.830 - 00:15:45.460

(2.09)

prof va:mos a ver\_

TC 00:15:47.550 - 00:15:48.771  
(0.24)

prof °los sistemas de°

TC 00:15:49.020 - 00:15:50.099  
(1.29)

prof trabajo\

TC 00:15:51.390 - 00:15:52.117  
(3.71)

prof °venga°

TC 00:15:55.830 - 00:15:56.426  
(5.17)

prof vamos a empezar hablando de:\_

TC 00:16:01.600 - 00:16:03.641  
(0.59)

prof las variaciones

TC 00:16:04.240 - 00:16:05.572  
(0.15)

prof que se pueden (.) producir\_

TC 00:16:05.730 - 00:16:07.791  
(0.72)

prof según el artículo\

TC 00:16:08.520 - 00:16:09.589  
(1.23)

prof e/

TC 00:16:10.820 - 00:16:11.226  
(4.8)

prof en este caso\_

TC 00:16:16.030 - 00:16:17.164  
(1.55)

prof es importante remarcar

TC 00:16:18.720 - 00:16:20.462  
(0.88)

prof que se-

TC 00:16:21.350 - 00:16:22.009  
(0.48)

prof según el artículo

TC 00:16:22.490 - 00:16:23.841  
(0.55)

prof las variaciones pueden ser muy diferentes\

TC 00:16:24.400 - 00:16:27.144  
(1.05)

prof e/

TC 00:16:28.200 - 00:16:28.604  
(3.17)

prof muy diferentes en el sentido de que\

TC 00:16:31.780 - 00:16:33.935  
(3.15)

prof tú puedes tener

TC 00:16:37.090 - 00:16:38.174  
(1.33)

prof puedes necesitar un cuero para calzado

TC 00:16:39.510 - 00:16:42.027  
(0.28)

prof o puedes desear un cuero para: tapicería\ (gesturing)

TC 00:16:42.310 - 00:16:45.566  
(0.2)

prof y estos cueros vienen a ser (.) tienen que ser (.) totalmente diferentes

TC 00:16:45.770 - 00:16:49.503  
(0.26)

prof y aqui en el pelambre y el calero\_

TC 00:16:49.770 - 00:16:52.031  
(0.24)

prof es

TC 00:16:52.280 - 00:16:52.691  
(0.23)

prof cuando  
TC 00:16:52.930 - 00:16:53.670  
(0.36)

prof se empiezan  
TC 00:16:54.030 - 00:16:55.263  
(0.37)

prof a a::::  
TC 00:16:55.640 - 00:16:56.944  
(0.28)

prof matizar  
TC 00:16:57.230 - 00:16:58.275  
(0.24)

prof las primeras diferencias unas diferencias que serán básicas\  
TC 00:16:58.520 - 00:17:01.212  
(0.56)

prof m/  
TC 00:17:01.780 - 00:17:02.229  
(3.75)

prof todos sabemos que cuando hacemos unos zapatos interesa  
TC 00:17:05.980 - 00:17:09.066  
(0.26)

prof tener  
TC 00:17:09.330 - 00:17:09.865  
(1.34)

prof una piel- un cierto volumen\  
TC 00:17:11.210 - 00:17:13.157  
(0.79)

prof que la piel retorne porque si no mantenemos el zapato  
TC 00:17:13.950 - 00:17:16.932  
(0.21)

prof y se nos hundiría\  
TC 00:17:17.150 - 00:17:18.383  
(0.67)

prof e/  
TC 00:17:19.060 - 00:17:19.464  
(0.29)

prof en cambio (.) en una zapi- en- en una tapicería interesa que se estire la piel  
TC 00:17:19.760 - 00:17:23.943  
(0.51)

prof y agarrar la forma del:  
TC 00:17:24.460 - 00:17:25.944  
(1.14)

prof del- del- del mueble (.) o incluso  
TC 00:17:27.090 - 00:17:29.362  
(0.13)

prof en una chaqueta interesa que sea  
TC 00:17:29.500 - 00:17:31.428  
(0.52)

prof suave al tacto que no- que no tenga ese xxx°\  
TC 00:17:31.950 - 00:17:34.623  
(0.34)

prof por tanto- y aqui se hacen estas diferencias\  
TC 00:17:34.970 - 00:17:36.999  
(0.68)

prof también por ejemplo si estamos hablando  
TC 00:17:37.680 - 00:17:39.817  
(0.16)

prof de pi- en pieles bovinas  
TC 00:17:39.980 - 00:17:41.519  
(0.36)

prof que hacen vienen vacías  
TC 00:17:41.880 - 00:17:43.349  
(0.35)

prof como pueden ser Australia o Nueva Zelanda  
TC 00:17:43.700 - 00:17:46.346  
(0.6)

prof e/  
TC 00:17:46.950 - 00:17:47.348  
(0.39)

prof en estas pieles (.) nosotros lo que: buscamos  
TC 00:17:47.740 - 00:17:51.243  
(0.97)

prof es no dañarlas demasiado xxx porque están gastando xxx\  
TC 00:17:52.220 - 00:17:55.028  
(0.75)

prof si las hacemos un calero fuerte  
TC 00:17:55.780 - 00:17:57.616  
(0.53)

prof estas pieles se nos desmontan  
TC 00:17:58.150 - 00:17:59.834  
(1.0)

prof por lo cual no tendría necesidades °físicas°\  
TC 00:18:00.840 - 00:18:02.938  
(0.84)

prof y a veces incluso en estos- en estos cueros  
TC 00:18:03.780 - 00:18:06.019  
(0.3)

prof lo que m- lo que se hace es no hacer un calero  
TC 00:18:06.320 - 00:18:08.561  
(0.22)

prof si no sustituirlo por un píquel más fuerte\  
TC 00:18:08.790 - 00:18:11.251  
(0.8)

prof e/  
TC 00:18:12.060 - 00:18:12.339  
(3.12)

prof luego también está por ejemplo  
TC 00:18:15.460 - 00:18:17.450  
(1.13)

prof distinguir entre curtido al cromo y curtido al vegetal\  
TC 00:18:18.580 - 00:18:20.882  
(1.06)

prof e/  
TC 00:18:21.950 - 00:18:22.226  
(0.23)

prof cuando curtimos al vegetal lo que hacemos es entrar madera dentro del cuero\  
TC 00:18:22.460 - 00:18:25.882  
(0.39)

prof por tanto interesa la cal del cuero\  
TC 00:18:26.280 - 00:18:28.232  
(0.78)

prof por tanto tenemos  
TC 00:18:29.020 - 00:18:29.954  
(0.41)

prof bastante proporción de cal  
TC 00:18:30.370 - 00:18:32.144  
(1.26)

prof en p- en funcion : si la comparamos con la- la- la: la propia cal del  
sulfuro sodico\  
TC 00:18:33.410 - 00:18:38.792  
(0.29)

prof que medimos\  
TC 00:18:39.090 - 00:18:39.769  
(0.39)

prof e/ o sea la relación  
TC 00:18:40.160 - 00:18:41.839  
(0.35)

prof entre  
TC 00:18:42.190 - 00:18:42.936

(0.32)

prof concentración  
TC 00:18:43.260 - 00:18:44.507  
(0.41)

prof de sulfuro y concentración  
TC 00:18:44.920 - 00:18:46.960  
(0.66)

prof de cal añadida  
TC 00:18:47.620 - 00:18:49.073  
(0.36)

prof es baja  
TC 00:18:49.440 - 00:18:50.437  
(0.14)

prof en el resultado  
TC 00:18:50.580 - 00:18:51.762  
(0.44)

prof y más ahora  
TC 00:18:52.210 - 00:18:53.305  
(0.34)

prof en el cromo  
TC 00:18:53.650 - 00:18:54.577  
(1.0)

prof porque en el cromo no interesa la xxx porque entonces (.) perderíamos el  
cinturón  
TC 00:18:55.580 - 00:18:59.700  
(0.52)

prof y como además ponemos poco por dentro lo llenaríamos  
TC 00:19:00.220 - 00:19:03.343  
(0.29)

prof quitaría la xxx\  
TC 00:19:03.640 - 00:19:04.637  
(0.71)

estl boy aunque el efecto muelle se da/ (.) xxx (.) no la sabemos\  
TC 00:19:05.350 - 00:19:08.896  
(1.98)

prof se da (.) el efecto muelle a::  
TC 00:19:10.880 - 00:19:13.477

estl boy se busca:  
TC 00:19:13.460 - 00:19:14.591  
(0.1)

prof se busca el xxxxxxx pero aquí también hay algo que no xxxxx  
TC 00:19:14.700 - 00:19:18.955  
(0.33)

prof importa e/  
TC 00:19:19.290 - 00:19:20.273  
(0.67)

prof porque xxxxx quedó  
TC 00:19:20.950 - 00:19:22.503  
(1.27)

prof vale/  
TC 00:19:23.780 - 00:19:24.217  
(0.63)

prof no tendrá (.) la complejidad necesaria  
TC 00:19:24.850 - 00:19:27.717  
(0.79)

prof para poder °xxx°\  
TC 00:19:28.510 - 00:19:30.042  
(0.62)

estl boy  
°xx°  
TC 00:19:30.670 - 00:19:36.377

prof =xxxxx=  
TC 00:19:32.450 - 00:19:33.615  
(0.59)

prof m/



TC 00:19:34.210 - 00:19:34.637  
(1.56)

prof okay  
TC 00:19:36.200 - 00:19:36.718  
(1.3)

prof a:::::  
TC 00:19:38.020 - 00:19:38.810  
(0.77)

prof toward different  
TC 00:19:39.586 - 00:19:40.939  
(1.25)

prof work systems  
TC 00:19:42.190 - 00:19:43.257  
(0.66)

prof then we  
TC 00:19:43.920 - 00:19:45.183  
(0.45)

prof we discuss for example  
TC 00:19:45.640 - 00:19:47.218  
(0.82)

prof in the art craft in the\ in the goods  
TC 00:19:48.040 - 00:19:50.475  
(0.3)

prof °you have to xxx no/°  
TC 00:19:50.780 - 00:19:51.906  
(0.92)

prof is different a:::::  
TC 00:19:52.830 - 00:19:55.041  
(0.55)

prof to:::  
TC 00:19:55.600 - 00:19:56.270  
(1.26)

prof to do an unhairing  
TC 00:19:57.530 - 00:19:59.272  
(1.36)

prof in a hide  
TC 00:20:00.640 - 00:20:01.519  
(0.73)

prof we want  
TC 00:20:02.250 - 00:20:03.064  
(0.5)

prof use  
TC 00:20:03.570 - 00:20:04.146  
(0.75)

prof to make a:: shoes  
TC 00:20:04.900 - 00:20:06.947  
(0.6)

prof when you need  
TC 00:20:07.550 - 00:20:08.354  
(1.06)

prof this kind of effect ((hace un gesto con las manos de doblar folios, refiriéndose  
a algo flexible))  
TC 00:20:09.420 - 00:20:10.514  
(0.48)

est2 girl yes  
TC 00:20:11.000 - 00:20:11.432  
(0.09)

prof yes/  
TC 00:20:11.530 - 00:20:12.001  
(0.8)

prof O/  
TC 00:20:12.810 - 00:20:13.474  
(0.83)

prof when  
TC 00:20:14.310 - 00:20:14.939  
(0.39)

prof           you have to:::  
 TC             00:20:15.330 - 00:20:17.270  
               (0.67)

prof           to make  
 TC             00:20:17.940 - 00:20:18.730  
               (0.41)

prof           a jacket  
 TC             00:20:19.140 - 00:20:20.011  
               (0.39)

prof           o::: a   sofá   (.) e/  
 TC             00:20:20.410 - 00:20:22.415  
               (0.24)

prof           xxx/  
 TC             00:20:22.660 - 00:20:23.113  
               (0.82)

prof           this kind object (.) you need (.) an elastic  
 TC             00:20:23.940 - 00:20:26.730  
               (1.17)

prof           hide(.) e/  
 TC             00:20:27.900 - 00:20:29.103  
               (0.28)

prof           and  
 TC             00:20:29.390 - 00:20:29.929  
               (0.65)

prof           soft  
 TC             00:20:30.580 - 00:20:31.272  
               (0.83)

prof           hide  
 TC             00:20:32.110 - 00:20:32.595  
               (0.41)

prof           e/  
 TC             00:20:33.010 - 00:20:33.460  
               (0.18)

prof           then  
 TC             00:20:33.640 - 00:20:34.116  
               (0.37)

prof           we (.) a:::  
 TC             00:20:34.490 - 00:20:36.113  
               (0.35)

prof           we can  
 TC             00:20:36.470 - 00:20:37.142  
               (0.69)

prof           begin  
 TC             00:20:37.840 - 00:20:38.690  
               (0.33)

prof           to:  
 TC             00:20:39.020 - 00:20:39.503  
               (1.19)

prof           to work different  
 TC             00:20:40.700 - 00:20:41.643  
               (0.65)

prof           in these  
 TC             00:20:42.300 - 00:20:42.841  
               (0.35)

prof           e: operations\  
 TC             00:20:43.200 - 00:20:44.423  
               (0.44)

prof           e/ we NEED to work different in these operations  
 TC             00:20:44.870 - 00:20:47.068  
               (0.49)

prof           okay/  
 TC             00:20:47.560 - 00:20:47.965  
               (0.55)

prof           ALSO/  
 TC             00:20:48.520 - 00:20:49.269

(0.27)

prof for example: (.) if you work  
TC 00:20:49.540 - 00:20:51.539  
(0.16)

prof sheep skins  
TC 00:20:51.700 - 00:20:52.509  
(1.17)

prof e/ sheep skins  
TC 00:20:53.680 - 00:20:54.633  
(1.14)

prof if you ha:ve a::  
TC 00:20:55.780 - 00:20:57.697  
(0.28)

prof bought  
TC 00:20:57.980 - 00:20:58.668  
(0.61)

prof a: for example (.) New Zealand  
TC 00:20:59.280 - 00:21:01.879  
(0.37)

prof Aust- Auatralian  
TC 00:21:02.250 - 00:21:03.393  
(0.35)

prof a/  
TC 00:21:03.746 - 00:21:04.075  
(0.4)

prof there are:  
TC 00:21:04.476 - 00:21:05.322  
(0.21)

prof EMPTY  
TC 00:21:05.540 - 00:21:06.258  
(0.81)

prof skins  
TC 00:21:07.070 - 00:21:07.554  
(0.96)

prof okay/  
TC 00:21:08.520 - 00:21:08.941  
(0.53)

prof m:  
TC 00:21:09.480 - 00:21:09.810

est3 girl °xxxxxxxx°  
TC 00:21:09.480 - 00:21:11.476

prof [pardon/]  
TC 00:21:10.740 - 00:21:11.312  
(0.8)

est3 girl sorry/ e:::  
TC 00:21:12.120 - 00:21:13.962

prof [New Zealand (.) Auatralian]  
TC 00:21:13.240 - 00:21:14.952  
(0.13)

est3 girl °xxxx°  
TC 00:21:15.091 - 00:21:15.863

prof sheep skins (.) yeah/ (.) skins of  
TC 00:21:15.521 - 00:21:17.485  
(0.7)

prof the: the sheep of New Zealand or Australia/  
TC 00:21:18.190 - 00:21:20.934  
(0.41)

prof then  
TC 00:21:21.350 - 00:21:21.801  
(0.48)

prof there are a::::  
TC 00:21:22.290 - 00:21:23.882  
(1.38)

prof EMPTY skins

TC 00:21:25.270 - 00:21:26.297  
(1.04)

prof yeah/  
TC 00:21:27.340 - 00:21:27.738

est3 girl m: ((mueve la cabeza afirmativamente))  
TC 00:21:27.440 - 00:21:28.278

prof empty not full skins  
TC 00:21:28.090 - 00:21:29.463  
(0.4)

prof as for example:: spanish skin  
TC 00:21:29.870 - 00:21:33.098  
(0.42)

prof e: argentino  
TC 00:21:33.520 - 00:21:35.130  
(0.62)

prof no  
TC 00:21:35.750 - 00:21:36.269  
(0.81)

prof it's empty  
TC 00:21:37.080 - 00:21:37.854  
(0.43)

prof then  
TC 00:21:38.290 - 00:21:38.765  
(0.26)

prof it's very dangerous to do  
TC 00:21:39.030 - 00:21:40.548  
(0.35)

prof a:  
TC 00:21:40.900 - 00:21:41.545  
(0.46)

prof a strong  
TC 00:21:42.010 - 00:21:42.844  
(0.39)

prof xxx  
TC 00:21:43.240 - 00:21:43.887  
(1.31)

prof °xxx°  
TC 00:21:45.200 - 00:21:45.704  
(0.75)

prof then  
TC 00:21:46.460 - 00:21:46.873  
(0.39)

prof you  
TC 00:21:47.270 - 00:21:47.765  
(0.35)

prof attack the hide and  
TC 00:21:48.120 - 00:21:49.666  
(0.77)

prof the empty (.) is too much empty there\_  
TC 00:21:50.440 - 00:21:52.886  
(0.64)

prof and you- you loose  
TC 00:21:53.530 - 00:21:55.207  
(0.27)

prof a lot of  
TC 00:21:55.480 - 00:21:56.484  
(0.27)

prof mechanical resistance\  
TC 00:21:56.760 - 00:21:58.799  
(1.54)

prof e/  
TC 00:22:00.348 - 00:22:00.708  
(0.82)

prof sometimes  
TC 00:22:01.531 - 00:22:02.531

(0.82)

prof in these kind of- of skins  
TC 00:22:03.354 - 00:22:05.354  
(0.97)

prof people\_  
TC 00:22:06.328 - 00:22:07.203  
(0.66)

prof a: don't a:: (.) don't do  
TC 00:22:07.870 - 00:22:10.810  
(0.51)

prof unharig and liming  
TC 00:22:11.320 - 00:22:12.342  
(1.36)

prof or liming\ liming\  
TC 00:22:13.705 - 00:22:15.019  
(0.34)

prof e/  
TC 00:22:15.360 - 00:22:15.756  
(0.85)

prof they substitute  
TC 00:22:16.608 - 00:22:17.808  
(0.98)

prof it  
TC 00:22:18.788 - 00:22:19.123  
(0.68)

prof by strong piquel\  
TC 00:22:19.806 - 00:22:21.166  
(1.79)

prof yeah/  
TC 00:22:22.964 - 00:22:23.318  
(0.44)

prof to avoid  
TC 00:22:23.764 - 00:22:24.684  
(0.7)

prof empty too much the °skin°\  
TC 00:22:25.384 - 00:22:27.493  
(0.29)

prof okay/  
TC 00:22:27.784 - 00:22:28.181  
(1.92)

prof THEN (.) also in:  
TC 00:22:30.103 - 00:22:32.383  
(0.28)

prof then it's important  
TC 00:22:32.664 - 00:22:33.967  
(0.43)

prof there we have the::  
TC 00:22:34.398 - 00:22:35.876  
(1.8)

prof this relation- this proportion e/ this relation ((señala una fórmula en la  
pizarra))  
TC 00:22:37.683 - 00:22:40.198  
(0.32)

prof okay/  
TC 00:22:40.523 - 00:22:41.036  
(1.3)

prof one pickle sulfide\_  
TC 00:22:42.341 - 00:22:43.941  
(0.76)

prof on one xxx of one\  
TC 00:22:44.703 - 00:22:46.516  
(0.46)

prof yeah/  
TC 00:22:46.983 - 00:22:47.423  
(0.48)

prof                   one xx one OVER the one xx\  
 TC                   00:22:47.907 - 00:22:49.907  
                       (1.43)

prof                   in vegetable  
 TC                   00:22:51.346 - 00:22:52.426  
                       (1.38)

prof                   WE have TWENTY/  
 TC                   00:22:53.809 - 00:22:55.777  
                       (0.74)

prof                   hides  
 TC                   00:22:56.523 - 00:22:57.583  
                       (0.79)

prof                   to introduce the vegetables\ the wood\  
 TC                   00:22:58.380 - 00:23:00.923  
                       (0.24)

prof                   okay/  
 TC                   00:23:01.163 - 00:23:01.813  
                       (0.48)

prof                   then (.) we need  
 TC                   00:23:02.300 - 00:23:03.388  
                       (1.47)

prof                   empty a lot  
 TC                   00:23:04.866 - 00:23:05.866  
                       (0.95)

prof                   then (.) we put a LOT of xxx  
 TC                   00:23:06.825 - 00:23:08.901  
                       (1.64)

prof                   convert  
 TC                   00:23:10.547 - 00:23:11.474  
                       (0.41)

prof                   with  
 TC                   00:23:11.888 - 00:23:12.498  
                       (0.38)

prof                   quantity of sulfure\  
 TC                   00:23:12.880 - 00:23:13.878  
                       (0.53)

prof                   and in chromium is different  
 TC                   00:23:14.414 - 00:23:16.106  
                       (1.35)

prof                   okay/  
 TC                   00:23:17.461 - 00:23:18.313  
                       (0.53)

prof                   when you want\ you want  
 TC                   00:23:18.847 - 00:23:20.411  
                       (0.55)

prof                   to: tan  
 TC                   00:23:20.968 - 00:23:22.128  
                       (0.64)

prof                   in chromium/  
 TC                   00:23:22.769 - 00:23:23.452  
                       (0.48)

prof                   in chromium  
 TC                   00:23:23.935 - 00:23:24.464  
                       (0.18)

prof                   then/  
 TC                   00:23:24.647 - 00:23:25.116  
                       (1.44)

prof                   you  
 TC                   00:23:26.556 - 00:23:27.182  
                       (0.27)

prof                   don't need  
 TC                   00:23:27.454 - 00:23:28.540  
                       (0.33)

prof                   e: you- you DON'T want  
 TC                   00:23:28.874 - 00:23:30.600  
                       (0.98)

prof twenty  
TC 00:23:31.584 - 00:23:32.402  
(0.17)

prof hides  
TC 00:23:32.580 - 00:23:33.209  
(0.58)

prof okay/  
TC 00:23:33.790 - 00:23:34.368  
(1.21)

prof that's not necessary/ (.) and  
TC 00:23:35.581 - 00:23:36.916  
(0.97)

prof then we- u- you can obtain this- this: ((dobra los folios que tiene en la mano,  
como señalando flexibilidad))  
TC 00:23:37.891 - 00:23:41.679  
(1.65)

prof the characteristics  
TC 00:23:43.338 - 00:23:44.709  
(1.06)

prof °of a:::°  
TC 00:23:45.771 - 00:23:46.737  
(1.27)

prof xxx  
TC 00:23:48.008 - 00:23:48.727  
(0.24)

prof yeah/  
TC 00:23:48.971 - 00:23:49.289  
(0.09)

prof °you need°  
TC 00:23:49.380 - 00:23:49.900  
(0.52)

prof then/ you put  
TC 00:23:50.420 - 00:23:51.416  
(1.17)

prof this relation yeah\  
TC 00:23:52.594 - 00:23:54.034  
(1.34)

prof this quantity is more important  
TC 00:23:55.374 - 00:23:57.157  
(0.25)

prof compared (.) °with this other°\  
TC 00:23:57.410 - 00:23:59.030  
(0.79)

prof okay/  
TC 00:23:59.820 - 00:24:00.395  
(1.09)

prof °xxx°  
TC 00:24:01.490 - 00:24:01.885  
(0.54)

prof °bueno°\  
TC 00:24:02.430 - 00:24:02.853  
(1.93)

prof precauciones generales que nosotros (.) debemos:  
TC 00:24:04.790 - 00:24:08.380  
(1.77)

prof tener  
TC 00:24:10.153 - 00:24:10.877  
(0.75)

prof m/  
TC 00:24:11.630 - 00:24:11.957  
(0.72)

prof por ejemplo  
TC 00:24:12.683 - 00:24:13.507  
(1.87)

prof las carbonr- las carbonataciones\ estamos hablando de pieles en tripa

TC 00:24:15.382 - 00:24:19.526  
(0.31)

prof m/  
TC 00:24:19.842 - 00:24:20.192  
(0.69)

prof y tenemos que vigilar las carbonataciones\  
TC 00:24:20.884 - 00:24:22.771  
(0.86)

prof por/ que  
TC 00:24:23.634 - 00:24:24.455  
(0.54)

prof si t- te reacciona la cal  
TC 00:24:24.998 - 00:24:27.320  
(1.43)

prof con el dióxido de carbono del aire  
TC 00:24:28.754 - 00:24:31.244  
(3.71)

prof se produce  
TC 00:24:34.954 - 00:24:36.494  
(1.98)

prof suele producir  
TC 00:24:38.477 - 00:24:39.651  
(1.93)

prof carbonato calcico  
TC 00:24:41.584 - 00:24:42.956  
(0.32)

prof precipitados de carbonato calcico  
TC 00:24:43.280 - 00:24:45.534  
(1.26)

prof e:/  
TC 00:24:46.800 - 00:24:47.281  
(0.27)

prof encima/ (.) la piel\  
TC 00:24:47.552 - 00:24:48.985  
(1.94)

prof entonces/  
TC 00:24:50.927 - 00:24:51.902  
(2.29)

prof las zonas  
TC 00:24:54.197 - 00:24:55.294  
(0.22)

prof que están en contacto con el aire/  
TC 00:24:55.520 - 00:24:57.261  
(0.65)

prof pasa esto  
TC 00:24:57.915 - 00:24:58.645  
(0.55)

prof hay la precipitación\  
TC 00:24:59.203 - 00:25:00.243  
(1.05)

prof si hay la precipitación/  
TC 00:25:01.301 - 00:25:02.985  
(0.15)

prof quedan  
TC 00:25:03.140 - 00:25:03.692  
(1.19)

prof unas manchas/- bueno unas manchas no u:  
TC 00:25:04.882 - 00:25:06.976  
(1.26)

prof más que manchas son precipitados (.) no/  
TC 00:25:08.240 - 00:25:10.483  
(0.15)

prof encima°la piel\  
TC 00:25:10.640 - 00:25:11.478  
(1.1)



prof CLARO  
TC 00:25:12.580 - 00:25:13.336  
(1.35)

prof entonces nosotros vamos a prevenir  
TC 00:25:14.693 - 00:25:16.865  
(0.92)

prof al:  
TC 00:25:17.790 - 00:25:18.315  
(0.21)

prof desencalado:/ rendido:/  
TC 00:25:18.530 - 00:25:21.002  
(0.65)

prof piquel/  
TC 00:25:21.660 - 00:25:22.535  
(0.51)

prof e/  
TC 00:25:23.050 - 00:25:23.449  
(0.33)

prof seguimos toda:  
TC 00:25:23.781 - 00:25:25.148  
(2.54)

prof todos los pasos °para protegerlo°  
TC 00:25:27.694 - 00:25:30.012  
(1.06)

prof como:  
TC 00:25:31.081 - 00:25:32.132  
(1.26)

prof vamos yendo hacia un ph ácido  
TC 00:25:33.392 - 00:25:36.122  
(0.6)

prof este carbonato  
TC 00:25:36.722 - 00:25:38.100  
(0.42)

prof se disuelve\  
TC 00:25:38.522 - 00:25:39.257  
(0.45)

prof pero se disuelve el piquel  
TC 00:25:39.710 - 00:25:41.159  
(0.53)

prof por tanto  
TC 00:25:41.691 - 00:25:42.526  
(1.1)

prof hemos hecho  
TC 00:25:43.630 - 00:25:44.550  
(0.29)

prof el: (.) pelambre y calero  
TC 00:25:44.847 - 00:25:46.847  
(0.43)

prof DURANTE  
TC 00:25:47.278 - 00:25:48.198  
(0.39)

prof el desencalado rendido  
TC 00:25:48.588 - 00:25:50.153  
(0.39)

prof HAY unas fibras  
TC 00:25:50.548 - 00:25:52.063  
(0.4)

prof que han quedado  
TC 00:25:52.463 - 00:25:53.543  
(0.71)

prof por decirlo de una manera protegidas  
TC 00:25:54.254 - 00:25:56.286  
(1.93)

prof por la- por este carbonato calcico  
TC 00:25:58.219 - 00:26:00.219  
(0.19)

prof y por tanto  
TC 00:26:00.409 - 00:26:01.449  
(0.46)

prof mientras el carácter xx de los productos químicos usados en desencalado y  
rendido han podido penetrar  
TC 00:26:01.910 - 00:26:07.581  
(0.36)

prof por tanto  
TC 00:26:07.950 - 00:26:08.686  
(0.3)

prof aquella parte de la piel/  
TC 00:26:08.989 - 00:26:11.011  
(0.5)

prof estará más dura  
TC 00:26:11.513 - 00:26:12.733  
(1.83)

prof que las otras que se han desencalado y rendido porque no ha habido rendido ya/  
TC 00:26:14.570 - 00:26:18.121  
(0.29)

prof a sacarlas de las tinas  
TC 00:26:18.414 - 00:26:19.934  
(0.93)

prof °o sea°  
TC 00:26:20.864 - 00:26:21.268  
(0.15)

prof hay partes de la piel en que las demás pieles no se xxx\ entonces esto se  
traduce  
TC 00:26:21.424 - 00:26:25.624  
(0.26)

prof en que hay una Diferencia entre °partes de la piel que luego° se ve y se nota  
TC 00:26:25.890 - 00:26:30.173  
(1.57)

prof por tanto hay que evitar las carborizaciones/  
TC 00:26:31.750 - 00:26:33.823  
(1.88)

prof vale/  
TC 00:26:35.708 - 00:26:36.209  
(1.5)

prof qué otra fuente hay de carbonización  
TC 00:26:37.718 - 00:26:39.718  
(0.77)

prof a parte del aire/  
TC 00:26:40.492 - 00:26:41.532  
(1.15)

prof el carbonato sódico  
TC 00:26:42.690 - 00:26:44.308  
(1.28)

prof que puede ser xx en el remojo (.) si se acuerdan dije(.) XXX en el remojo  
TC 00:26:45.588 - 00:26:49.977  
(0.35)

prof porque si te queda carbonato LUEGO puedes producir carbonato xxx y hay  
problemas\  
TC 00:26:50.330 - 00:26:54.062  
(0.65)

prof °pues aqui está °  
TC 00:26:54.720 - 00:26:55.574  
(0.08)

prof e:/  
TC 00:26:55.660 - 00:26:56.037  
(0.31)

prof si tenemos carbonato sódico/  
TC 00:26:56.350 - 00:26:58.395  
(1.7)

prof y  
TC 00:27:00.100 - 00:27:00.574  
(0.17)

prof le añadimos la cal: ((escribe fórmula en la pizarra))  
TC 00:27:00.750 - 00:27:02.556  
(1.98)

prof obtenemos/  
TC 00:27:04.545 - 00:27:05.595  
(0.43)

prof otra vez carbonato sódico no/  
TC 00:27:06.030 - 00:27:08.256  
(0.98)

prof carbonato  
TC 00:27:09.242 - 00:27:09.889  
(1.43)

prof cálcico perdón  
TC 00:27:11.320 - 00:27:12.521  
(1.01)

prof ^MÁS en este caso  
TC 00:27:13.533 - 00:27:15.529  
(0.44)

prof obtendremos  
TC 00:27:15.970 - 00:27:17.078  
(2.21)

prof en vez de agua  
TC 00:27:19.293 - 00:27:20.235  
(0.23)

prof este caso tendremos el hidróxido  
TC 00:27:20.473 - 00:27:22.473  
(0.82)

prof sódico  
TC 00:27:23.301 - 00:27:23.861  
(0.8)

prof vale/  
TC 00:27:24.668 - 00:27:25.108  
(2.81)

prof incluso si hay carbon  
TC 00:27:27.920 - 00:27:29.275  
(0.25)

prof si hay bicarbonatos en el agua puede verse\  
TC 00:27:29.530 - 00:27:32.054  
(1.46)

prof A VEr aqui\  
TC 00:27:33.520 - 00:27:34.208  
(0.89)

prof en la realidad todo esto será el telon  
TC 00:27:35.102 - 00:27:37.635  
(0.94)

prof en la realidad  
TC 00:27:38.578 - 00:27:39.824  
(0.37)

prof °en la realidad°\  
TC 00:27:40.202 - 00:27:41.182  
(1.53)

prof sobre todo  
TC 00:27:42.716 - 00:27:43.807  
(1.36)

prof en las fábricas pequeñas\  
TC 00:27:45.175 - 00:27:46.746  
(1.12)

prof e/  
TC 00:27:47.870 - 00:27:48.228  
(1.45)

prof que tienen que llevar las pieles a descarnar (.) °y dividir fuera°\  
TC 00:27:49.680 - 00:27:53.883  
(0.25)

prof siempre hay una cierta xxx  
TC 00:27:54.140 - 00:27:56.161

(1.29)

prof una Cierta\  
TC 00:27:57.454 - 00:27:58.447  
(1.52)

prof m/  
TC 00:27:59.970 - 00:28:00.417  
(0.19)

prof pero si fuera una xxx NO PASA NADA  
TC 00:28:00.610 - 00:28:03.216  
(1.33)

prof mientras no se te formen precipitados  
TC 00:28:04.550 - 00:28:06.622  
(0.48)

prof no pasa nada\  
TC 00:28:07.110 - 00:28:08.024  
(0.9)

prof e/  
TC 00:28:08.930 - 00:28:09.337  
(0.1)

prof hay un tiempo/  
TC 00:28:09.443 - 00:28:10.523  
(0.71)

prof en que  
TC 00:28:11.239 - 00:28:11.666  
(0.34)

prof °pues (.) se evita no/°  
TC 00:28:12.013 - 00:28:13.411  
(0.94)

prof o::  
TC 00:28:14.360 - 00:28:15.053  
(1.26)

prof m:: hay tan poco  
TC 00:28:16.315 - 00:28:17.760  
(0.49)

prof se forma tan poco  
TC 00:28:18.258 - 00:28:19.510  
(0.53)

prof que no hay manchas  
TC 00:28:20.048 - 00:28:21.212  
(0.49)

prof por tanto no hay problema\  
TC 00:28:21.706 - 00:28:22.934  
(0.72)

prof van bien incluso porque estas carbonizaciones- este carborato  
TC 00:28:23.655 - 00:28:27.005  
(0.76)

prof a::  
TC 00:28:27.770 - 00:28:28.407  
(0.67)

prof esta emanación evita que el- evita que la piel patine xxx\  
TC 00:28:29.086 - 00:28:32.553  
(1.3)

prof e/  
TC 00:28:33.860 - 00:28:34.275  
(0.22)

prof por eso veíamos xxxx- se puede formar estas carbonizaciones tipo bicarbonato\  
TC 00:28:34.500 - 00:28:38.736  
(0.29)

prof esto lo veis/  
TC 00:28:39.030 - 00:28:40.042  
(0.43)

prof y es cierto pero es cierto también ya en condiciones extremas\  
TC 00:28:40.480 - 00:28:43.997  
(0.72)

prof normalmente no pasa\  
TC

TC 00:28:44.720 - 00:28:45.982  
(0.96)

prof a/ os lo digo porque si no:  
TC 00:28:46.946 - 00:28:49.005  
(0.96)

prof °tampoco os volváis unos xxx nuevos (.) no/°  
TC 00:28:49.965 - 00:28:52.690  
(1.51)

prof incluso  
TC 00:28:54.209 - 00:28:55.223  
(0.7)

prof lo que se hace para evitar estas carbonizaciones  
TC 00:28:55.924 - 00:28:58.444  
(1.1)

prof para evitar todo esto  
TC 00:28:59.544 - 00:29:00.790  
(0.31)

prof es hacer lo que se llama/  
TC 00:29:01.109 - 00:29:02.937  
(0.48)

prof el aguamiel\  
TC 00:29:03.419 - 00:29:04.299  
(0.67)

prof m/  
TC 00:29:04.977 - 00:29:05.330  
(1.07)

prof el aguamiel/  
TC 00:29:06.402 - 00:29:07.463  
(0.41)

prof consiste  
TC 00:29:07.879 - 00:29:08.772  
(0.62)

prof en  
TC 00:29:09.401 - 00:29:09.914  
(1.6)

prof coger  
TC 00:29:11.518 - 00:29:12.341  
(0.08)

prof si tienes-  
TC 00:29:12.429 - 00:29:13.112  
(0.39)

prof cuando se usa\ (.) primero  
TC 00:29:13.509 - 00:29:14.663  
(0.68)

prof cuando se usa\  
TC 00:29:15.349 - 00:29:15.956  
(0.28)

prof cuando tienes que conservar las pieles  
TC 00:29:16.236 - 00:29:18.036  
(0.34)

prof después de un pelambre calero  
TC 00:29:18.376 - 00:29:19.936  
(0.11)

prof dos o tres días  
TC 00:29:20.050 - 00:29:21.094  
(0.41)

prof hasta a::m  
TC 00:29:21.511 - 00:29:23.231  
(0.68)

prof poderlas  
TC 00:29:23.915 - 00:29:24.785  
(0.41)

prof pasar por máquinas y seguir con esto\  
TC 00:29:25.197 - 00:29:26.575  
(0.84)

prof esto/  
TC 00:29:27.420 - 00:29:28.131  
(0.59)

prof e/ (.) esto/  
TC 00:29:28.730 - 00:29:29.639  
(0.17)

prof puede pasar por ejemplo  
TC 00:29:29.810 - 00:29:31.504  
(0.38)

prof si tú tienes una fábrica pequeña y (.) llevas tus cueros  
TC 00:29:31.890 - 00:29:34.855  
(0.86)

prof a otra fábrica\ (.) O si tú tienes una fábrica grande lo haces pero se te  
estropea la máquina  
TC 00:29:35.717 - 00:29:39.655  
(0.88)

prof y entonces tú contabas con el viernes  
TC 00:29:40.540 - 00:29:42.427  
(0.35)

prof empezar ya a desencalar el xxx\  
TC 00:29:42.780 - 00:29:44.511  
(0.24)

prof y resulta que no\  
TC 00:29:44.760 - 00:29:45.813  
(1.08)

prof que las pieles no te llegan hasta el viernes por la noche: o por la tarde a  
última hora  
TC 00:29:46.899 - 00:29:50.819  
(0.27)

prof y::: resulta que los operarios buen-\  
TC 00:29:51.094 - 00:29:53.538  
(0.36)

prof el sábado hacen fiesta/ (riu)  
TC 00:29:53.904 - 00:29:55.234  
(1.05)

prof la máquina está estropeada hasta el lunes/  
TC 00:29:56.284 - 00:29:58.456  
(0.65)

prof °xxx°  
TC 00:29:59.114 - 00:29:59.644  
(0.45)

prof una de las soluciones es meterlo con agua  
TC 00:30:00.094 - 00:30:03.054  
(0.54)

prof y cal  
TC 00:30:03.600 - 00:30:04.181  
(1.04)

prof cubrir las fuentes de agua  
TC 00:30:05.228 - 00:30:06.660  
(0.15)

prof o bien al un uno por ciento de cal/  
TC 00:30:06.810 - 00:30:08.670  
(0.73)

prof en el baño  
TC 00:30:09.400 - 00:30:10.239  
(0.23)

prof e/ (.) y dejarlo ahí en lavado un poco  
TC 00:30:10.470 - 00:30:12.740  
(0.43)

prof y dejarlo ahí\ (.) e/  
TC 00:30:13.170 - 00:30:14.521  
(1.67)

prof normalmente con un uno por ciento de: cal  
TC 00:30:16.197 - 00:30:18.970  
(0.36)

prof RESpecto/

TC 00:30:19.337 - 00:30:20.525  
(0.8)

prof al agua e/  
TC 00:30:21.331 - 00:30:22.192  
(0.69)

prof a la cantidad de agua\  
TC 00:30:22.890 - 00:30:24.215  
(2.07)

prof qué pasa entonces\  
TC 00:30:26.294 - 00:30:27.215  
(0.41)

prof la cal esa  
TC 00:30:27.628 - 00:30:28.587  
(0.65)

prof precipita los bicarbonatos que puedas tener en el agua/  
TC 00:30:29.241 - 00:30:32.161  
(0.57)

prof por tanto ya no entra en contacto con la piel  
TC 00:30:32.732 - 00:30:34.702  
(0.99)

prof del Aire  
TC 00:30:35.699 - 00:30:36.644  
(0.22)

prof no te tienes que preocupar porque has tapado  
TC 00:30:36.864 - 00:30:39.424  
(0.61)

prof la piel con agua  
TC 00:30:40.039 - 00:30:41.258  
(0.53)

prof e/ (.) y entonces ya  
TC 00:30:41.790 - 00:30:43.093  
(0.33)

prof no hay °problema°\  
TC 00:30:43.430 - 00:30:44.159  
(0.14)

prof AHORA bien  
TC 00:30:44.300 - 00:30:45.150  
(1.72)

prof CUANDO XX el- cuando luego tengas que hacer el rendido lo tienes que hacer más  
corto  
TC 00:30:46.872 - 00:30:51.538  
(0.72)

estl boy a:  
TC 00:30:52.262 - 00:30:52.942  
(0.06)

prof menos fuerte  
TC 00:30:53.007 - 00:30:53.859  
(0.21)

prof porque\ (.) ya has (.) vaciado mas el piquel\  
TC 00:30:54.077 - 00:30:55.957  
(1.24)

prof e/  
TC 00:30:57.197 - 00:30:57.518  
(1.33)

prof ahora bien (.) se pue- de- de- esto es una solución parcial de pocos días\  
TC 00:30:58.849 - 00:31:02.789  
(0.29)

prof si tienes que tener más tiempo lo que tienes que meter es el paraguas xxx°  
TC 00:31:03.083 - 00:31:05.843  
(1.38)

prof porque entonces también avisas  
TC 00:31:07.230 - 00:31:08.849  
(0.47)

prof ataques bacteria:nos °y todas estas cosas°\  
TC 00:31:09.320 - 00:31:11.715  
(0.78)

est1 boy            A este mismo baño a qué por ciento\_  
 TC                   00:31:12.502 - 00:31:16.702

est2 girl  
 TC                   00:31:12.502 - 00:31:16.702

prof                NO no\ coges la piel y la- la sumerges en agua (.) sal/ (.) una solución si  
 puede ser xx de sal (.) y andando\  
 TC                   00:31:14.709 - 00:31:22.904  
                     (0.81)

prof                en salmuera\  
 TC                   00:31:23.719 - 00:31:24.978  
                     (0.26)

est1 boy            la la la velocidad del bombo::  
 TC                   00:31:25.240 - 00:31:27.813

prof                NO\ lenta lenta lento le:nto (.) y además (.) lenta (.) rodar (.) dejar dentro:  
 (.) y rodar cada: (.) cada hora rodar minutos (.) para evitar- para evitar arrugas y eso  
 TC                   00:31:27.293 - 00:31:38.899

est1 boy            xxxxxxx xxxxxx  
 TC                   00:31:28.650 - 00:31:31.007  
                     (8.2)

est1 boy            a: okey xx simplemente para prevenir/  
 TC                   00:31:39.208 - 00:31:42.563  
                     (0.85)

prof                y otra cosa que es importante  
 TC                   00:31:43.422 - 00:31:45.422  
                     (1.67)

prof                evitar en estos casos  
 TC                   00:31:47.092 - 00:31:48.812  
                     (0.66)

prof                ES  
 TC                   00:31:49.480 - 00:31:50.029  
                     (0.4)

prof                que toque  
 TC                   00:31:50.429 - 00:31:51.219  
                     (0.2)

prof                el:::  
 TC                   00:31:51.419 - 00:31:52.468  
                     (1.4)

prof                las pieles  
 TC                   00:31:53.870 - 00:31:54.802  
                     (0.48)

prof                que lleven sulfuro y °calcido de sulfuro\  
 TC                   00:31:55.290 - 00:31:57.774  
                     (0.7)

prof                toquen objetos de hierro  
 TC                   00:31:58.480 - 00:32:00.130  
                     (1.2)

prof                porque si no/ se producen  
 TC                   00:32:01.330 - 00:32:03.023  
                     (2.42)

prof                precipitado de sulfuro de hierro  
 TC                   00:32:05.450 - 00:32:07.337  
                     (0.24)

prof                unas manchas de color negro que luego no se van con nada  
 TC                   00:32:07.577 - 00:32:10.126  
                     (0.86)

prof                que es un defecto ya formado\  
 TC                   00:32:10.990 - 00:32:12.595  
                     (2.21)

prof                okay  
 TC                   00:32:14.810 - 00:32:15.513  
                     (2.32)

prof                the::  
 TC                   00:32:17.841 - 00:32:18.721  
                     (0.69)



prof things  
TC 00:32:19.420 - 00:32:20.082  
(0.33)

prof you have to: avoid or you have to: to control  
TC 00:32:20.420 - 00:32:23.759  
(0.28)

prof to avoid problems\ (.) okay/  
TC 00:32:24.039 - 00:32:25.602  
(1.01)

prof and these things e: we can:  
TC 00:32:26.619 - 00:32:28.804  
(1.75)

prof there are ONE thing is very important\ carbonationsx  
TC 00:32:30.559 - 00:32:32.991  
(1.39)

prof e/  
TC 00:32:34.389 - 00:32:34.675  
(0.91)

prof the problem is  
TC 00:32:35.589 - 00:32:36.627  
(0.57)

prof if you have:  
TC 00:32:37.199 - 00:32:37.984  
(0.56)

prof lime  
TC 00:32:38.544 - 00:32:39.361  
(0.62)

prof o:r  
TC 00:32:39.989 - 00:32:40.867  
(0.83)

prof the hide/  
TC 00:32:41.699 - 00:32:42.369  
(2.38)

prof and  
TC 00:32:44.749 - 00:32:45.502  
(3.46)

prof in one way another one  
TC 00:32:48.967 - 00:32:50.543  
(1.38)

prof this lime produce  
TC 00:32:51.929 - 00:32:53.058  
(0.87)

prof calcium carbonate  
TC 00:32:53.929 - 00:32:55.258  
(1.95)

prof this calcium carbonate can precipitate\  
TC 00:32:57.215 - 00:32:59.401  
(1.06)

prof if there are  
TC 00:33:00.461 - 00:33:01.401  
(0.97)

prof a quantity (.) e:::  
TC 00:33:02.380 - 00:33:04.009  
(1.01)

prof of calcium carbonate  
TC 00:33:05.027 - 00:33:06.393  
(0.24)

prof °an impORtant quantity°  
TC 00:33:06.640 - 00:33:07.706  
(2.07)

prof Then  
TC 00:33:09.776 - 00:33:10.341  
(2.66)

prof they produce  
TC 00:33:13.010 - 00:33:14.230  
(0.47)

prof stains ((hace un gesto con las manos como haciendo un agujero))  
 TC 00:33:14.700 - 00:33:15.335  
 (1.03)

prof °yeah/° precipitations  
 TC 00:33:16.370 - 00:33:17.555  
 (0.83)

prof these precipitations  
 TC 00:33:18.387 - 00:33:19.530  
 (0.23)

prof protects  
 TC 00:33:19.767 - 00:33:20.639  
 (0.56)

prof the final xxx\  
 TC 00:33:21.208 - 00:33:22.408  
 (1.23)

prof then  
 TC 00:33:23.646 - 00:33:24.148  
 (0.55)

prof you do  
 TC 00:33:24.702 - 00:33:25.522  
 (0.26)

prof all the operations °you- you pass the machines- pass the machines xx° (.) then  
 TC 00:33:25.791 - 00:33:30.338  
 (0.51)

prof you have to (.) e: do (.) the (.) e::  
 TC 00:33:30.849 - 00:33:34.329  
 (1.5)

prof rinse  
 TC 00:33:35.832 - 00:33:36.436  
 (0.33)

prof yeah/  
 TC 00:33:36.770 - 00:33:37.232  
 (1.49)

prof okay/  
 TC 00:33:38.730 - 00:33:39.259  
 (2.2)

prof and then it`s a problem\  
 TC 00:33:41.467 - 00:33:42.787  
 (0.38)

prof because in times  
 TC 00:33:43.170 - 00:33:44.222  
 (0.95)

prof can`t  
 TC 00:33:45.172 - 00:33:45.876  
 (0.38)

prof °attack°  
 TC 00:33:46.260 - 00:33:46.748  
 (0.83)

prof °fibers°  
 TC 00:33:47.584 - 00:33:48.368  
 (1.4)

prof e/  
 TC 00:33:49.770 - 00:33:50.200  
 (0.98)

prof you co- you continue with the: with the pickle/  
 TC 00:33:51.187 - 00:33:53.762  
 (1.18)

prof in pickle you ELIMINATE  
 TC 00:33:54.943 - 00:33:56.869  
 (1.2)

prof the calcium carbonate  
 TC 00:33:58.070 - 00:33:59.237  
 (0.63)

prof BUT  
 TC 00:33:59.870 - 00:34:00.653

(0.7)

prof the fibers  
TC 00:34:01.354 - 00:34:02.234  
(0.99)

prof are stronger in a part of the hide than in other\  
TC 00:34:03.230 - 00:34:05.997  
(1.48)

prof okay/  
TC 00:34:07.480 - 00:34:07.892  
(0.55)

prof and it`s a problem  
TC 00:34:08.450 - 00:34:09.463  
(1.2)

prof that's the problem with the °carbonation (.) carbonation°  
TC 00:34:10.670 - 00:34:13.281  
(0.77)

prof HOW  
TC 00:34:14.060 - 00:34:14.858  
(0.28)

prof we::  
TC 00:34:15.140 - 00:34:16.230  
(0.62)

prof have the problem/  
TC 00:34:16.850 - 00:34:18.058  
(0.34)

prof we have the problem  
TC 00:34:18.400 - 00:34:19.744  
(0.8)

prof if (.) you a: keep the: hides  
TC 00:34:20.550 - 00:34:23.660  
(0.34)

prof At too much time  
TC 00:34:24.000 - 00:34:25.798  
(1.67)

prof e/  
TC 00:34:27.476 - 00:34:27.756  
(0.47)

prof withOUT work\  
TC 00:34:28.226 - 00:34:30.132  
(0.77)

prof or- and then  
TC 00:34:30.902 - 00:34:31.938  
(0.12)

prof with xxx  
TC 00:34:32.066 - 00:34:33.051  
(1.1)

prof °with° (.) CL two  
TC 00:34:34.160 - 00:34:36.175  
(1.3)

prof carbon dioxide  
TC 00:34:37.481 - 00:34:38.361  
(0.13)

prof °dioxide°  
TC 00:34:38.500 - 00:34:40.623  
(0.77)

prof with calcium (.) carbonate  
TC 00:34:41.400 - 00:34:43.047  
(0.92)

prof O  
TC 00:34:43.970 - 00:34:44.607  
(0.99)

prof IF YOU  
TC 00:34:45.600 - 00:34:46.814  
(0.69)

prof a::<

TC 00:34:47.510 - 00:34:48.570  
(1.04)

prof had used  
TC 00:34:49.610 - 00:34:50.587  
(1.43)

prof you have used  
TC 00:34:52.022 - 00:34:53.064  
(0.83)

prof sodium carbonate  
TC 00:34:53.895 - 00:34:55.067  
(0.86)

prof in::  
TC 00:34:55.936 - 00:34:56.726  
(1.37)

prof soaking/  
TC 00:34:58.101 - 00:34:58.932  
(1.44)

prof and you haven't washed  
TC 00:35:00.380 - 00:35:02.103  
(0.56)

prof very well\  
TC 00:35:02.670 - 00:35:03.297  
(1.81)

prof THEN  
TC 00:35:05.110 - 00:35:05.712  
(0.79)

prof the sodium  
TC 00:35:06.510 - 00:35:07.302  
(0.37)

prof the carbonate  
TC 00:35:07.680 - 00:35:08.539  
(0.33)

prof remains  
TC 00:35:08.870 - 00:35:09.924  
(2.12)

prof in hide/  
TC 00:35:12.050 - 00:35:12.716  
(0.46)

prof with lime  
TC 00:35:13.180 - 00:35:14.379  
(1.29)

prof °°xxxxxx°°  
TC 00:35:15.670 - 00:35:17.081  
(0.18)

prof °okay°  
TC 00:35:17.270 - 00:35:17.773  
(1.55)

prof that's the two  
TC 00:35:19.332 - 00:35:20.274  
(0.09)

prof possibilities-  
TC 00:35:20.370 - 00:35:20.932  
(0.28)

prof another possibility is the dicarbonate  
TC 00:35:21.220 - 00:35:23.948  
(0.96)

prof of the water  
TC 00:35:24.910 - 00:35:25.958  
(0.53)

prof the natural xxx back/  
TC 00:35:26.488 - 00:35:28.285  
(2.74)

prof than/°  
TC 00:35:31.030 - 00:35:38.329  
(0.68)

prof that's not also possible- a: °also possible yeah it's (.) more difficult xxxxx

prof than  
TC 00:35:39.016 - 00:35:39.590  
(0.4)

prof YOU (.) always have  
TC 00:35:39.993 - 00:35:41.575  
(0.78)

prof some carbonizations\  
TC 00:35:42.362 - 00:35:43.857  
(0.47)

prof but if it's (.) a little  
TC 00:35:44.333 - 00:35:46.122  
(1.07)

prof carbonatation  
TC 00:35:47.193 - 00:35:48.347  
(0.79)

prof that's no problem is- is good/  
TC 00:35:49.142 - 00:35:50.939  
(0.6)

prof beCAUse (.) then  
TC 00:35:51.542 - 00:35:53.118  
(0.23)

prof a::  
TC 00:35:53.355 - 00:35:54.246  
(0.73)

prof the: hides  
TC 00:35:54.978 - 00:35:56.134  
(1.38)

prof don't slide  
TC 00:35:57.523 - 00:35:58.731  
(1.13)

prof so much  
TC 00:35:59.870 - 00:36:00.662  
(0.4)

prof when you pass them  
TC 00:36:01.070 - 00:36:02.543  
(0.36)

prof to the fleshing machines/  
TC 00:36:02.910 - 00:36:03.951  
(1.57)

prof °vanish the xxx that is the:° (touches gently his own and to show what slide is)  
TC 00:36:05.530 - 00:36:07.137  
(0.58)

prof slide patinar/ ((dirigiéndose a la investigadora))  
TC 00:36:07.720 - 00:36:08.542  
(0.12)

investigadora hmh  
TC 00:36:08.662 - 00:36:09.352  
(0.08)

prof °is the- is the word (.) slide  
TC 00:36:09.441 - 00:36:11.287  
(0.39)

prof if not in the fleshing machine you put and the- and the hide will a uuuu::  
((hace movimientos resbaladizos. hay risas))  
TC 00:36:11.680 - 00:36:15.477  
(0.77)

prof and that's a problem  
TC 00:36:16.250 - 00:36:17.649  
(0.51)

prof so (.) °with xxx°\  
TC 00:36:18.168 - 00:36:20.236  
(0.37)

prof BUT ilegal  
TC 00:36:20.608 - 00:36:21.589  
(1.12)

prof °xxx°

TC 00:36:22.710 - 00:36:23.347  
(0.1)

prof °okay/°  
TC 00:36:23.450 - 00:36:23.994  
(1.3)

prof and; well xxxx but finally  
TC 00:36:25.301 - 00:36:28.704  
(1.72)

prof finally  
TC 00:36:30.431 - 00:36:31.394  
(0.04)

prof e:::  
TC 00:36:31.440 - 00:36:33.182  
(5.12)

prof if  
TC 00:36:38.309 - 00:36:38.885  
(0.23)

prof you have  
TC 00:36:39.120 - 00:36:40.220  
(2.21)

prof the hides  
TC 00:36:42.435 - 00:36:43.685  
(1.05)

prof the unhairing hides  
TC 00:36:44.736 - 00:36:46.174  
(0.86)

prof and you (.) can't work them  
TC 00:36:47.037 - 00:36:50.082  
(2.67)

prof in::  
TC 00:36:52.755 - 00:36:53.568  
(1.17)

prof two or three days  
TC 00:36:54.743 - 00:36:56.315  
(0.74)

prof you have to do  
TC 00:36:57.059 - 00:36:58.252  
(0.68)

prof something\  
TC 00:36:58.940 - 00:36:59.618  
(0.48)

prof to avoid °carbonations°\  
TC 00:37:00.098 - 00:37:01.766  
(0.69)

prof then  
TC 00:37:02.460 - 00:37:03.002  
(0.62)

prof there  
TC 00:37:03.630 - 00:37:04.358  
(0.73)

prof for::  
TC 00:37:05.090 - 00:37:06.096  
(0.55)

prof for two days  
TC 00:37:06.647 - 00:37:07.498  
(0.98)

prof two three days  
TC 00:37:08.482 - 00:37:09.429  
(0.26)

prof there are a-  
TC 00:37:09.690 - 00:37:10.410  
(0.33)

prof a easy solution  
TC 00:37:10.740 - 00:37:12.188  
(0.65)

prof is to PUT/  
TC 00:37:12.840 - 00:37:14.183  
(1.09)

prof in::  
TC 00:37:15.280 - 00:37:16.312  
(0.77)

prof water  
TC 00:37:17.090 - 00:37:17.738  
(0.35)

prof cover them water/  
TC 00:37:18.090 - 00:37:19.280  
(0.31)

prof two hundred percent of- of water/  
TC 00:37:19.590 - 00:37:21.537  
(5.17)

prof only/  
TC 00:37:26.710 - 00:37:27.310  
(1.56)

prof AND  
TC 00:37:28.870 - 00:37:29.570  
(1.74)

prof a::  
TC 00:37:31.318 - 00:37:32.433  
(2.88)

prof one per cent  
TC 00:37:35.315 - 00:37:36.469  
(0.27)

prof of lime  
TC 00:37:36.743 - 00:37:37.604  
(1.93)

prof more or less  
TC 00:37:39.543 - 00:37:40.280  
(0.11)

prof °okay/°  
TC 00:37:40.393 - 00:37:40.880  
(3.24)

prof okay  
TC 00:37:44.123 - 00:37:44.764  
(0.67)

prof THAT'S A GOOD SOLUTION  
TC 00:37:45.440 - 00:37:46.971  
(1.38)

prof e/  
TC 00:37:48.353 - 00:37:48.585  
(0.75)

prof a- one percent of- ah no- one per cent of lime/  
TC 00:37:49.340 - 00:37:52.813  
(0.19)

prof of lime  
TC 00:37:53.010 - 00:37:54.094  
(0.46)

prof OVER (.) over the twenty p of (.) water\ e/  
TC 00:37:54.560 - 00:37:58.383  
(1.62)

prof for example  
TC 00:38:00.005 - 00:38:01.250  
(0.44)

prof one thousand: five hundred kilograms of hide:/  
TC 00:38:01.698 - 00:38:06.233  
(0.64)

prof three::  
TC 00:38:06.873 - 00:38:08.222  
(0.96)

prof hundred liters  
TC 00:38:09.191 - 00:38:11.066  
(0.49)

prof of water and/  
TC 00:38:11.560 - 00:38:13.159  
(2.16)

prof thirty kilograms of lime\ okay/  
TC 00:38:15.325 - 00:38:18.232

estl boy °uno por ciento no°/  
TC 00:38:18.232 - 00:38:19.287  
(0.4)

prof dicho antes/ uno por ciento xxx SOBRE la cantidad de agua (.) e/ yo no sé si os lo había  
TC 00:38:19.687 - 00:38:24.878

estl boy °no no no°  
TC 00:38:23.890 - 00:38:24.803  
(0.54)

prof pero en el libro tenéis un ejemplo de- más o menos se explica eso  
TC 00:38:25.350 - 00:38:29.059  
(0.59)

prof en cubierto\  
TC 00:38:29.650 - 00:38:30.563  
(0.92)

prof that is why you cover the:  
TC 00:38:31.490 - 00:38:33.192  
(0.28)

prof is important  
TC 00:38:33.472 - 00:38:34.235  
(0.56)

prof the hides/  
TC 00:38:34.795 - 00:38:35.526  
(1.46)

prof have to be covered\  
TC 00:38:36.990 - 00:38:38.493  
(0.66)

prof yeah/  
TC 00:38:39.160 - 00:38:39.641  
(1.03)

prof to avoid  
TC 00:38:40.672 - 00:38:41.651  
(0.44)

prof dio- dioxide carbon (.) °e/ (.) carbon dioxide°  
TC 00:38:42.100 - 00:38:45.395  
(0.21)

prof CO2  
TC 00:38:45.610 - 00:38:46.418  
(0.32)

prof of (.) the (.) air (.) °of the air (.) okay/ °  
TC 00:38:46.740 - 00:38:49.040  
(0.54)

prof and  
TC 00:38:49.580 - 00:38:50.017  
(0.59)

prof then the m: bicarbonates  
TC 00:38:50.608 - 00:38:52.652  
(0.5)

prof of the:the hydrogen carbonates  
TC 00:38:53.160 - 00:38:54.657  
(0.5)

prof of the::  
TC 00:38:55.160 - 00:38:55.985  
(0.24)

prof water is not important because  
TC 00:38:56.230 - 00:38:57.630  
(0.42)

prof °lime is xxx°  
TC 00:38:58.050 - 00:38:59.531  
(0.42)



prof and a\  
TC 00:38:59.960 - 00:39:00.383  
(1.31)

prof THEN  
TC 00:39:01.695 - 00:39:02.304  
(0.1)

prof if you do that  
TC 00:39:02.405 - 00:39:03.305  
(0.78)

prof °if you do that°  
TC 00:39:04.090 - 00:39:04.770  
(1.12)

prof a/ that's a- a:  
TC 00:39:05.896 - 00:39:06.839  
(2.14)

prof it's a- it's an exception it's not  
TC 00:39:08.985 - 00:39:10.503  
(0.33)

prof an usual °thing °\  
TC 00:39:10.835 - 00:39:11.857  
(1.74)

prof a usual thing yeah/  
TC 00:39:13.599 - 00:39:14.742  
(1.06)

prof you do that THEN  
TC 00:39:15.810 - 00:39:17.256  
(0.21)

prof you have (.) to (.) do the::  
TC 00:39:17.470 - 00:39:19.756  
(0.54)

prof the rinsing  
TC 00:39:20.300 - 00:39:21.020  
(1.41)

prof a:: m  
TC 00:39:22.430 - 00:39:23.254  
(1.24)

prof a few rinsing  
TC 00:39:24.498 - 00:39:25.207  
(0.73)

prof yeah/  
TC 00:39:25.940 - 00:39:26.355  
(1.34)

prof not th- not as  
TC 00:39:27.703 - 00:39:28.848  
(0.41)

prof so strong as usual  
TC 00:39:29.260 - 00:39:30.432  
(1.12)

prof because here  
TC 00:39:31.557 - 00:39:32.576  
(0.2)

prof you are (.) attacking ((golpea una mano con la otra))  
TC 00:39:32.776 - 00:39:33.904  
(0.88)

prof the fibres\  
TC 00:39:34.790 - 00:39:35.689  
(0.64)

prof you are- your hydrolising  
TC 00:39:36.330 - 00:39:37.584  
(0.34)

prof more fibres than usual\  
TC 00:39:37.930 - 00:39:39.454  
(0.64)

prof and you have to compensate °the rinsing°\  
TC 00:39:40.100 - 00:39:42.866

(0.28)

prof okay/  
TC 00:39:43.150 - 00:39:43.580  
(1.51)

prof AND FINALLY  
TC 00:39:45.090 - 00:39:46.022  
(0.48)

prof the last e::  
TC 00:39:46.502 - 00:39:47.804  
(0.91)

prof the last thing you have to::: to control  
TC 00:39:48.720 - 00:39:51.341  
(0.48)

prof is  
TC 00:39:51.830 - 00:39:52.239  
(0.16)

prof avoid the contact  
TC 00:39:52.399 - 00:39:54.116  
(0.44)

prof OF  
TC 00:39:54.556 - 00:39:55.218  
(0.17)

prof the hides  
TC 00:39:55.390 - 00:39:56.306  
(0.21)

prof with  
TC 00:39:56.520 - 00:39:56.823  
(0.6)

prof iron oxids\  
TC 00:39:57.423 - 00:39:58.623  
(2.17)

prof because it (.) produce  
TC 00:40:00.800 - 00:40:02.841  
(1.0)

prof stains  
TC 00:40:03.850 - 00:40:04.404  
(0.63)

prof BLACK °stains°  
TC 00:40:05.040 - 00:40:06.326  
(1.17)

prof a::: impossible/  
TC 00:40:07.500 - 00:40:09.084  
(0.56)

prof to/ eliminate\  
TC 00:40:09.650 - 00:40:11.132  
(1.34)

prof yeah/  
TC 00:40:12.480 - 00:40:12.836  
(1.76)

prof okay/  
TC 00:40:14.604 - 00:40:15.042  
(2.04)

prof okay  
TC 00:40:17.089 - 00:40:17.471  
(0.39)

prof well  
TC 00:40:17.868 - 00:40:18.472  
(1.08)

prof then  
TC 00:40:19.560 - 00:40:20.028  
(1.09)

prof °we finish here°  
TC 00:40:21.118 - 00:40:22.363  
(0.82)

prof and

TC 00:40:23.188 - 00:40:23.777  
(1.6)

prof °next day (.) tomorrow  
TC 00:40:25.378 - 00:40:26.806  
(1.61)

prof °more°\  
TC 00:40:28.418 - 00:40:29.022  
(1.38)

prof VALE/ MAÑANA MÁS  
TC 00:40:30.408 - 00:40:31.792  
(0.94)

prof venga\ hasta mañana  
TC 00:40:32.741 - 00:40:34.077  
(3.88)

prof xxx ((pregunta a la investigadora, no se entiende))  
TC 00:40:37.960 - 00:40:41.471  
(0.08)

investigadora si s- no: todo (.) si si (.) tu mateix  
TC 00:40:41.560 - 00:40:44.638  
(2.79)

prof WE HAVE THE::  
TC 00:40:47.430 - 00:40:49.002  
(0.34)

prof we have the:::::  
TC 00:40:49.350 - 00:40:51.224  
(0.07)

est4 boy yes (.) yeah  
TC 00:40:51.299 - 00:40:52.331

prof for the next (.) lesson/  
TC 00:40:52.260 - 00:40:54.153

est4 boy yes ((amb una dona))  
TC 00:40:54.114 - 00:40:54.606

prof ei/  
TC 00:40:54.570 - 00:40:55.117  
(0.99)

prof is nine (.) xxx nine no/  
TC 00:40:56.110 - 00:40:57.818  
(0.08)

est4 boy xxx  
TC 00:40:57.904 - 00:40:58.750  
(0.66)

prof okay then\  
TC 00:40:59.410 - 00:40:59.972  
(0.19)

prof we finish the- coffee  
TC 00:41:00.170 - 00:41:01.350

## APÈNDIX

### ii.3 Transcripció de CM3

Prof. Taronger            now  
TC                        00:06:52.432 - 00:06:53.562  
                              (0.27)

Prof. Taronger            today let's go to see\  
TC                        00:06:53.832 - 00:06:55.332  
                              (0.38)

Prof. Taronger            the binary code\  
TC                        00:06:55.712 - 00:06:56.989

Prof. Taronger            (writing on board)  
TC                        00:06:56.989 - 00:06:57.652  
                              (0.35)

Prof. Taronger            (writing on board)  
TC                        00:06:58.002 - 00:07:02.462  
                              (0.05)

Prof. Taronger            something has been explained in the first an second class if you  
remember\  
TC                        00:07:02.512 - 00:07:07.442  
                              (1.47)

Prof. Taronger            well-  
TC                        00:07:08.912 - 00:07:09.405  
                              (0.1)

Prof. Taronger            what we see here is something  
TC                        00:07:09.512 - 00:07:11.314  
                              (0.52)

Prof. Taronger            more advanced than the: what I explained to you\  
TC                        00:07:11.842 - 00:07:14.482  
                              (1.35)

Prof. Taronger            remember that  
TC                        00:07:15.832 - 00:07:16.818  
                              (0.63)

Prof. Taronger            the zeroes and ones is  
TC                        00:07:17.452 - 00:07:19.672  
                              (0.27)

Prof. Taronger            the general  
TC                        00:07:19.942 - 00:07:21.132  
                              (0.11)

Prof. Taronger            language for machines\  
TC                        00:07:21.242 - 00:07:22.500  
                              (0.89)

Prof. Taronger            computers  
TC                        00:07:23.392 - 00:07:24.172  
                              (0.31)

Prof. Taronger            only understand  
TC                        00:07:24.482 - 00:07:25.582  
                              (0.3)

Prof. Taronger            zero\  
TC                        00:07:25.882 - 00:07:26.426  
                              (0.12)

Prof. Taronger            and one\  
TC                        00:07:26.552 - 00:07:27.249  
                              (0.24)

Prof. Taronger            (writing on board)  
TC                        00:07:27.492 - 00:07:29.872

Prof. Taronger            these two numbers with these two numbers we can build\_  
TC                        00:07:29.872 - 00:07:33.692  
                              (0.82)

Prof. Taronger            a very big building\  
TC                        00:07:34.512 - 00:07:35.672  
                              (1.54)

Prof. Taronger TC this building is the  
00:07:37.212 - 00:07:38.932  
(0.27)

Prof. Taronger TC language (pronounced language)  
00:07:39.202 - 00:07:39.865  
(0.32)

Prof. Taronger TC or the code  
00:07:40.192 - 00:07:41.263  
(0.48)

Prof. Taronger TC that  
00:07:41.752 - 00:07:42.024  
(0.94)

Prof. Taronger TC we have to transmit to the computer\  
00:07:42.972 - 00:07:45.532  
(2.07)

Prof. Taronger TC remember  
00:07:47.602 - 00:07:48.333  
(0.6)

Prof. Taronger TC the exampe that I give to you\  
00:07:48.942 - 00:07:50.801  
(0.5)

Prof. Taronger TC we:/  
00:07:51.302 - 00:07:51.778  
(0.13)

Prof. Taronger TC make a simple combination of zeroes and ones\  
00:07:51.912 - 00:07:55.352  
(0.74)

Prof. Taronger TC and then  
00:07:56.092 - 00:07:56.857  
(0.3)

Prof. Taronger TC we map  
00:07:57.162 - 00:07:57.893  
(0.69)

Prof. Taronger TC all of those combnations\  
00:07:58.592 - 00:08:00.155  
(0.15)

Prof. Taronger TC just to a character (pronounced à la Catalan)  
00:08:00.306 - 00:08:01.826  
(1.44)

Prof. Taronger TC el codi ASCII és el que vam veure l'altre dia\  
00:08:03.266 - 00:08:05.426  
(0.24)

Prof. Taronger TC per tant  
00:08:05.666 - 00:08:06.295  
(0.31)

Prof. Taronger TC això que es veu aquí és el que ens interessa a nosaltres\  
00:08:06.606 - 00:08:08.782  
(0.92)

Prof. Taronger TC agafar un binari  
00:08:09.705 - 00:08:10.905  
(0.39)

Prof. Taronger TC i aleshores  
00:08:11.295 - 00:08:12.315  
(0.51)

Prof. Taronger TC veure com aquest binari  
00:08:12.825 - 00:08:14.155  
(0.18)

Prof. Taronger TC es pot mapejar\  
00:08:14.335 - 00:08:15.505  
(0.4)

Prof. Taronger TC amb caràcters\  
00:08:15.905 - 00:08:16.755  
(0.44)

Prof. Taronger TC i a partir d'aquí contruir el que sigui\  
00:08:17.195 - 00:08:18.715

(0.58)

Prof. Taronger val/  
TC 00:08:19.295 - 00:08:19.550  
(2.27)

Prof. Taronger avui el que veurem serà\_  
TC 00:08:21.825 - 00:08:23.826  
(0.11)

Prof. Taronger una mica més complicat no és només agafar i mapejar caràcters\  
TC 00:08:23.945 - 00:08:27.145  
(0.09)

Prof. Taronger no és\_  
TC 00:08:27.235 - 00:08:27.643  
(0.56)

Prof. Taronger com codifiquem els numeros/  
TC 00:08:28.205 - 00:08:29.555  
(1.03)

Prof. Taronger per tant\_  
TC 00:08:30.585 - 00:08:31.146  
(0.2)

Prof. Taronger bàsicament el que veurem serà l'encoding\  
TC 00:08:31.355 - 00:08:33.276  
(0.21)

Prof. Taronger (writing word enlong on board)  
TC 00:08:33.495 - 00:08:37.015  
(1.98)

Prof. Taronger we can\_  
TC 00:08:38.995 - 00:08:39.735  
(0.36)

Prof. Taronger we can codify\_  
TC 00:08:40.095 - 00:08:41.705  
(0.76)

Prof. Taronger (writing on board word "enters")  
TC 00:08:42.465 - 00:08:43.775

Prof. Taronger enters\  
TC 00:08:43.775 - 00:08:44.585  
(0.56)

Prof. Taronger and reals\ (writn word on board)  
TC 00:08:45.145 - 00:08:46.335  
(3.47)

Prof. Taronger  
TC 00:08:49.811 - 00:08:52.498  
(1.41)

Prof. Taronger we can codify integers and reals\  
TC 00:08:53.911 - 00:08:55.910  
(1.0)

Prof. Taronger the integers\_  
TC 00:08:56.911 - 00:08:57.914  
(0.31)

Prof. Taronger i:s:  
TC 00:08:58.231 - 00:08:58.503  
(0.34)

Prof. Taronger is very easy\  
TC 00:08:58.851 - 00:08:59.421  
(0.29)

Prof. Taronger is something that you have already \_  
TC 00:08:59.711 - 00:09:01.811  
(0.81)

Prof. Taronger see the last time\  
TC 00:09:02.621 - 00:09:03.661  
(0.84)

Prof. Taronger it can start with zero\_  
TC 00:09:04.501 - 00:09:06.321  
(0.37)

Prof. Taronger zero zero one\ (writig on board)  
TC 00:09:06.691 - 00:09:08.151

(0.51)

Prof. Taronger  
TC one zero\  
00:09:08.661 - 00:09:09.501  
(0.57)

Prof. Taronger  
TC one one\  
00:09:10.071 - 00:09:10.802  
(0.76)

Prof. Taronger  
TC you have  
00:09:11.570 - 00:09:13.150  
(0.4)

Prof. Taronger  
TC another  
00:09:13.551 - 00:09:14.473  
(0.5)

Prof. Taronger  
TC another a:h character another\_  
00:09:14.981 - 00:09:17.271  
(0.32)

Prof. Taronger  
TC zero another one  
00:09:17.591 - 00:09:19.541  
(0.28)

Prof. Taronger  
TC you have now more combinations\_  
00:09:19.821 - 00:09:21.761  
(0.12)

Prof. Taronger  
TC here\  
00:09:21.881 - 00:09:22.441  
(0.31)

Prof. Taronger  
TC and you can make  
00:09:22.751 - 00:09:23.851  
(0.49)

Prof. Taronger  
TC you can map  
00:09:24.341 - 00:09:25.511  
(2.02)

Prof. Taronger  
TC more  
00:09:27.531 - 00:09:28.231  
(0.08)

Prof. Taronger  
TC characters or you can map  
00:09:28.311 - 00:09:30.101  
(0.25)

Prof. Taronger  
TC more different numbers\  
00:09:30.351 - 00:09:31.801  
(2.25)

Prof. Taronger  
TC the  
00:09:34.051 - 00:09:34.421  
(0.02)

Prof. Taronger  
TC easy way is just say okay\  
00:09:34.441 - 00:09:36.191  
(0.12)

Prof. Taronger  
TC let's go\  
00:09:36.311 - 00:09:36.891  
(0.67)

Prof. Taronger  
TC to see  
00:09:37.561 - 00:09:38.241  
(0.22)

Prof. Taronger  
TC if we can map  
00:09:38.461 - 00:09:39.561  
(0.96)

Prof. Taronger  
TC just this combination with an integer\  
00:09:40.521 - 00:09:42.441  
(0.47)

Prof. Taronger  
TC zero one  
00:09:42.911 - 00:09:43.831  
(0.98)

Prof. Taronger  
TC two (writing)  
00:09:44.811 - 00:09:45.351  
(2.87)

Prof. Taronger  
TC three\  
00:09:45.351 - 00:09:45.351  
(0.00)

TC	00:09:48.221 - 00:09:48.714 (2.24)
Prof. Taronger TC	four\ 00:09:50.961 - 00:09:51.641 (1.7)
Prof. Taronger TC	five\ 00:09:53.341 - 00:09:53.953 (1.28)
Prof. Taronger TC	you see the sequence/ 00:09:55.241 - 00:09:56.261 (0.63)
Prof. Taronger TC	the sequence is just 00:09:56.891 - 00:09:58.231 (0.74)
Prof. Taronger TC	add 00:09:58.971 - 00:09:59.413 (0.74)
Prof. Taronger TC	a unit\ 00:10:00.161 - 00:10:00.841 (2.0)
Prof. Taronger TC	in the same way that you count_ 00:10:02.841 - 00:10:04.851 (0.1)
Prof. Taronger TC	numbers in the decimal 00:10:04.951 - 00:10:06.281 (0.18)
Prof. Taronger TC	xxx 00:10:06.461 - 00:10:07.243 (0.64)
Prof. Taronger TC	the decimal codification\ 00:10:07.891 - 00:10:09.081 (0.57)
Prof. Taronger TC	quan vosaltres sumeu 00:10:09.651 - 00:10:10.711 (0.18)
Prof. Taronger TC	sumeu una unitat cada vegada\ 00:10:10.891 - 00:10:12.381 (0.18)
Prof. Taronger TC	amb binari fem el mateix\ 00:10:12.561 - 00:10:13.621 (1.37)
Prof. Taronger TC	afegim una unitat i què passa quan arribem a nou/ 00:10:14.991 - 00:10:17.471 (0.39)
Prof. Taronger TC	se'ns s'han acabat 00:10:17.861 - 00:10:18.691 (0.36)
Prof. Taronger TC	les deu xifres que tenim oi que si/ 00:10:19.051 - 00:10:20.853 (0.22)
Prof. Taronger TC	què fem aleshores/ 00:10:21.081 - 00:10:21.904 (0.51)
Prof. Taronger TC	comencem una altre vegada 00:10:22.421 - 00:10:23.811 (0.17)
Prof. Taronger TC	amb amb un numero més a la dreta\ 00:10:23.981 - 00:10:25.674 (0.02)
Prof. Taronger TC	què fa el binari/ 00:10:25.701 - 00:10:26.461
Prof. Taronger TC	exactament el mateix\ 00:10:26.461 - 00:10:27.521 (1.64)
Prof. Taronger	but in that case we have only



TC	00:10:29.161 - 00:10:30.674 (0.34)
Prof. Taronger TC	two 00:10:31.021 - 00:10:31.480 (0.83)
Prof. Taronger TC	characters\ (pronounced characters) 00:10:32.311 - 00:10:33.201 (0.48)
Prof. Taronger TC	zero one\ 00:10:33.681 - 00:10:34.481 (0.64)
Prof. Taronger TC	very 00:10:35.121 - 00:10:35.631 (0.98)
Prof. Taronger TC	very quick\ 00:10:36.611 - 00:10:37.342 (0.37)
Prof. Taronger TC	we run out 00:10:37.721 - 00:10:38.451 (0.1)
Prof. Taronger TC	of 00:10:38.551 - 00:10:38.823 (0.36)
Prof. Taronger TC	characters\ 00:10:39.191 - 00:10:39.752 (0.84)
Prof. Taronger TC	to write\ 00:10:40.601 - 00:10:41.145 (0.61)
Prof. Taronger TC	in that case\ 00:10:41.761 - 00:10:42.492 (0.33)
Prof. Taronger TC	zero 00:10:42.831 - 00:10:43.358 (0.41)
Prof. Taronger TC	one\ 00:10:43.771 - 00:10:44.230 (0.66)
Prof. Taronger TC	we have exhausted all of the characters\ 00:10:44.891 - 00:10:46.812 (0.28)
Prof. Taronger TC	what we have to do/ 00:10:47.101 - 00:10:48.641 (1.21)
Prof. Taronger TC	as in the: 00:10:49.851 - 00:10:50.814 (0.26)
Prof. Taronger TC	in the decimal codification_ 00:10:51.081 - 00:10:52.851 (0.53)
Prof. Taronger TC	we: 00:10:53.381 - 00:10:53.806 (0.15)
Prof. Taronger TC	PUT\ 00:10:53.961 - 00:10:54.403 (0.12)
Prof. Taronger TC	an "start again " in the: 00:10:54.531 - 00:10:56.051 (0.35)
Prof. Taronger TC	the second 00:10:56.401 - 00:10:57.201 (0.86)
Prof. Taronger TC	in the second column\ 00:10:58.061 - 00:10:59.191 (0.26)

Prof. Taronger TC here\  
00:10:59.451 - 00:10:59.825  
(0.74)

Prof. Taronger TC one zero\  
00:11:00.571 - 00:11:01.370  
(1.31)

Prof. Taronger TC one zero\  
00:11:02.681 - 00:11:03.461  
(0.05)

Prof. Taronger TC one one\  
00:11:03.511 - 00:11:04.191  
(0.9)

Prof. Taronger TC we\  
00:11:05.091 - 00:11:05.635  
(0.16)

Prof. Taronger TC again\  
00:11:05.801 - 00:11:06.464  
(0.2)

Prof. Taronger TC has  
00:11:06.671 - 00:11:06.994  
(0.07)

Prof. Taronger TC been run out  
00:11:07.071 - 00:11:07.853  
(0.19)

Prof. Taronger TC of all characters what we have to do/  
00:11:08.051 - 00:11:10.261  
(0.43)

Prof. Taronger TC and ANOTHER character\  
00:11:10.691 - 00:11:12.411  
(0.32)

Prof. Taronger TC here\ one zero zero\  
00:11:12.731 - 00:11:14.391  
(0.12)

Prof. Taronger TC and start again\  
00:11:14.511 - 00:11:15.395  
(0.96)

Prof. Taronger TC you see the: the the way/  
00:11:16.361 - 00:11:18.491  
(0.73)

Prof. Taronger TC that we:  
00:11:19.221 - 00:11:20.051  
(0.48)

Prof. Taronger TC are doing  
00:11:20.531 - 00:11:21.517  
(0.4)

Prof. Taronger TC this codification /  
00:11:21.921 - 00:11:23.162  
(0.11)

Prof. Taronger TC (unplugs computers while students talk quietly in the background)  
00:11:23.272 - 00:11:39.742

Prof. Taronger TC okay/  
00:11:39.742 - 00:11:40.562  
(0.77)

Prof. Taronger TC then\  
00:11:41.332 - 00:11:42.046  
(1.71)

Prof. Taronger TC we have  
00:11:43.762 - 00:11:44.646  
(0.16)

Prof. Taronger TC a very  
00:11:44.812 - 00:11:45.815  
(0.91)

Prof. Taronger TC a very easy way  
00:11:46.732 - 00:11:48.039  
(0.27)

Prof. Taronger TC just to translate decimal  
00:11:48.312 - 00:11:50.247  
(0.05)

Prof. Taronger TC to binary\  
00:11:50.302 - 00:11:51.033  
(1.71)

Prof. Taronger TC or binary to decimal\  
00:11:52.749 - 00:11:54.738  
(1.63)

Prof. Taronger TC let's go to start from binary to decimal\  
00:11:56.369 - 00:11:59.159  
(2.08)

Prof. Taronger TC in order to support my explanation\_  
00:12:01.239 - 00:12:04.332  
(0.52)

Prof. Taronger TC I'm going to go back\_  
00:12:04.859 - 00:12:06.590  
(0.31)

Prof. Taronger TC at the beginning\_  
00:12:06.909 - 00:12:07.959

Prof. Taronger TC of our learning\_  
00:12:07.959 - 00:12:09.469  
(0.19)

Prof. Taronger TC when we:\  
00:12:09.659 - 00:12:10.549  
(0.47)

Prof. Taronger TC understand how the numbers in decimal code has been built\  
00:12:11.019 - 00:12:15.189  
(0.8)

Prof. Taronger TC for example for us  
00:12:15.989 - 00:12:17.319

Prof. Taronger TC two hundred forty five\  
00:12:17.319 - 00:12:18.879  
(0.03)

Prof. Taronger TC what does it mean/  
00:12:18.909 - 00:12:19.980  
(0.07)

Prof. Taronger TC this is the unit  
00:12:20.059 - 00:12:21.309  
(0.4)

Prof. Taronger TC a:hh  
00:12:21.709 - 00:12:22.739  
(0.12)

Prof. Taronger TC in that case\  
00:12:22.859 - 00:12:23.749  
(0.03)

Prof. Taronger TC if this bow i:s  
00:12:23.779 - 00:12:25.539  
(0.31)

Prof. Taronger TC (points at bow)  
00:12:25.849 - 00:12:26.580  
(0.2)

Prof. Taronger TC one\  
00:12:26.789 - 00:12:27.503  
(1.24)

Prof. Taronger TC the second column\_  
00:12:28.749 - 00:12:30.429  
(0.43)

Prof. Taronger TC is four\  
00:12:30.859 - 00:12:31.794  
(0.22)

Prof. Taronger TC we can multiply by ten\  
00:12:32.019 - 00:12:33.859  
(0.08)

Prof. Taronger TC this value is ten\ (pointing at board)

TC	00:12:33.939 - 00:12:36.104 (0.95)
Prof. Taronger TC	and 00:12:37.059 - 00:12:37.926 (0.03)
Prof. Taronger TC	the third 00:12:37.959 - 00:12:38.799 (0.39)
Prof. Taronger TC	column 00:12:39.189 - 00:12:39.903 (0.27)
Prof. Taronger TC	the value is one hundred\ 00:12:40.179 - 00:12:41.590 (0.52)
Prof. Taronger TC	(writing on board) 00:12:42.119 - 00:12:43.539 (0.03)
Prof. Taronger TC	this is two times one hundred\ 00:12:43.569 - 00:12:45.259 (0.08)
Prof. Taronger TC	four times 00:12:45.339 - 00:12:46.189 (0.49)
Prof. Taronger TC	one tenth\ 00:12:46.679 - 00:12:47.499 (1.12)
Prof. Taronger TC	and this is 00:12:48.619 - 00:12:49.435 (0.49)
Prof. Taronger TC	five times 00:12:49.929 - 00:12:50.999 (0.33)
Prof. Taronger TC	the unit\ 00:12:51.329 - 00:12:51.929 (0.72)
Prof. Taronger TC	okay\ 00:12:52.649 - 00:12:53.139 (0.05)
Prof. Taronger TC	we can write exactly this one_ 00:12:53.189 - 00:12:55.669 (0.09)
Prof. Taronger TC	like 00:12:55.759 - 00:12:56.759 (0.04)
Prof. Taronger TC	two\ 00:12:56.799 - 00:12:57.749
Prof. Taronger TC	by one hundred\ 00:12:57.749 - 00:12:59.119 (0.05)
Prof. Taronger TC	plus four 00:12:59.169 - 00:13:00.969 (0.02)
Prof. Taronger TC	by ten\ 00:13:00.989 - 00:13:02.579
Prof. Taronger TC	plus five 00:13:02.579 - 00:13:03.752
Prof. Taronger TC	by one\ 00:13:03.762 - 00:13:04.628 (0.06)
Prof. Taronger TC	right/ 00:13:04.692 - 00:13:05.610 (1.73)
Prof. Taronger TC	see what does_ 00:13:07.342 - 00:13:09.472 (0.93)

Prof. Taronger TC what does mean/  
00:13:10.402 - 00:13:11.312  
(0.03)

Prof. Taronger TC this is decimal code\  
00:13:11.342 - 00:13:13.292  
(0.63)

Prof. Taronger TC all  
00:13:13.922 - 00:13:14.542  
(0.05)

Prof. Taronger TC of those number  
00:13:14.592 - 00:13:16.027  
(0.06)

Prof. Taronger TC has  
00:13:16.092 - 00:13:16.661  
(0.89)

Prof. Taronger TC has a base  
00:13:17.552 - 00:13:18.542  
(0.16)

Prof. Taronger TC of codification  
00:13:18.702 - 00:13:19.942  
(0.34)

Prof. Taronger TC ten characters\  
00:13:20.282 - 00:13:21.421  
(0.99)

Prof. Taronger TC ten numbers\  
00:13:22.412 - 00:13:23.534  
(1.74)

Prof. Taronger TC we can put one  
00:13:25.282 - 00:13:26.862  
(0.35)

Prof. Taronger TC like ten to zero\  
00:13:27.212 - 00:13:28.922  
(0.91)

Prof. Taronger TC this is  
00:13:29.832 - 00:13:30.642  
(0.21)

Prof. Taronger TC just one right/  
00:13:30.852 - 00:13:31.932  
(0.86)

Prof. Taronger TC this is ten to one\  
00:13:32.792 - 00:13:34.222  
(1.02)

Prof. Taronger TC this is ten to:  
00:13:35.242 - 00:13:36.788  
(0.08)

Prof. Taronger TC two\  
00:13:36.872 - 00:13:37.314  
(1.35)

Prof. Taronger TC if you make  
00:13:38.665 - 00:13:39.665  
(0.04)

Prof. Taronger TC the: the mm  
00:13:39.705 - 00:13:40.965  
(0.26)

Prof. Taronger TC if you make another  
00:13:41.225 - 00:13:42.665  
(0.14)

Prof. Taronger TC (colpeja fletxa de pissarra)  
00:13:42.805 - 00:13:43.765  
(0.05)

Prof. Taronger TC cipher here\ another  
00:13:43.815 - 00:13:45.315  
(0.05)

Prof. Taronger TC column\  
00:13:45.365 - 00:13:46.105

(0.71)

Prof. Taronger TC the value will be\_ 00:13:46.815 - 00:13:48.095 (0.06)

Prof. Taronger TC for example\_ 00:13:48.155 - 00:13:49.515 (0.31)

Prof. Taronger TC (writing on board) 00:13:49.825 - 00:13:50.365 (0.2)

Prof. Taronger TC one\ 00:13:50.565 - 00:13:51.335 (0.12)

Prof. Taronger TC by\_ 00:13:51.455 - 00:13:52.215 (0.06)

Prof. Taronger TC (writing) 00:13:52.275 - 00:13:53.125 (0.05)

Prof. Taronger TC one thousand\ 00:13:53.175 - 00:13:54.110 (0.32)

Prof. Taronger TC this is 00:13:54.435 - 00:13:55.047 (0.5)

Prof. Taronger TC (writing) 00:13:55.555 - 00:13:57.665

Prof. Taronger TC one 00:13:57.665 - 00:13:58.355 (0.16)

Prof. Taronger TC multiplied by ten to three\ 00:13:58.515 - 00:14:00.785 (3.11)

Prof. Taronger TC see my point/ 00:14:03.896 - 00:14:04.776 (0.06)

Prof. Taronger TC that's 00:14:04.836 - 00:14:05.346 (0.7)

Prof. Taronger TC here\_ 00:14:06.046 - 00:14:06.806 (0.33)

Prof. Taronger TC we can\_ 00:14:07.136 - 00:14:08.054 (1.57)

Prof. Taronger TC we can\_ 00:14:09.626 - 00:14:10.576

Prof. Taronger TC ah 00:14:10.576 - 00:14:11.256 (0.33)

Prof. Taronger TC split the the decimal number\_ 00:14:11.586 - 00:14:13.985 (0.07)

Prof. Taronger TC just in contributions\_ 00:14:14.056 - 00:14:15.706 (0.26)

Prof. Taronger TC for any position of this character right\_ 00:14:15.966 - 00:14:19.168 (0.19)

Prof. Taronger TC if is the\_ 00:14:19.366 - 00:14:20.426 (0.48)

Prof. Taronger TC if is the third one\_ 00:14:20.906 - 00:14:22.415 (0.13)

Prof. Taronger TC or the fourth one  
00:14:22.546 - 00:14:23.796  
(0.21)

Prof. Taronger TC we have different contributions to the number\  
00:14:24.006 - 00:14:26.575  
(0.64)

Prof. Taronger TC and  
00:14:27.216 - 00:14:27.886  
(1.14)

Prof. Taronger TC which is the weight of this contribution\  
00:14:29.029 - 00:14:30.179  
(0.1)

Prof. Taronger TC of this contribution  
00:14:30.279 - 00:14:31.429  
(0.07)

Prof. Taronger TC it's just  
00:14:31.499 - 00:14:32.529  
(0.48)

Prof. Taronger TC the power of ten\  
00:14:33.009 - 00:14:34.229  
(1.47)

Prof. Taronger TC per tant la potència de deu és la que ens marcarà  
00:14:35.699 - 00:14:38.189  
(0.07)

Prof. Taronger TC la posició  
00:14:38.259 - 00:14:38.839  
(0.26)

Prof. Taronger TC i la que ens dona  
00:14:39.099 - 00:14:40.459  
(0.11)

Prof. Taronger TC el pes de cada caràcter\  
00:14:40.569 - 00:14:42.331  
(0.36)

Prof. Taronger TC doncs amb els binaris  
00:14:42.699 - 00:14:44.119  
(0.16)

Prof. Taronger TC com creieu que serà/  
00:14:44.279 - 00:14:46.319  
(0.29)

Estudiant 1 TC què passarà/  
00:14:46.609 - 00:14:47.379

Prof. Taronger TC exactament igual  
00:14:47.379 - 00:14:48.229  
(0.46)

Prof. Taronger TC tenim aquí  
00:14:48.689 - 00:14:49.501  
(0.09)

Prof. Taronger TC potències de què/  
00:14:49.599 - 00:14:50.796  
(0.32)

Prof. Taronger TC de dos\  
00:14:51.119 - 00:14:51.731  
(0.68)

Prof. Taronger TC potències de DOS\  
00:14:52.419 - 00:14:53.639  
(0.18)

Prof. Taronger TC i aquí teniu  
00:14:53.819 - 00:14:55.069  
(0.37)

Prof. Taronger TC a la xifra que que: ocupa el lloc\_  
00:14:55.439 - 00:14:58.499  
(0.11)

Prof. Taronger TC amb aquest cas clar tenim deu xifres\  
00:14:58.609 - 00:15:00.363  
(0.06)

Prof. Taronger TC amb el binari només en tenim dues\  
00:15:00.429 - 00:15:02.200

Prof. Taronger TC per tant això seran potències\_  
00:15:02.200 - 00:15:04.439 -  
(0.25)

Prof. Taronger TC de dos multiplicades per zero o per u\  
00:15:04.690 - 00:15:06.882  
(0.22)

Prof. Taronger TC val/  
00:15:07.110 - 00:15:07.603  
(0.22)

Prof. Taronger TC per exemple  
00:15:07.830 - 00:15:08.590  
(0.05)

Prof. Taronger TC anem a fer aquest d'aquí\  
00:15:08.640 - 00:15:09.730  
(0.19)

Prof. Taronger TC anem a fer el mateix  
00:15:09.920 - 00:15:11.160  
(0.19)

Prof. Taronger TC aplicant el mètode amb el binari \  
00:15:11.350 - 00:15:13.880  
(1.09)

Prof. Taronger TC we have  
00:15:14.970 - 00:15:15.490  
(0.06)

Prof. Taronger TC three characters here\  
00:15:15.550 - 00:15:17.096  
(0.82)

Prof. Taronger TC remember  
00:15:17.920 - 00:15:19.039  
(0.59)

Prof. Taronger TC each row  
00:15:19.630 - 00:15:21.182  
(0.24)

Prof. Taronger TC each sorry each column  
00:15:21.430 - 00:15:23.200  
(0.19)

Prof. Taronger TC is showing us  
00:15:23.390 - 00:15:24.680

Prof. Taronger TC the weight  
00:15:24.695 - 00:15:25.511

Prof. Taronger TC of their number\  
00:15:25.511 - 00:15:26.645  
(0.05)

Prof. Taronger TC in binary code\  
00:15:26.695 - 00:15:27.865  
(0.07)

Prof. Taronger TC that means  
00:15:27.935 - 00:15:28.823  
(0.24)

Prof. Taronger TC that  
00:15:29.065 - 00:15:29.677  
(0.65)

Prof. Taronger TC the: thi:rd one\ this one\  
00:15:30.335 - 00:15:32.795  
(0.97)

Prof. Taronger TC his weight is\_  
00:15:33.765 - 00:15:35.025  
(0.15)

Prof. Taronger TC two  
00:15:35.175 - 00:15:35.753  
(2.55)

Prof. Taronger TC to two\  
00:15:35.175 - 00:15:35.753  
(2.55)



TC	00:15:38.305 - 00:15:38.995 (0.49)
Prof. Taronger TC	this is 00:15:39.485 - 00:15:40.345 (0.99)
Prof. Taronger TC	two to one\ 00:15:41.335 - 00:15:42.345 (0.06)
Prof. Taronger TC	and this is two to zero\ 00:15:42.405 - 00:15:44.085 (0.49)
Prof. Taronger TC	like this\ 00:15:44.575 - 00:15:45.435 (0.41)
Prof. Taronger TC	but in that case 00:15:45.845 - 00:15:46.945 (0.09)
Prof. Taronger TC	we use just 00:15:47.035 - 00:15:48.154 (0.04)
Prof. Taronger TC	power 00:15:48.195 - 00:15:49.015 (0.34)
Prof. Taronger TC	of two\ 00:15:49.355 - 00:15:50.415 (0.41)
Prof. Taronger TC	instead of power of ten\ 00:15:50.825 - 00:15:52.567 (0.18)
Prof. Taronger TC	okay/ 00:15:52.755 - 00:15:53.915 (1.65)
Prof. Taronger TC	and this is the weight\ 00:15:55.565 - 00:15:57.185 (0.7)
Prof. Taronger TC	what you have to multiply 00:15:57.885 - 00:15:59.653 (0.39)
Prof. Taronger TC	for/ in that case 00:16:00.045 - 00:16:01.755 (0.16)
Prof. Taronger TC	one\ 00:16:01.915 - 00:16:02.845 (1.0)
Prof. Taronger TC	plus zero 00:16:03.845 - 00:16:05.899 (2.28)
Prof. Taronger TC	zero 00:16:08.185 - 00:16:09.065 (0.32)
Prof. Taronger TC	by 00:16:09.385 - 00:16:10.145 (0.49)
Prof. Taronger TC	to to one\ plus one\ 00:16:10.635 - 00:16:13.675 (0.73)
Prof. Taronger TC	by two 00:16:14.405 - 00:16:15.175 (0.33)
Prof. Taronger TC	zero\ 00:16:15.505 - 00:16:16.045 (1.02)
Prof. Taronger TC	see/ it's exactly the same 00:16:17.065 - 00:16:19.225 (0.04)

Prof. Taronger TC that we have done here\  
00:16:19.265 - 00:16:20.825  
(1.33)

Prof. Taronger TC okay/  
00:16:22.155 - 00:16:22.805  
(0.33)

Prof. Taronger TC this effect  
00:16:23.135 - 00:16:25.010  
(2.49)

Prof. Taronger TC is the weight when we can  
00:16:27.505 - 00:16:29.545  
(0.03)

Prof. Taronger TC translate from binary  
00:16:29.575 - 00:16:31.342  
(0.71)

Prof. Taronger TC to decimal\  
00:16:32.055 - 00:16:33.094  
(0.97)

Prof. Taronger TC if you operate  
00:16:34.065 - 00:16:35.255  
(1.38)

Prof. Taronger TC all of these  
00:16:36.635 - 00:16:37.755  
(0.04)

Prof. Taronger TC values\  
00:16:37.795 - 00:16:38.465  
(0.35)

Prof. Taronger TC here  
00:16:38.815 - 00:16:39.465  
(0.25)

Prof. Taronger TC you get  
00:16:39.715 - 00:16:40.429  
(0.43)

Prof. Taronger TC one  
00:16:40.865 - 00:16:41.579  
(0.31)

Prof. Taronger TC plus zero\  
00:16:41.895 - 00:16:43.545

Prof. Taronger TC plus four\  
00:16:43.545 - 00:16:44.555  
(0.84)

Prof. Taronger TC that  
00:16:45.395 - 00:16:46.065  
(0.16)

Prof. Taronger TC is five\  
00:16:46.225 - 00:16:47.315  
(1.46)

Prof. Taronger TC is the one that we have mapped\_  
00:16:48.775 - 00:16:51.005  
(1.0)

Prof. Taronger TC at the first\ okay/  
00:16:52.005 - 00:16:54.252  
(3.07)

Prof. Taronger TC this  
00:16:57.326 - 00:16:57.866  
(0.09)

Prof. Taronger TC this is the way that  
00:16:57.956 - 00:16:59.526  
(0.27)

Prof. Taronger TC we are going to translate  
00:16:59.796 - 00:17:02.136  
(0.69)

Prof. Taronger TC from  
00:17:02.826 - 00:17:03.606  
(0.06)

Prof. Taronger TC binary\  
00:17:03.666 - 00:17:04.576  
(0.75)

Prof. Taronger TC to decimal\  
00:17:05.326 - 00:17:06.326  
(0.65)

Prof. Taronger TC okay/  
00:17:06.976 - 00:17:07.556  
(0.67)

Prof. Taronger TC just multiplying  
00:17:08.226 - 00:17:09.550  
(0.28)

Prof. Taronger TC by the weight  
00:17:09.836 - 00:17:11.176  
(0.72)

Prof. Taronger TC of each of the ciphers that we\_  
00:17:11.896 - 00:17:14.596  
(0.28)

Prof. Taronger TC already has in the number\  
00:17:14.876 - 00:17:16.526  
(2.05)

Prof. Taronger TC like this\  
00:17:18.576 - 00:17:19.256  
(0.56)

Prof. Taronger TC in a power of ten\  
00:17:19.816 - 00:17:21.066  
(1.64)

Prof. Taronger TC okay/  
00:17:22.706 - 00:17:23.296

Prof. Taronger TC this is  
00:17:23.296 - 00:17:24.016  
(0.33)

Prof. Taronger TC this is clear/  
00:17:24.346 - 00:17:25.396  
(1.26)

Prof. Taronger TC there are any questions/  
00:17:26.656 - 00:17:27.816  
(1.84)

Prof. Taronger TC (why we use this type this type of things?)  
00:17:29.656 - 00:17:32.586  
(2.17)

Prof. Taronger TC which kinds of things/  
00:17:34.756 - 00:17:35.597  
(0.02)

Prof. Taronger TC you mean the: the method/  
00:17:35.626 - 00:17:37.099

Prof. Taronger TC [or the xxx the binary code/]  
00:17:37.099 - 00:17:38.776

Estudiant 1 TC [why the: why the:]  
00:17:37.099 - 00:17:38.776  
(0.47)

Estudiant 1 TC why we need to:  
00:17:39.248 - 00:17:40.658  
(0.05)

Estudiant 1 TC t tra-translate  
00:17:40.708 - 00:17:41.898  
(0.24)

Estudiant 1 TC from binario to:  
00:17:42.138 - 00:17:43.811  
(1.42)

Estudiant 1 TC to decimal o:r  
00:17:45.238 - 00:17:46.358  
(1.04)

Prof. Taronger TC okay\ a:  
00:17:47.398 - 00:17:48.908

(0.35)

Prof. Taronger TC if you are going to codify\_ 00:17:49.263 - 00:17:51.103 (0.05)

Prof. Taronger TC between binary\_ 00:17:51.153 - 00:17:52.303 (0.44)

Prof. Taronger TC and decimal\ because you want\_ 00:17:52.743 - 00:17:54.633 (0.09)

Prof. Taronger TC to introduce in the machine the number\_ 00:17:54.723 - 00:17:57.196 (0.1)

Prof. Taronger TC five\ 00:17:57.303 - 00:17:57.853 (0.26)

Estudiant 1 TC mmm\ 00:17:58.113 - 00:17:58.423 (0.25)

Prof. Taronger TC [you have] to KNOW 00:17:58.673 - 00:18:00.443

Estudiant 1 TC [(in the ?)] 00:17:58.713 - 00:17:59.533 (0.97)

Prof. Taronger TC how translate\_ 00:18:00.503 - 00:18:01.543 (0.79)

Prof. Taronger TC okay/ 00:18:02.333 - 00:18:02.963 (0.25)

Prof. Taronger TC you have to know 00:18:03.213 - 00:18:04.053 (0.04)

Prof. Taronger TC the way to translate\_ 00:18:04.093 - 00:18:05.683 (0.23)

Prof. Taronger TC those numbers\ 00:18:05.913 - 00:18:07.143 (0.69)

Prof. Taronger TC but integers is not so much the problem\ 00:18:07.833 - 00:18:10.561 (0.3)

Prof. Taronger TC the problem you'll see that will be the reals\ 00:18:10.863 - 00:18:13.567 (0.54)

Prof. Taronger TC the reals is the big problem here\ 00:18:14.113 - 00:18:16.026 (0.29)

Prof. Taronger TC but\_ 00:18:16.323 - 00:18:16.793 (0.5)

Prof. Taronger TC let's\_ 00:18:17.293 - 00:18:17.893 (0.71)

Prof. Taronger TC let's go to left that \ 00:18:18.603 - 00:18:19.823

Prof. Taronger TC for later\ 00:18:19.823 - 00:18:20.593 (0.56)

Prof. Taronger TC later we'll see how translate\_ 00:18:21.156 - 00:18:23.381 (0.39)

Prof. Taronger TC this kind of\_ 00:18:23.776 - 00:18:24.776 (0.17)

Prof. Taronger TC	real numbers\ 00:18:24.946 - 00:18:26.476 (1.94)
Prof. Taronger TC	okay/ 00:18:28.416 - 00:18:28.896 (1.15)
Prof. Taronger TC	now we see how to translate_ 00:18:30.046 - 00:18:32.796 (0.28)
Prof. Taronger TC	from binary to decimal\ 00:18:33.076 - 00:18:35.046 (0.05)
Prof. Taronger TC	let's go to see 00:18:35.096 - 00:18:36.146 (0.56)
Prof. Taronger TC	the reverse way\ 00:18:36.706 - 00:18:37.576 (2.14)
Prof. Taronger TC	translate 00:18:39.716 - 00:18:40.786 (0.39)
Prof. Taronger TC	a:hh 00:18:41.176 - 00:18:42.386 (0.13)
Prof. Taronger TC	from 00:18:42.521 - 00:18:43.301 (1.14)
Prof. Taronger TC	decimal 00:18:44.441 - 00:18:45.291 (0.08)
Prof. Taronger TC	in that case to: 00:18:45.371 - 00:18:46.201 (0.2)
Prof. Taronger TC	binary\ 00:18:46.401 - 00:18:47.231 (1.15)
Prof. Taronger TC	this is 00:18:48.381 - 00:18:49.221 (0.76)
Prof. Taronger TC	easy also because_ 00:18:49.981 - 00:18:51.961 (0.51)
Prof. Taronger TC	just 00:18:52.471 - 00:18:53.371 (1.09)
Prof. Taronger TC	dividing by two 00:18:54.461 - 00:18:55.931 (0.05)
Prof. Taronger TC	we obtain\ 00:18:55.985 - 00:18:57.245 (0.04)
Prof. Taronger TC	all the binary codes\ 00:18:57.285 - 00:18:58.805 (1.4)
Prof. Taronger TC	because 00:19:00.205 - 00:19:01.085 (0.38)
Prof. Taronger TC	at the end 00:19:01.470 - 00:19:02.470 (1.24)
Prof. Taronger TC	in a decimal code\ 00:19:03.710 - 00:19:05.100
Prof. Taronger TC	are powers of ten\ 00:19:05.100 - 00:19:06.560 (0.52)

Prof. Taronger TC but  
00:19:07.080 - 00:19:07.630

Prof. Taronger TC in binary code  
00:19:07.630 - 00:19:08.740

Prof. Taronger TC all are powers of two\  
00:19:08.740 - 00:19:10.640  
(0.61)

Prof. Taronger TC that means that for us  
00:19:11.250 - 00:19:12.880  
(0.71)

Prof. Taronger TC all of that  
00:19:13.590 - 00:19:14.360

Prof. Taronger TC are just powers of two\  
00:19:14.360 - 00:19:16.268  
(0.22)

Prof. Taronger TC how can extract  
00:19:16.490 - 00:19:18.140  
(0.04)

Prof. Taronger TC the powers/ just divide it by two\  
00:19:18.180 - 00:19:20.160  
(0.5)

Prof. Taronger TC for example\  
00:19:20.660 - 00:19:21.850  
(0.4)

Prof. Taronger TC the: number  
00:19:22.250 - 00:19:23.510  
(0.18)

Prof. Taronger TC a:h the example that we see here\  
00:19:23.690 - 00:19:25.810

Prof. Taronger TC five\  
00:19:25.810 - 00:19:26.570  
(0.56)

Prof. Taronger TC if you took the five  
00:19:27.130 - 00:19:28.556  
(0.16)

Prof. Taronger TC and divide it by two\  
00:19:28.720 - 00:19:31.043  
(1.29)

Prof. Taronger TC this is two  
00:19:32.340 - 00:19:33.610  
(0.78)

Prof. Taronger TC two xx four\  
00:19:34.390 - 00:19:35.890  
(0.47)

Prof. Taronger TC and the remainder  
00:19:36.360 - 00:19:37.610  
(0.18)

Prof. Taronger TC is one\  
00:19:37.790 - 00:19:38.480

Prof. Taronger TC right/  
00:19:38.480 - 00:19:38.980  
(1.53)

Prof. Taronger TC divided by two\  
00:19:40.510 - 00:19:42.150  
(1.37)

Prof. Taronger TC one by two is two\  
00:19:43.520 - 00:19:44.960  
(0.12)

Prof. Taronger TC remainder no  
00:19:45.080 - 00:19:46.090  
(0.56)

Prof. Taronger TC the remainder is  
00:19:46.652 - 00:19:47.862  
(0.14)

Prof. Taronger zero\  
TC 00:19:48.002 - 00:19:48.782  
(3.01)

Prof. Taronger one zero one\  
TC 00:19:51.792 - 00:19:53.372  
(2.87)

Prof. Taronger when you make all the divisions\  
TC 00:19:56.242 - 00:19:58.182  
(0.18)

Prof. Taronger by two\  
TC 00:19:58.362 - 00:19:59.132  
(0.5)

Prof. Taronger and just take the remainders\  
TC 00:19:59.632 - 00:20:01.562  
(0.43)

Prof. Taronger and the last one  
TC 00:20:01.992 - 00:20:03.332  
(1.01)

Prof. Taronger and this last one  
TC 00:20:04.342 - 00:20:05.532  
(0.1)

Prof. Taronger you are going to obtain  
TC 00:20:05.632 - 00:20:06.962  
(0.51)

Prof. Taronger the binary  
TC 00:20:07.472 - 00:20:08.432  
(0.5)

Prof. Taronger number\  
TC 00:20:08.932 - 00:20:09.482  
(2.14)

Prof. Taronger but this is not a good example because\_  
TC 00:20:11.622 - 00:20:13.892  
(0.29)

Prof. Taronger we obtain here  
TC 00:20:14.182 - 00:20:15.452  
(1.18)

Prof. Taronger one zero one and one zero one is exactly the same in one sense or in the  
reverse way\  
TC 00:20:16.632 - 00:20:22.932  
(0.63)

Prof. Taronger and  
TC 00:20:23.562 - 00:20:24.122  
(0.33)

Prof. Taronger what we have to do here  
TC 00:20:24.452 - 00:20:26.012  
(0.75)

Prof. Taronger i:s this is the:  
TC 00:20:26.762 - 00:20:28.332  
(0.37)

Prof. Taronger the: the previous  
TC 00:20:28.702 - 00:20:29.882  
(0.83)

Prof. Taronger number\  
TC 00:20:30.712 - 00:20:31.482  
(0.32)

Prof. Taronger this one  
TC 00:20:31.802 - 00:20:32.652  
(0.8)

Prof. Taronger is the third  
TC 00:20:33.452 - 00:20:35.362  
(1.0)

Prof. Taronger is the third column\  
TC 00:20:36.362 - 00:20:37.742  
(0.03)

Prof. Taronger in that case\ the third character\  
TC

TC 00:20:37.772 - 00:20:39.532  
(0.8)

Prof. Taronger because  
TC 00:20:40.332 - 00:20:41.392  
(0.62)

Prof. Taronger this is the:  
TC 00:20:42.012 - 00:20:43.462  
(0.76)

Prof. Taronger the number that we have\  
TC 00:20:44.222 - 00:20:45.612  
(0.02)

Prof. Taronger divided three times\ no: sorry\ two times\  
TC 00:20:45.632 - 00:20:48.472  
(0.15)

Prof. Taronger see/  
TC 00:20:48.622 - 00:20:49.092  
(0.18)

Prof. Taronger we have divided two times this one\  
TC 00:20:49.272 - 00:20:51.412  
(1.55)

Prof. Taronger this is the power of two\  
TC 00:20:52.962 - 00:20:54.242  
(1.07)

Prof. Taronger and  
TC 00:20:55.312 - 00:20:56.022  
(0.53)

Prof. Taronger the:/ the other ones  
TC 00:20:56.552 - 00:20:58.172  
(0.33)

Prof. Taronger are going to give us  
TC 00:20:58.502 - 00:20:59.982  
(0.15)

Prof. Taronger the rest of the columns\  
TC 00:21:00.132 - 00:21:01.882  
(0.94)

Prof. Taronger for example I take this one\_  
TC 00:21:02.822 - 00:21:04.572

Prof. Taronger four\  
TC 00:21:04.572 - 00:21:05.462  
(1.43)

Prof. Taronger four divided by two (performing operation on board)  
TC 00:21:06.892 - 00:21:08.884  
(1.77)

Prof. Taronger remainder zero\  
TC 00:21:10.662 - 00:21:12.262  
(0.29)

Prof. Taronger divided by two\  
TC 00:21:12.552 - 00:21:13.752  
(0.48)

Prof. Taronger reaminder  
TC 00:21:14.232 - 00:21:15.252  
(0.48)

Prof. Taronger zero\  
TC 00:21:15.732 - 00:21:16.482  
(0.98)

Prof. Taronger see/  
TC 00:21:17.462 - 00:21:18.272

Prof. Taronger the last one\_  
TC 00:21:18.272 - 00:21:19.282  
(0.41)

Prof. Taronger is the bigger\  
TC 00:21:19.692 - 00:21:20.622  
(0.91)

Prof. Taronger is the biggest\  
TC 00:21:21.532 - 00:21:22.312



(0.43)

Prof. Taronger TC the last one is the biggest  
00:21:22.742 - 00:21:24.372  
(0.18)

Prof. Taronger TC of all binary numbers\  
00:21:24.552 - 00:21:26.452  
(1.16)

Prof. Taronger TC we have to:  
00:21:27.612 - 00:21:28.592  
(0.04)

Prof. Taronger TC take  
00:21:28.632 - 00:21:29.282  
(0.32)

Prof. Taronger TC the reverse order  
00:21:29.602 - 00:21:31.002  
(0.02)

Prof. Taronger TC that we have obtained  
00:21:31.022 - 00:21:32.322  
(0.22)

Prof. Taronger TC to write the binary number\  
00:21:32.542 - 00:21:34.422  
(3.46)

Prof. Taronger TC dividint per dos  
00:21:37.882 - 00:21:39.112  
(0.14)

Prof. Taronger TC dividint per dos  
00:21:39.252 - 00:21:40.272  
(0.43)

Prof. Taronger TC anirem obtenint  
00:21:40.702 - 00:21:41.752

Prof. Taronger TC residus\  
00:21:41.752 - 00:21:42.582  
(0.3)

Prof. Taronger TC i cocients\  
00:21:42.882 - 00:21:43.902

Prof. Taronger TC anem dividint  
00:21:43.902 - 00:21:44.652

Prof. Taronger TC i el que tenim que fer és agafar\_  
00:21:44.652 - 00:21:46.382  
(0.5)

Prof. Taronger TC el que hem el que hem obtingut -  
00:21:46.882 - 00:21:49.312  
(0.03)

Prof. Taronger TC però amb ordre invers  
00:21:49.342 - 00:21:50.962  
(0.92)

Prof. Taronger TC amb ordre invers per escriure el numero\  
00:21:51.882 - 00:21:53.982  
(0.69)

Prof. Taronger TC el binari no és zero zero u\ (showing remainders on board)  
00:21:54.672 - 00:21:56.142

Prof. Taronger TC és u zero zero el binari\  
00:21:56.142 - 00:21:57.742  
(0.25)

Prof. Taronger TC vale/  
00:21:57.992 - 00:21:58.451  
(2.85)

Prof. Taronger TC s'entén/  
00:22:01.302 - 00:22:02.062  
(0.81)

Estudiant 2 TC mm\  
00:22:02.872 - 00:22:03.132  
(0.21)

Prof. Taronger TC vale\  
00:22:03.132 - 00:22:03.132  
(0.00)

TC 00:22:03.342 - 00:22:03.792  
(4.6)

Prof. Taronger anem a veure ara com ho fariem amb decimals\  
TC 00:22:08.392 - 00:22:10.652  
(1.19)

Prof. Taronger números  
TC 00:22:11.842 - 00:22:13.112  
(0.32)

Prof. Taronger decimals  
TC 00:22:13.432 - 00:22:14.412  
(0.05)

Prof. Taronger a: / més senzills\  
TC 00:22:14.462 - 00:22:16.142

Prof. Taronger (esborra la pissarra)  
TC 00:22:16.142 - 00:22:26.997

Prof. Taronger that  
TC 00:22:26.997 - 00:22:28.062  
(0.52)

Prof. Taronger way is  
TC 00:22:28.582 - 00:22:29.562  
(0.58)

Prof. Taronger just for integers\  
TC 00:22:30.145 - 00:22:31.475  
(0.13)

Prof. Taronger what happened with the:\  
TC 00:22:31.605 - 00:22:33.045  
(0.43)

Prof. Taronger e:hh  
TC 00:22:33.475 - 00:22:34.335  
(0.26)

Prof. Taronger the fractional numbers\  
TC 00:22:34.595 - 00:22:35.735  
(0.14)

Prof. Taronger for example  
TC 00:22:35.875 - 00:22:36.955  
(2.16)

Prof. Taronger (writing 0.7 on board) zero dot seven in decimal\  
TC 00:22:39.115 - 00:22:42.655  
(2.37)

Prof. Taronger what is the:  
TC 00:22:45.025 - 00:22:46.125  
(0.05)

Prof. Taronger methodology that we  
TC 00:22:46.175 - 00:22:47.515  
(0.93)

Prof. Taronger that  
TC 00:22:48.445 - 00:22:49.035  
(0.08)

Prof. Taronger are going to allow us\  
TC 00:22:49.115 - 00:22:50.295  
(0.22)

Prof. Taronger translate this  
TC 00:22:50.515 - 00:22:51.705  
(0.95)

Prof. Taronger fractional number\  
TC 00:22:52.655 - 00:22:53.945  
(0.36)

Prof. Taronger to binary code\  
TC 00:22:54.305 - 00:22:56.145  
(2.66)

Prof. Taronger the integers  
TC 00:22:58.805 - 00:23:00.035  
(0.19)

Prof. Taronger all the integers  
TC 00:23:00.225 - 00:23:01.444

(0.27)

Prof. Taronger TC we:  
00:23:01.715 - 00:23:02.495  
(0.08)

Prof. Taronger TC use  
00:23:02.575 - 00:23:03.105  
(0.06)

Prof. Taronger TC the method  
00:23:03.165 - 00:23:04.015  
(0.35)

Prof. Taronger TC that we has  
00:23:04.365 - 00:23:05.445  
(0.16)

Prof. Taronger TC just  
00:23:05.605 - 00:23:06.195  
(0.24)

Prof. Taronger TC seen now  
00:23:06.435 - 00:23:07.195  
(0.27)

Prof. Taronger TC again  
00:23:07.465 - 00:23:07.885  
(0.15)

Prof. Taronger TC this  
00:23:08.035 - 00:23:08.555  
(0.25)

Prof. Taronger TC kind of division\  
00:23:08.805 - 00:23:10.115  
(0.26)

Prof. Taronger TC of decimals\  
00:23:10.375 - 00:23:11.285  
(0.03)

Prof. Taronger TC in order to translate  
00:23:11.315 - 00:23:12.900  
(1.28)

Prof. Taronger TC into binary\  
00:23:14.185 - 00:23:14.995  
(0.34)

Prof. Taronger TC but what happened with the:/ (showing result on board)  
00:23:15.335 - 00:23:17.445  
(0.58)

Prof. Taronger TC with the fraction\  
00:23:18.025 - 00:23:19.135  
(0.23)

Prof. Taronger TC number\  
00:23:19.365 - 00:23:19.925  
(0.42)

Prof. Taronger TC in that case  
00:23:20.345 - 00:23:21.375  
(0.9)

Prof. Taronger TC the weight  
00:23:22.275 - 00:23:23.145  
(0.22)

Prof. Taronger TC is just multiplied  
00:23:23.365 - 00:23:24.765

Prof. Taronger TC by two\  
00:23:24.765 - 00:23:25.535  
(3.55)

Prof. Taronger TC if we multiply with two  
00:23:29.085 - 00:23:30.835  
(0.28)

Prof. Taronger TC (writing this on board)  
00:23:31.115 - 00:23:32.415

Prof. Taronger TC we obtain  
00:23:32.415 - 00:23:33.675

Prof. Taronger TC one dot four\  
00:23:33.675 - 00:23:35.045  
(0.99)

Prof. Taronger TC okay\  
00:23:36.035 - 00:23:36.596  
(0.55)

Prof. Taronger TC and we just  
00:23:37.155 - 00:23:38.345  
(0.75)

Prof. Taronger TC take (gesturing this)  
00:23:39.095 - 00:23:39.695  
(1.51)

Prof. Taronger TC the integer part\  
00:23:41.205 - 00:23:42.565  
(0.2)

Prof. Taronger TC one\  
00:23:42.765 - 00:23:43.355  
(3.37)

Prof. Taronger TC the remainder is zero dot four\  
00:23:46.725 - 00:23:48.895  
(0.29)

Prof. Taronger TC (writes 0.4 on board)  
00:23:49.185 - 00:23:50.105  
(0.42)

Prof. Taronger TC now  
00:23:50.525 - 00:23:51.255  
(0.12)

Prof. Taronger TC zero dot four we multiply by two again\  
00:23:51.375 - 00:23:54.204  
(0.26)

Prof. Taronger TC zero dot five (writing)  
00:23:54.465 - 00:23:56.665  
(2.11)

Prof. Taronger TC a:nd  
00:23:58.775 - 00:23:59.455  
(0.11)

Prof. Taronger TC just take (gesturing)  
00:23:59.565 - 00:24:00.570  
(0.27)

Prof. Taronger TC the integer part zero\  
00:24:00.845 - 00:24:02.435  
(0.27)

Prof. Taronger TC (writes zero)  
00:24:02.705 - 00:24:03.045  
(2.29)

Prof. Taronger TC the remainder is zero dot eight (writes this)  
00:24:05.335 - 00:24:07.465  
(0.65)

Prof. Taronger TC multiplied  
00:24:08.115 - 00:24:09.184  
(0.12)

Prof. Taronger TC by two\  
00:24:09.305 - 00:24:10.265  
(0.38)

Prof. Taronger TC and take the integer part\  
00:24:10.645 - 00:24:12.575  
(0.8)

Prof. Taronger TC zero dot six\  
00:24:13.375 - 00:24:14.625  
(0.53)

Prof. Taronger TC by two\  
00:24:15.155 - 00:24:16.005  
(0.1)

Prof. Taronger TC is one  
00:24:16.105 - 00:24:17.475  
(0.54)

Prof. Taronger TC	dot two\ 00:24:18.015 - 00:24:19.035
Prof. Taronger TC	take the integer part 00:24:19.035 - 00:24:20.807 (3.04)
Prof. Taronger TC	(writin all this) 00:24:23.855 - 00:24:24.545 (1.35)
Prof. Taronger TC	(writing) 00:24:25.895 - 00:24:28.955 (0.03)
Prof. Taronger TC	and so on\ 00:24:28.985 - 00:24:29.645 (0.38)
Prof. Taronger TC	(writing on board) 00:24:30.025 - 00:24:34.895
Prof. Taronger TC	okay/ 00:24:34.895 - 00:24:35.565 (0.16)
Prof. Taronger TC	this is the way\ 00:24:35.725 - 00:24:36.715 (0.85)
Prof. Taronger TC	someone of you is seeing 00:24:37.565 - 00:24:39.565 (0.34)
Prof. Taronger TC	any kind of pattern here/ 00:24:39.905 - 00:24:42.235 (1.19)
Prof. Taronger TC	in that methodology/ 00:24:43.425 - 00:24:45.005 (0.67)
Prof. Taronger TC	algú de vosaltres veu 00:24:45.675 - 00:24:47.255 (0.12)
Prof. Taronger TC	e:l 00:24:47.375 - 00:24:48.525 (0.32)
Prof. Taronger TC	alguna cosa que es repeteix/ 00:24:48.845 - 00:24:51.127 (0.94)
Estudiant 2 TC	la seqüència\ 00:24:52.075 - 00:24:53.075 (0.2)
Estudiant 2 TC	u zero u\ 00:24:53.275 - 00:24:54.015 (0.1)
Estudiant 2 TC	u zero u\ 00:24:54.115 - 00:24:54.659 (1.08)
Estudiant 2 TC	no\ 00:24:55.745 - 00:24:56.065 (0.9)
Prof. Taronger TC	exactly\ 00:24:56.965 - 00:24:57.715
Prof. Taronger TC	because 00:24:57.715 - 00:24:58.395 (0.21)
Prof. Taronger TC	here 00:24:58.605 - 00:24:59.285 (0.11)
Prof. Taronger TC	you have a:h at that point o:f_ 00:24:59.399 - 00:25:02.559 (0.88)
Prof. Taronger	let me see\ 

TC	00:25:03.439 - 00:25:04.299 (1.16)
Prof. Taronger TC	with that point of here\ 00:25:05.459 - 00:25:07.359 (1.8)
Prof. Taronger TC	° nou zero dos° 00:25:09.159 - 00:25:10.749
Estudiant 2 TC	l'última\ l'última t'has equivocat\ 00:25:10.711 - 00:25:12.331 (0.05)
Prof. Taronger TC	m'he equi [vocat \ ] 00:25:12.381 - 00:25:13.425
Estudiant 1 TC	[zero]quatre\ 00:25:12.841 - 00:25:13.130
Estudiant 2 TC	[hi ha d'anar un zero quatre al començament \ ] 00:25:13.111 - 00:25:14.687 (0.91)
Prof. Taronger TC	zero quatre\ teniu raó\ 00:25:15.601 - 00:25:17.050 (0.09)
Prof. Taronger TC	(ho escriu) 00:25:17.141 - 00:25:17.521 (1.42)
Prof. Taronger TC	(escribint-ho) zero dot eight\ 00:25:18.941 - 00:25:20.451 (0.2)
Prof. Taronger TC	zero\ 00:25:20.651 - 00:25:21.761 (4.96)
Prof. Taronger TC	zero xxx now zero dot eight\ one dot six\ (escribint-ho) 00:25:26.721 - 00:25:30.381 (0.3)
Prof. Taronger TC	one\ 00:25:30.681 - 00:25:31.761 (0.04)
Prof. Taronger TC	let me see if now it's okay\ 00:25:31.801 - 00:25:33.573 (0.71)
Prof. Taronger TC	this is the pattern \ (dibuixa línia)\ 00:25:34.291 - 00:25:35.891 (1.05)
Prof. Taronger TC	(dibuixa una altra línia) 00:25:36.941 - 00:25:37.851 (4.13)
Prof. Taronger TC	no\ (canvia línia) 00:25:41.981 - 00:25:42.971 (0.41)
Prof. Taronger TC	here\ (escriu nova línia) 00:25:43.381 - 00:25:44.611 (1.34)
Prof. Taronger TC	exactly\ 00:25:45.951 - 00:25:46.701 (0.85)
Prof. Taronger TC	this is the pattern\ 00:25:47.551 - 00:25:48.531 (1.05)
Prof. Taronger TC	zero dot four is here now\ 00:25:49.581 - 00:25:51.891 (0.48)
Prof. Taronger TC	okay/ 00:25:52.371 - 00:25:53.051 (0.5)
Prof. Taronger TC	that means that because the methodology is exactly the same\ 00:25:53.551 - 00:25:57.525

Prof. Taronger TC we are going to repeat  
00:25:57.531 - 00:25:58.831  
(0.07)

Prof. Taronger TC exactly the same  
00:25:58.901 - 00:26:00.931  
(0.12)

Prof. Taronger TC binary numbers\  
00:26:01.051 - 00:26:02.421  
(1.5)

Prof. Taronger TC all over again\  
00:26:03.921 - 00:26:05.011  
(1.05)

Prof. Taronger TC all the time we're going to obtain \_  
00:26:06.061 - 00:26:08.161  
(0.03)

Prof. Taronger TC zero one one zero\  
00:26:08.191 - 00:26:09.391  
(0.03)

Prof. Taronger TC zero  
00:26:09.421 - 00:26:10.031  
(0.08)

Prof. Taronger TC one one zero\  
00:26:10.111 - 00:26:11.511  
(0.19)

Prof. Taronger TC and this is  
00:26:11.701 - 00:26:12.711  
(0.4)

Prof. Taronger TC the pattern that we are going to obtain\  
00:26:13.119 - 00:26:15.879  
(0.07)

Prof. Taronger TC this is just  
00:26:15.949 - 00:26:17.009  
(0.23)

Prof. Taronger TC like  
00:26:17.239 - 00:26:18.069  
(0.35)

Prof. Taronger TC zero dot t (and writes)  
00:26:18.419 - 00:26:20.069  
(0.43)

Prof. Taronger TC three in decimal right/  
00:26:20.499 - 00:26:22.109  
(0.06)

Prof. Taronger TC what does it mean/  
00:26:22.169 - 00:26:23.409  
(0.12)

Prof. Taronger TC zero dot three three three  
00:26:23.529 - 00:26:25.559

Prof. Taronger TC ad infinitum\  
00:26:25.559 - 00:26:26.409  
(0.44)

Prof. Taronger TC okay\  
00:26:26.849 - 00:26:27.449  
(0.43)

Prof. Taronger TC it's exactly the same\  
00:26:27.879 - 00:26:29.299  
(0.82)

Prof. Taronger TC for us  
00:26:30.119 - 00:26:31.019  
(0.79)

Prof. Taronger TC the translation  
00:26:31.809 - 00:26:33.009  
(0.44)

Prof. Taronger TC (writes board)  
00:26:33.449 - 00:26:36.169  
(0.04)

Prof. Taronger TC in decimal  
00:26:36.209 - 00:26:37.369  
(1.35)

Prof. Taronger TC to binary  
00:26:38.719 - 00:26:39.949  
(0.08)

Prof. Taronger TC will be  
00:26:40.029 - 00:26:41.659  
(0.31)

Prof. Taronger TC zero  
00:26:41.969 - 00:26:43.149  
(0.62)

Prof. Taronger TC dot  
00:26:43.769 - 00:26:44.519  
(0.42)

Prof. Taronger TC one\  
00:26:44.939 - 00:26:46.279  
(0.57)

Prof. Taronger TC zero one one zero\  
(writing numbers)  
00:26:46.849 - 00:26:50.179  
(1.79)

Prof. Taronger TC periodic\  
00:26:51.969 - 00:26:52.799  
(1.21)

Prof. Taronger TC right/  
00:26:54.009 - 00:26:54.639  
(1.77)

Prof. Taronger TC we can  
00:26:56.409 - 00:26:57.819  
(0.37)

Prof. Taronger TC we can spread this  
00:26:58.189 - 00:26:59.839  
(0.04)

Prof. Taronger TC number\  
00:26:59.879 - 00:27:00.559  
(0.07)

Prof. Taronger TC and put zero one one zero \ zero one one zero\  
00:27:00.629 - 00:27:03.639

Prof. Taronger TC and so on  
00:27:03.639 - 00:27:04.409  
(0.35)

Prof. Taronger TC ad infinitum a:nd we can take as much\_  
00:27:04.761 - 00:27:08.171  
(0.21)

Prof. Taronger TC numbers as we as we need\  
00:27:08.381 - 00:27:10.321  
(0.22)

Prof. Taronger TC okay/  
00:27:10.541 - 00:27:11.061  
(0.95)

Prof. Taronger TC this is the fractional number\  
00:27:12.011 - 00:27:13.867  
(0.3)

Prof. Taronger TC we have the same problems as in decimal\  
00:27:14.171 - 00:27:16.287  
(0.05)

Prof. Taronger TC there are numbers that CANNOT\_  
00:27:16.341 - 00:27:17.851  
(0.26)

Prof. Taronger TC a:hh  
00:27:18.111 - 00:27:18.901  
(0.27)

Prof. Taronger TC cannot be represented  
00:27:19.171 - 00:27:20.661  
(0.56)



Prof. Taronger TC with a: finite number\ with a: finite amount of characters\  
00:27:21.224 - 00:27:25.444  
(0.2)

Prof. Taronger TC okay/  
00:27:25.644 - 00:27:26.194  
(1.58)

Prof. Taronger TC is that clear/  
00:27:27.781 - 00:27:28.951  
(1.87)

Prof. Taronger TC e.h tenim  
00:27:30.821 - 00:27:31.681  
(0.07)

Prof. Taronger TC dues maneres de fer-ho\  
00:27:31.751 - 00:27:33.151

Prof. Taronger TC integers\  
00:27:33.151 - 00:27:33.981

Prof. Taronger TC a:hh\ enters  
00:27:33.981 - 00:27:35.611  
(0.21)

Prof. Taronger TC i reals\  
00:27:35.821 - 00:27:36.781  
(0.13)

Prof. Taronger TC val/  
00:27:36.911 - 00:27:37.471  
(0.2)

Prof. Taronger TC aleshores  
00:27:37.671 - 00:27:38.591  
(0.94)

Prof. Taronger TC els enters ja ho hem vist\ és fàcil\ els reals/  
00:27:39.531 - 00:27:42.061  
(0.14)

Prof. Taronger TC com ho fem/ doncs\  
00:27:42.201 - 00:27:43.250  
(0.15)

Prof. Taronger TC només dels decimals\  
00:27:43.404 - 00:27:47.824  
(0.43)

Prof. Taronger TC amb els decimals fem això\ multipliquem per dos\  
00:27:48.254 - 00:27:50.455  
(0.17)

Prof. Taronger TC vale/  
00:27:50.634 - 00:27:51.014  
(0.33)

Prof. Taronger TC i anem  
00:27:51.344 - 00:27:52.054  
(0.34)

Prof. Taronger TC i anem fent aixins\  
00:27:52.394 - 00:27:53.364  
(0.06)

Estudiant 2 TC una cosa\ llavors tots els decimals\_  
00:27:53.424 - 00:27:54.824  
(0.54)

Estudiant 2 TC són periòdics\  
00:27:55.364 - 00:27:56.164  
(1.1)

Estudiant 2 TC o sigui són infinits\_ representa\  
00:27:57.264 - 00:27:58.424  
(0.29)

Prof. Taronger TC n'hi han que no\ depèn\  
00:27:58.714 - 00:28:00.364  
(0.62)

Prof. Taronger TC [u-]  
00:28:00.984 - 00:28:01.244

Estudiant 2 [[tu els] pots treure una taula no/

TC 00:28:01.124 - 00:28:02.724  
(0.37)

Prof. Taronger si tu fas una taula però pot ser que en una taula arribi un moment que  
tinguis una divisió

TC 00:28:03.094 - 00:28:07.614  
(0.29)

Prof. Taronger fixa\ saps què vull dir/  
TC 00:28:07.904 - 00:28:09.444  
(1.13)

Prof. Taronger que et doni per exemple tot zeros\  
TC 00:28:10.574 - 00:28:12.524  
(0.29)

Prof. Taronger que arriba un moment\_  
TC 00:28:12.814 - 00:28:13.984  
(0.09)

Prof. Taronger que: et doni per exemple\_  
TC 00:28:14.074 - 00:28:16.334  
(1.78)

Prof. Taronger a:h  
TC 00:28:18.114 - 00:28:18.934  
(0.33)

Prof. Taronger u coma zero\  
TC 00:28:19.267 - 00:28:20.367  
(0.15)

Prof. Taronger et quedaria u i la resta ja seria zero\  
TC 00:28:20.517 - 00:28:22.927

Prof. Taronger ja faries res\  
TC 00:28:22.937 - 00:28:23.967  
(0.07)

Prof. Taronger vale/  
TC 00:28:24.037 - 00:28:24.647  
(0.49)

Prof. Taronger per exemple\_  
TC 00:28:25.137 - 00:28:26.087  
(3.48)

Prof. Taronger (escriu 0.5 a la pissarra)  
TC 00:28:29.567 - 00:28:34.107

Prof. Taronger aquest d'aquí\  
TC 00:28:34.107 - 00:28:34.907  
(0.04)

Prof. Taronger per repartir algun no/  
TC 00:28:34.947 - 00:28:36.157

Prof. Taronger zero coma cinc per dos quedaria u\  
TC 00:28:36.157 - 00:28:38.737

Prof. Taronger agafaries u\  
TC 00:28:38.737 - 00:28:39.697  
(0.16)

Prof. Taronger zero\ ja ho tens\  
TC 00:28:39.857 - 00:28:40.787  
(0.16)

Prof. Taronger ja està\  
TC 00:28:40.947 - 00:28:41.587  
(0.8)

Prof. Taronger vale/  
TC 00:28:42.393 - 00:28:43.056  
(0.48)

Prof. Taronger o sigui zero coma cinc\_  
TC 00:28:43.537 - 00:28:44.777

Prof. Taronger (ho escriu)  
TC 00:28:44.777 - 00:28:46.148

Prof. Taronger en decimals seria\_  
TC 00:28:46.148 - 00:28:47.658  
(0.03)

Prof. Taronger zero coma\_

TC	00:28:47.688 - 00:28:48.948 (0.67)
Prof. Taronger TC	u\ 00:28:49.618 - 00:28:50.264 (1.76)
Prof. Taronger TC	vale/ 00:28:52.028 - 00:28:52.555 (3.57)
Prof. Taronger TC	is that clear/ 00:28:56.128 - 00:28:57.328 (0.54)
Prof. Taronger TC	okay\ let's 00:28:57.868 - 00:28:59.528 (0.39)
Prof. Taronger TC	let's see\ 00:28:59.918 - 00:29:00.478 (7.61)
Prof. Taronger TC	well 00:29:08.088 - 00:29:08.808 (0.71)
Estudiant 3 TC	puedes pasar/ 00:29:09.518 - 00:29:10.328 (0.07)
Estudiant 3 TC	puedes pasar otro entero a: / 00:29:10.398 - 00:29:12.438 (0.33)
Estudiant 3 TC	a binario/ 00:29:12.768 - 00:29:13.508 (0.53)
Prof. Taronger TC	otro entero a binario/ 00:29:14.038 - 00:29:15.748 (1.9)
Estudiant 3 TC	xxx a binario\ 00:29:17.648 - 00:29:18.678 (0.56)
Prof. Taronger TC	más grande/ 00:29:19.238 - 00:29:20.238 (0.97)
Prof. Taronger TC	sólo tienes que hacer divisiones\ 00:29:21.208 - 00:29:22.908 (0.06)
Prof. Taronger TC	sólo tienes que ir dividiendo\ 00:29:22.968 - 00:29:25.080 (1.57)
Prof. Taronger TC	vamos a ver un ejejemplo (de esto?) 00:29:26.658 - 00:29:28.518 (7.65)
Prof. Taronger TC	por ejemplo 00:29:36.168 - 00:29:38.078 (6.94)
Prof. Taronger TC	one hundred twenty eight\ 00:29:45.018 - 00:29:46.368 (1.25)
Prof. Taronger TC	let's go to start just dividing by two_ 00:29:47.625 - 00:29:50.545 (1.27)
Prof. Taronger TC	till we reach 00:29:51.815 - 00:29:53.193 (1.22)
Prof. Taronger TC	the code\ 00:29:54.415 - 00:29:55.145 (0.19)
Prof. Taronger TC	the: last 00:29:55.335 - 00:29:56.405 (0.07)

Prof. Taronger TC the last division okay\  
00:29:56.475 - 00:29:57.965  
(1.68)

Prof. Taronger TC this is  
00:29:59.645 - 00:30:00.605

Prof. Taronger TC (dividing on board)  
00:30:00.605 - 00:30:06.925

Prof. Taronger TC zero divided by two\ this is\_  
00:30:06.925 - 00:30:09.578 -  
(0.08)

Prof. Taronger TC twenty four\  
00:30:09.665 - 00:30:10.785  
(0.44)

Prof. Taronger TC zero divided by two\  
00:30:11.225 - 00:30:13.655  
(1.68)

Prof. Taronger TC sixteen\ zero\  
00:30:15.335 - 00:30:17.855  
(0.79)

Prof. Taronger TC divided by two\  
00:30:18.645 - 00:30:20.024  
(0.59)

Prof. Taronger TC eight\  
00:30:20.615 - 00:30:21.445  
(1.01)

Prof. Taronger TC zero\  
00:30:22.455 - 00:30:23.245  
(0.51)

Prof. Taronger TC divided by two\  
00:30:23.755 - 00:30:24.685

Prof. Taronger TC (prof is performing these operations on board)  
00:30:24.685 - 00:30:34.815

Prof. Taronger TC okay/  
00:30:34.815 - 00:30:35.285  
(1.29)

Prof. Taronger TC that will be\_  
00:30:36.575 - 00:30:37.625  
(0.18)

Prof. Taronger TC one zero zero zero zero zero zero\  
00:30:37.805 - 00:30:40.527  
(0.14)

Prof. Taronger TC one zero a:nd\_  
00:30:40.675 - 00:30:42.135  
(1.97)

Prof. Taronger TC seven\_  
00:30:44.105 - 00:30:45.095  
(1.27)

Prof. Taronger TC one unity I mean\  
00:30:46.365 - 00:30:48.105  
(0.15)

Prof. Taronger TC and seven zeroes\  
00:30:48.255 - 00:30:49.515

Prof. Taronger TC (writes zeroes)  
00:30:49.515 - 00:30:53.875  
(0.31)

Prof. Taronger TC okay/  
00:30:54.185 - 00:30:54.795  
(0.69)

Prof. Taronger TC with  
00:30:55.485 - 00:30:56.235  
(0.23)

Prof. Taronger TC EIGHT\_  
00:30:56.465 - 00:30:57.225  
(0.19)

Prof. Taronger TC bits  
00:30:57.415 - 00:30:58.235  
(0.59)

Prof. Taronger TC you can represent  
00:30:58.828 - 00:31:00.168  
(0.39)

Prof. Taronger TC the number one hundred twenty eight\  
00:31:00.558 - 00:31:02.750  
(0.93)

Prof. Taronger TC okay/  
00:31:03.688 - 00:31:04.388  
(3.81)

Prof. Taronger TC well  
00:31:08.198 - 00:31:08.898  
(15.43)

Prof. Taronger TC in the same way\ usually\  
00:31:24.328 - 00:31:26.248  
(0.45)

Prof. Taronger TC a::  
00:31:26.698 - 00:31:27.728  
(0.09)

Prof. Taronger TC in computer science  
00:31:27.818 - 00:31:29.408  
(0.27)

Prof. Taronger TC not only people are using  
00:31:29.678 - 00:31:32.508  
(0.36)

Prof. Taronger TC binary code\  
00:31:32.868 - 00:31:34.038  
(2.45)

Prof. Taronger TC I mean the computers is using binary code right/  
00:31:36.488 - 00:31:39.259  
(0.4)

Prof. Taronger TC but the people  
00:31:39.668 - 00:31:41.098  
(0.38)

Prof. Taronger TC in  
00:31:41.478 - 00:31:42.068  
(0.17)

Prof. Taronger TC the people has to manage  
00:31:42.238 - 00:31:43.618  
(0.09)

Prof. Taronger TC so much\  
00:31:43.708 - 00:31:44.598  
(0.77)

Prof. Taronger TC so much  
00:31:45.368 - 00:31:46.098  
(0.06)

Prof. Taronger TC a: binary characters  
00:31:46.158 - 00:31:47.868  
(0.81)

Prof. Taronger TC usually you can found  
00:31:48.678 - 00:31:50.328  
(0.26)

Prof. Taronger TC just  
00:31:50.588 - 00:31:51.518  
(0.06)

Prof. Taronger TC not solid number with  
00:31:51.578 - 00:31:53.178  
(0.38)

Prof. Taronger TC twenty characters maybe\_ or even more\  
00:31:53.558 - 00:31:57.037  
(0.89)

Prof. Taronger TC then the way\_  
00:31:57.928 - 00:31:59.428  
(0.24)

Prof. Taronger TC that the people can manage  
00:31:59.668 - 00:32:01.418  
(0.06)

Prof. Taronger TC a ot of  
00:32:01.478 - 00:32:02.188  
(0.74)

Prof. Taronger TC a lot a lot of binary code a lot of binary characters\_  
00:32:02.928 - 00:32:06.968  
(0.05)

Prof. Taronger TC is just using another base of codification\  
00:32:07.018 - 00:32:10.743  
(1.65)

Prof. Taronger TC then  
00:32:12.398 - 00:32:13.078  
(1.59)

Prof. Taronger TC the most usual  
00:32:14.668 - 00:32:16.348  
(0.54)

Prof. Taronger TC a:hh  
00:32:16.888 - 00:32:17.948  
(0.42)

Prof. Taronger TC base of codification  
00:32:18.368 - 00:32:19.838  
(0.33)

Prof. Taronger TC in order to treat  
00:32:20.168 - 00:32:21.778  
(0.42)

Prof. Taronger TC bigger numbers\  
00:32:22.198 - 00:32:23.408  
(1.22)

Prof. Taronger TC see/  
00:32:24.628 - 00:32:25.148  
(0.13)

Prof. Taronger TC we need seven  
00:32:25.278 - 00:32:26.668  
(0.14)

Prof. Taronger TC characters just for  
00:32:26.808 - 00:32:28.218

Estudiant 1 TC 00:32:26.808 - 00:32:27.828  
(0.55)

Prof. Taronger TC one hundred twenty eight\  
00:32:28.378 - 00:32:29.728  
(0.54)

Prof. Taronger TC okay/  
00:32:30.268 - 00:32:31.018  
(1.6)

Prof. Taronger TC the way that people work in  
00:32:32.618 - 00:32:35.031  
(0.21)

Prof. Taronger TC in this kind of big numbers is using for example\_  
00:32:35.248 - 00:32:38.556  
(0.07)

Prof. Taronger TC the: octal code\  
00:32:38.628 - 00:32:40.207  
(0.07)

Prof. Taronger TC or the:  
00:32:40.278 - 00:32:41.408  
(0.38)

Prof. Taronger TC e: hexadecimal code\  
00:32:41.788 - 00:32:43.928  
(0.33)

Prof. Taronger TC that means  
00:32:44.258 - 00:32:45.268  
(0.07)

Prof. Taronger TC base  
00:32:45.338 - 00:32:45.968  
(0.08)

Prof. Taronger TC (writing on board)  
00:32:46.048 - 00:32:48.938  
(0.05)

Prof. Taronger TC eight  
00:32:48.988 - 00:32:49.728  
(1.23)

Prof. Taronger TC this is the octal code\  
00:32:50.958 - 00:32:52.838  
(0.91)

Prof. Taronger TC and base  
00:32:53.748 - 00:32:55.278  
(1.0)

Prof. Taronger TC sixteen\ the hexadecimal code\  
00:32:56.278 - 00:32:59.428  
(2.96)

Prof. Taronger TC which are the characters of the:/  
00:33:02.388 - 00:33:04.328  
(0.05)

Prof. Taronger TC octal code/  
00:33:04.378 - 00:33:05.428  
(1.3)

Prof. Taronger TC zero one two three (mou les mans)  
00:33:06.728 - 00:33:08.618  
(0.24)

Prof. Taronger TC four five six and seven\  
00:33:08.858 - 00:33:10.788  
(0.64)

Prof. Taronger TC that's it\  
00:33:11.428 - 00:33:12.018  
(1.56)

Prof. Taronger TC let me write it\  
00:33:13.587 - 00:33:15.118  
(1.17)

Prof. Taronger TC the characters that we can use in the base eight\_  
00:33:16.288 - 00:33:20.013  
(0.56)

Prof. Taronger TC will be zero\_ (writes all this)  
00:33:20.578 - 00:33:21.928  
(0.08)

Prof. Taronger TC one two three four five six seven and that's it\  
00:33:22.008 - 00:33:26.988  
(1.4)

Prof. Taronger TC eight characters\  
00:33:28.388 - 00:33:29.508  
(1.38)

Prof. Taronger TC and\_  
00:33:30.888 - 00:33:31.568  
(0.11)

Prof. Taronger TC how imports/  
00:33:31.678 - 00:33:32.558

Prof. Taronger TC exactly in the same way that the binary code that we have\_  
00:33:32.558 - 00:33:35.738  
(0.27)

Prof. Taronger TC seen so far\  
00:33:36.008 - 00:33:37.158  
(0.29)

Prof. Taronger TC just\_  
00:33:37.448 - 00:33:38.238  
(2.1)

Prof. Taronger TC every\_  
00:33:40.338 - 00:33:41.188  
(0.3)

Prof. Taronger TC every code for example the:  
00:33:41.488 - 00:33:44.088  
(1.83)

Prof. Taronger TC the number  
00:33:45.918 - 00:33:47.038  
(1.41)

Prof. Taronger TC four one\  
00:33:48.453 - 00:33:49.883  
(1.02)

Prof. Taronger TC the number code one\  
00:33:50.903 - 00:33:52.013

Prof. Taronger TC in heximal  
00:33:52.013 - 00:33:53.023  
(0.05)

Prof. Taronger TC i:n octal code\  
00:33:53.073 - 00:33:54.583  
(2.77)

Prof. Taronger TC the weight of this one will be\_  
00:33:57.353 - 00:33:59.763  
(0.24)

Prof. Taronger TC eight to zero\  
00:34:00.003 - 00:34:01.593  
(0.55)

Prof. Taronger TC the weight of the second one will be eight\  
00:34:02.143 - 00:34:05.398  
(0.24)

Prof. Taronger TC to one\  
00:34:05.643 - 00:34:06.383  
(1.03)

Prof. Taronger TC which is which is the value/  
00:34:07.413 - 00:34:09.263  
(0.19)

Prof. Taronger TC the decimal value\  
00:34:09.453 - 00:34:11.823  
(0.78)

Prof. Taronger TC four by:  
00:34:12.603 - 00:34:14.593  
(0.38)

Prof. Taronger TC eight\  
00:34:14.973 - 00:34:15.763

Prof. Taronger TC to one\  
00:34:15.763 - 00:34:16.677  
(0.19)

Prof. Taronger TC plus  
00:34:16.867 - 00:34:17.547  
(0.16)

Prof. Taronger TC one  
00:34:17.707 - 00:34:18.457  
(0.23)

Prof. Taronger TC by eight to zero\  
00:34:18.687 - 00:34:20.637  
(0.55)

Prof. Taronger TC this is  
00:34:21.187 - 00:34:21.997  
(0.69)

Prof. Taronger TC thirty two\  
00:34:22.687 - 00:34:23.937  
(0.92)

Prof. Taronger TC plus one thirty three (writing this)  
00:34:24.857 - 00:34:26.487  
(2.53)

Prof. Taronger TC okay/  
00:34:29.022 - 00:34:29.562  
(0.21)



Prof. Taronger TC this is the thirty three\_ 00:34:29.772 - 00:34:31.082 (0.18)

Prof. Taronger TC in 00:34:31.262 - 00:34:31.992 (0.66)

Prof. Taronger TC decimal code\ 00:34:32.652 - 00:34:33.632 (0.73)

Prof. Taronger TC octal code\ decimal code\ 00:34:34.362 - 00:34:36.536 (1.94)

Prof. Taronger TC and 00:34:38.482 - 00:34:39.292 (0.56)

Prof. Taronger TC the: hexadecimal\_ 00:34:39.852 - 00:34:41.652 (0.23)

Prof. Taronger TC hexadecimal code\ 00:34:41.882 - 00:34:43.472 (0.08)

Prof. Taronger TC we have here a little problem\ 00:34:43.552 - 00:34:45.552 (1.48)

Prof. Taronger TC you see the problem here/ 00:34:47.032 - 00:34:48.392 (0.12)

Prof. Taronger TC which is the problem to codify this/ 00:34:48.512 - 00:34:50.852 (0.14)

Estudiant 2 TC using using two bits for\_ 00:34:50.992 - 00:34:53.072 (0.61)

Estudiant 2 TC two numbers for one bit no/ 00:34:53.682 - 00:34:55.055 (1.62)

Prof. Taronger TC not exactly I mean just before than that\ I\_ 00:34:56.682 - 00:34:59.722 (0.92)

Prof. Taronger TC the problem you see the problem with the characters here/ 00:35:00.647 - 00:35:03.767 (0.31)

Estudiant 2 TC a: the number ten\ 00:35:04.077 - 00:35:05.547 (1.29)

Prof. Taronger TC [mmm] 00:35:06.837 - 00:35:07.507

Estudiant 2 TC això: uf\ bueno com representes el numero deu/ 00:35:07.497 - 00:35:09.607 (0.2)

Prof. Taronger TC [a:h this is the problem you] the see my point\ 00:35:09.807 - 00:35:12.317

Estudiant 2 TC [amb un amb un amb un] (softly) 00:35:09.807 - 00:35:11.647 (1.04)

Estudiant 2 TC two:/ sí\ 00:35:12.687 - 00:35:13.388 (1.81)

Prof. Taronger TC but you need just one character to represent\_ 00:35:15.207 - 00:35:17.807 (0.45)

Prof. Taronger TC ten\ okay/ 00:35:18.257 - 00:35:19.317 (0.71)

Prof. Taronger TC what can we use/

TC	00:35:20.027 - 00:35:21.387 (2.68)
Estudiant 2	(és un eight/?)
TC	00:35:24.067 - 00:35:24.817 (0.69)
Prof. Taronger	eight for example\
TC	00:35:25.507 - 00:35:26.677 (0.47)
Prof. Taronger	characters right/
TC	00:35:27.147 - 00:35:28.137 (0.2)
Prof. Taronger	we can use
TC	00:35:28.337 - 00:35:29.367 (0.62)
Prof. Taronger	a: letter sorry\
TC	00:35:29.987 - 00:35:31.467 (0.3)
Prof. Taronger	we can use letters instead of numbers\
TC	00:35:31.767 - 00:35:34.837 (0.56)
Prof. Taronger	okay/
TC	00:35:35.397 - 00:35:36.007 (0.18)
Prof. Taronger	and this is the right solution_right/
TC	00:35:36.187 - 00:35:38.097 (1.08)
Prof. Taronger	zero one two three four five\ (writing)
TC	00:35:39.177 - 00:35:43.327 (0.46)
Prof. Taronger	six seven eight nine\
TC	00:35:43.787 - 00:35:47.125 (0.31)
Prof. Taronger	now we have a trouble\
TC	00:35:47.435 - 00:35:49.195 (0.19)
Prof. Taronger	ten\
TC	00:35:49.385 - 00:35:49.945 (0.94)
Prof. Taronger	not a problem\
TC	00:35:50.885 - 00:35:52.005 (0.26)
Prof. Taronger	ei\
TC	00:35:52.265 - 00:35:52.815 (0.39)
Prof. Taronger	bi ci di e ef \ (writing letters )
TC	00:35:53.212 - 00:35:59.562 (0.11)
Prof. Taronger	that's it\
TC	00:35:59.672 - 00:36:00.112 (0.64)
Prof. Taronger	SIXTEEN characters\
TC	00:36:00.752 - 00:36:02.412 (1.06)
Prof. Taronger	now we can codify
TC	00:36:03.472 - 00:36:05.192 (0.62)
Prof. Taronger	i:n hexadecimal code\
TC	00:36:05.814 - 00:36:07.484 (2.41)
Prof. Taronger	a:nd
TC	00:36:09.894 - 00:36:10.744 (0.43)
Prof. Taronger	is as easy as easy as we have done the octal code and\
TC	00:36:11.174 - 00:36:15.314 (0.2)

Prof. Taronger TC in the same way that we translate\_ 00:36:15.514 - 00:36:17.724 (0.16)

Prof. Taronger TC from decimal 00:36:17.884 - 00:36:19.958 (0.14)

Prof. Taronger TC to: binary is exactly the same\_ 00:36:20.104 - 00:36:22.484 (0.91)

Prof. Taronger TC if we have a: any number 00:36:23.394 - 00:36:26.422 (0.58)

Prof. Taronger TC any number i:n a 00:36:27.004 - 00:36:28.604 (0.27)

Prof. Taronger TC a:h 00:36:28.874 - 00:36:29.884 (0.29)

Prof. Taronger TC hexadecimal for example 00:36:30.174 - 00:36:32.017 (1.65)

Estudiant 2 TC xx 00:36:33.668 - 00:36:34.018 (1.73)

Prof. Taronger TC a:hh 00:36:35.754 - 00:36:36.554 (1.8)

Prof. Taronger TC one ef\ 00:36:38.356 - 00:36:39.844 (0.71)

Prof. Taronger TC one ef\ 00:36:40.554 - 00:36:41.304 (0.35)

Prof. Taronger TC okay/ 00:36:41.654 - 00:36:42.304 (0.04)

Prof. Taronger TC one ef 00:36:42.344 - 00:36:43.214 (0.12)

Prof. Taronger TC is a number in hexadecimal\ 00:36:43.334 - 00:36:45.574 (4.2)

Prof. Taronger TC the weight of the first 00:36:49.782 - 00:36:51.722 (0.55)

Prof. Taronger TC character 00:36:52.272 - 00:36:53.222 (0.18)

Prof. Taronger TC is 00:36:53.402 - 00:36:53.822 (0.1)

Prof. Taronger TC just sixteen\_ 00:36:53.922 - 00:36:55.412 (0.13)

Prof. Taronger TC to zero\ 00:36:55.542 - 00:36:56.412 (1.09)

Prof. Taronger TC sixteen\ (writing this) 00:36:57.502 - 00:36:59.102 (1.35)

Prof. Taronger TC to zero\ 00:37:00.452 - 00:37:01.222 (0.2)

Prof. Taronger TC and the other one could be sixteen to one\ 00:37:01.422 - 00:37:04.212 (0.54)

Prof. Taronger TC	okay/ 00:37:04.752 - 00:37:05.472 (0.65)
Prof. Taronger TC	this 00:37:06.122 - 00:37:07.222 (0.31)
Prof. Taronger TC	one\ 00:37:07.532 - 00:37:08.332 (0.06)
Prof. Taronger TC	this is one by sixteen to one plus ef (writing) 00:37:08.392 - 00:37:13.342 (0.13)
Prof. Taronger TC	okay now\ 00:37:13.472 - 00:37:14.852 (0.12)
Prof. Taronger TC	ef what/ 00:37:14.972 - 00:37:16.082 (0.05)
Prof. Taronger decimal\ TC	what does it mean decimal in that case because here we are translating to 00:37:16.132 - 00:37:21.132 (0.14)
Prof. Taronger TC	eh\ 00:37:21.281 - 00:37:21.671 (0.17)
Prof. Taronger TC	quin és el valor aquí amb aquest cas [de efa] [en decimal]/ 00:37:21.841 - 00:37:24.731
Estudiant 2 TC	[quinze] (soft voice) 00:37:23.587 - 00:37:24.097
Estudiant 3 TC	00:37:23.587 - 00:37:23.727 (0.17)
Estudiant 4 TC	[quinze] 00:37:23.902 - 00:37:24.429 (0.35)
Estudiant 2 TC	[fifteen] 00:37:24.782 - 00:37:25.232
Estudiant 3 TC	[quinze] 00:37:25.102 - 00:37:25.452 (0.04)
Estudiant 4 TC	fifteen\ 00:37:25.492 - 00:37:25.982 (1.36)
Prof. Taronger TC	voleu dir/ 00:37:27.342 - 00:37:28.352 (0.15)
Estudiant 1 TC	xx\ 00:37:28.502 - 00:37:29.062 (1.8)
Prof. Taronger TC	el el efa és setze/ 00:37:30.862 - 00:37:32.675 (0.05)
Prof. Taronger TC	00:37:32.726 - 00:37:33.016
Estudiant 5 TC	quinze\ 00:37:32.726 - 00:37:33.016 (0.42)
Estudiant 2 TC	quinze\ [bueno quinze\ 00:37:33.436 - 00:37:35.116
Prof. Taronger TC	[quinze\ 00:37:34.206 - 00:37:34.856
Estudiant 6 TC	quinze\ 00:37:34.766 - 00:37:35.246

Prof. Taronger TC quinze\  
00:37:35.246 - 00:37:36.316

Estudiant 2 TC fifty\  
00:37:36.316 - 00:37:36.926  
(53.19)

Prof. Taronger TC if you have to translate between\_  
00:38:30.122 - 00:38:32.732  
(0.04)

Prof. Taronger TC a:  
00:38:32.772 - 00:38:33.772  
(0.06)

Prof. Taronger TC hexadecimal to binary\  
00:38:33.832 - 00:38:35.562  
(0.36)

Prof. Taronger TC what can we do/  
00:38:35.922 - 00:38:37.461  
(1.87)

Prof. Taronger TC we can for example translate between\_  
00:38:39.332 - 00:38:42.742  
(0.2)

Prof. Taronger TC hexadecimal to decimal and then\_  
00:38:42.942 - 00:38:45.532  
(0.22)

Prof. Taronger TC to binary/  
00:38:45.752 - 00:38:46.682  
(1.09)

Prof. Taronger TC right/ why not\  
00:38:47.772 - 00:38:48.712  
(0.58)

Prof. Taronger TC we can use the:  
00:38:49.292 - 00:38:50.742  
(0.5)

Prof. Taronger TC the binary as  
00:38:51.242 - 00:38:52.942  
(0.4)

Prof. Taronger TC just  
00:38:53.342 - 00:38:54.052  
(0.85)

Prof. Taronger TC sorry\ we can use the decimal just\_  
00:38:54.902 - 00:38:57.102  
(0.11)

Prof. Taronger TC a:  
00:38:57.212 - 00:38:58.072  
(1.33)

Prof. Taronger TC just an step\_  
00:38:59.402 - 00:39:00.432  
(0.31)

Prof. Taronger TC between this translation right/  
00:39:00.742 - 00:39:02.212  
(1.27)

Prof. Taronger TC okay/  
00:39:03.482 - 00:39:04.452  
(0.35)

Prof. Taronger TC podem traduir\_  
00:39:04.802 - 00:39:05.852  
(0.53)

Prof. Taronger TC o podem\_  
00:39:06.382 - 00:39:07.532  
(0.25)

Prof. Taronger TC a: canviar la codificació fàcilment\  
00:39:07.782 - 00:39:10.522  
(0.23)

Prof. Taronger TC de hexadecimal\_  
00:39:10.752 - 00:39:12.102  
(0.07)

Prof. Taronger TC a binari passant pel decimal sempre\  
00:39:12.172 - 00:39:14.472  
(0.21)

Prof. Taronger TC i al revés igual\  
00:39:14.682 - 00:39:15.802  
(0.41)

Prof. Taronger TC vale/  
00:39:16.212 - 00:39:16.652  
(0.51)

Prof. Taronger TC ara quina és l'avantatge de l'hexadecimal/ per què ens hem de complicar  
tant la vida/  
00:39:17.162 - 00:39:21.474  
(0.67)

Prof. Taronger TC pues  
00:39:22.152 - 00:39:22.612  
(0.12)

Prof. Taronger TC l'avantatge està  
00:39:22.732 - 00:39:24.152  
(0.07)

Prof. Taronger TC en que  
00:39:24.227 - 00:39:25.267  
(0.78)

Prof. Taronger TC setze  
00:39:26.047 - 00:39:27.477  
(0.96)

Prof. Taronger TC quants caràcters binaris nece necessitem per codificar setze/  
00:39:28.437 - 00:39:32.047  
(0.62)

Estudiant 2 TC setze\  
00:39:32.672 - 00:39:32.967  
(1.21)

Estudiant 2 TC dos no/  
00:39:34.182 - 00:39:34.882  
(0.17)

Prof. Taronger TC no\  
00:39:35.052 - 00:39:35.362  
(0.45)

Prof. Taronger TC MÉS\  
00:39:35.812 - 00:39:36.342  
(0.35)

Estudiant 3 TC quinze\  
00:39:36.692 - 00:39:37.042  
(1.22)

Estudiant 2 TC a: no\ set dos bites repre-  
00:39:38.262 - 00:39:39.962  
(0.44)

Estudiant 2 TC si utilitzem  
00:39:40.402 - 00:39:41.432  
(0.09)

Prof. Taronger TC per codificar setze a: coses\_  
00:39:41.522 - 00:39:44.372  
(0.1)

Prof. Taronger TC per comptar fins a setze quants bits necessites /  
00:39:44.472 - 00:39:47.062  
(0.41)

Estudiant 3 TC quinze\  
00:39:47.475 - 00:39:47.735  
(0.54)

Estudiant 2 TC [bits\  
00:39:48.275 - 00:39:48.795

Prof. Taronger TC [no\  
00:39:48.301 - 00:39:48.821  
(0.11)

Estudiant 2 TC bits setze\ bites dos\ no/  
00:39:48.935 - 00:39:50.324  
(0.36)

Prof. Taronger TC	[no no no no\ 00:39:50.691 - 00:39:51.811
Estudiant 2 TC	[no són no\ binaris\ 00:39:50.691 - 00:39:52.351 (0.55)
Estudiant 5 TC	no eren quatre/ no/ 00:39:52.901 - 00:39:54.611 (0.58)
Prof. Taronger TC	per comptar fins a quinze 00:39:55.191 - 00:39:57.371 (0.83)
Prof. Taronger TC	quants necessitem/ 00:39:58.201 - 00:39:59.331 (0.06)
Estudiant 2 TC	[ah vale vale vale xx \ 00:39:59.391 - 00:40:00.832
Prof. Taronger TC	[Cynthia\ 00:39:59.571 - 00:40:00.321
Estudiant 1 TC	quatre\ 00:40:00.311 - 00:40:01.191 (0.21)
Prof. Taronger TC	quatre\ (assentint) 00:40:01.407 - 00:40:02.227 (1.28)
Prof. Taronger TC	amb quatre compteu fins a quinze\ 00:40:03.507 - 00:40:05.280 (1.69)
Prof. Taronger TC	anem a veure-ho\ 00:40:06.977 - 00:40:08.257
Prof. Taronger TC	(escribint pissarra) 00:40:08.257 - 00:40:09.287 (0.13)
Prof. Taronger TC	this is the maximum this is the maximum number that we can count_ 00:40:09.417 - 00:40:13.927 (0.09)
Prof. Taronger TC	using binary code right/ 00:40:14.017 - 00:40:16.017 (1.18)
Prof. Taronger TC	(writing) 00:40:17.197 - 00:40:19.237 (0.47)
Prof. Taronger TC	a:\ 00:40:19.707 - 00:40:20.537 (0.07)
Prof. Taronger TC	this is two zero to to one\ 00:40:20.607 - 00:40:24.687 (0.54)
Prof. Taronger TC	to to two\ 00:40:25.227 - 00:40:26.087 (0.09)
Prof. Taronger TC	and two to three\ 00:40:26.177 - 00:40:27.487 (0.45)
Prof. Taronger TC	okay/ 00:40:27.937 - 00:40:28.647 (1.34)
Prof. Taronger TC	this is equivalent\ 00:40:29.987 - 00:40:31.377 (0.09)
Prof. Taronger TC	one by : 00:40:31.467 - 00:40:32.807 (0.61)
Prof. Taronger TC	to to three that's one\ 00:40:33.417 - 00:40:35.832

(0.19)

Prof. Taronger TC by two two (writing all this)  
00:40:36.027 - 00:40:37.597  
(0.24)

Prof. Taronger TC (making operations on board and speaking softly) one by one\_  
00:40:37.837 - 00:40:43.317  
(0.07)

Prof. Taronger TC okay/  
00:40:43.393 - 00:40:44.393  
(0.17)

Prof. Taronger TC this is\_  
00:40:44.563 - 00:40:45.463  
(0.08)

Prof. Taronger TC eight\  
00:40:45.543 - 00:40:46.473  
(1.35)

Prof. Taronger TC plus four\  
00:40:47.823 - 00:40:48.783  
(0.71)

Prof. Taronger TC plus two\  
00:40:49.493 - 00:40:50.633  
(0.05)

Prof. Taronger TC plus one\  
00:40:50.683 - 00:40:52.013  
(1.55)

Prof. Taronger TC ten fourteen fifteen\  
00:40:53.563 - 00:40:55.373  
(2.66)

Prof. Taronger TC we can count till fifteen\_  
00:40:58.033 - 00:41:00.713  
(0.29)

Prof. Taronger TC just using\_  
00:41:01.003 - 00:41:02.053  
(0.46)

Prof. Taronger TC four bits (signalling with hand)  
00:41:02.513 - 00:41:04.133  
(1.58)

Prof. Taronger TC this is\_  
00:41:05.713 - 00:41:06.193  
(0.2)

Prof. Taronger TC how many bytes/  
00:41:06.393 - 00:41:07.333  
(1.19)

Estudiant 2 TC a:/  
00:41:08.523 - 00:41:08.763  
(0.08)

Prof. Taronger TC four bits  
00:41:08.843 - 00:41:09.403  
(0.31)

Estudiant 2 TC four bits/  
00:41:09.713 - 00:41:10.423  
(0.5)

Estudiant 2 TC bits\ no/  
00:41:10.923 - 00:41:11.683  
(0.84)

Prof. Taronger TC mm\  
00:41:12.523 - 00:41:12.863  
(0.45)

Prof. Taronger TC no\  
00:41:13.313 - 00:41:13.743

Estudiant 2 TC [one]\  
00:41:13.743 - 00:41:14.143

Prof. Taronger TC [four] bits are\_  
00:41:13.823 - 00:41:15.163  
(0.28)



Prof. Taronger TC how many bytes/  
00:41:15.443 - 00:41:16.353  
(0.63)

Estudiant 3 TC quants bytes/  
00:41:16.983 - 00:41:17.393  
(1.0)

Prof. Taronger TC remember [tha- that one bite is] eight bit s right/  
00:41:18.393 - 00:41:21.373

Estudiant 1 TC [eight\  
00:41:19.163 - 00:41:19.633

Estudiant 2 TC [eight]  
00:41:19.613 - 00:41:19.973

Estudiant 3 TC [eight]  
00:41:19.923 - 00:41:20.313  
(1.07)

Prof. Taronger TC if you have four bits you can count just\_  
00:41:21.383 - 00:41:23.943  
(0.14)

Prof. Taronger TC the half right/  
00:41:24.083 - 00:41:25.373

Estudiant 6 TC half\  
00:41:24.913 - 00:41:25.363  
(0.59)

Prof. Taronger TC half of them\_  
00:41:25.953 - 00:41:27.173  
(0.78)

Prof. Taronger TC per example\  
00:41:27.953 - 00:41:28.973  
(0.37)

Prof. Taronger TC remember the number that we have obtained the \_  
00:41:29.343 - 00:41:32.113  
(0.21)

Prof. Taronger TC that you told us the one hundred twenty eight/  
00:41:32.323 - 00:41:35.183  
(0.22)

Prof. Taronger TC the one that we have translated\ remember/  
00:41:35.403 - 00:41:37.883  
(0.57)

Prof. Taronger TC el que ens has demanat per passar de decimal a un de més gran\  
00:41:38.453 - 00:41:42.564  
(0.53)

Prof. Taronger TC el cent-vint-i-vuit\ quant ens donava aquell/  
00:41:43.103 - 00:41:45.483  
(1.41)

Estudiant 2 TC vuit bits\  
00:41:46.893 - 00:41:47.493

Estudiant 1 TC [vuit\  
00:41:47.493 - 00:41:47.873

Estudiant 5 TC (vuitanta?)  
00:41:47.803 - 00:41:48.573  
(0.09)

Estudiant 2 TC amb vuit\_  
00:41:48.663 - 00:41:49.193  
(0.03)

Estudiant 7 TC xxxx  
00:41:49.223 - 00:41:49.753  
(0.73)

Prof. Taronger TC un byte\  
00:41:50.483 - 00:41:51.613  
(0.14)

Prof. Taronger TC eight bits\ we need eight bits\  
00:41:51.753 - 00:41:54.830  
(0.32)

Prof. Taronger TC one and seven zeroes\_ right/  
00:41:55.153 - 00:41:57.893  
(1.28)

Prof. Taronger TC one zero zero zero\ zero zero zero zero\ (writing)  
00:41:59.173 - 00:42:04.063  
(2.6)

Prof. Taronger TC take a look at that\  
00:42:06.663 - 00:42:08.033  
(0.13)

Prof. Taronger TC is as easy as just translate in groups of four\  
00:42:08.163 - 00:42:12.033  
(2.76)

Prof. Taronger TC this number of here in hexadecimal\_  
00:42:14.797 - 00:42:17.333  
(1.22)

Prof. Taronger TC which is/  
00:42:18.553 - 00:42:19.303  
(0.24)

Estudiant 2 TC zero\  
00:42:19.543 - 00:42:19.833  
(0.32)

Prof. Taronger TC zero\  
00:42:20.161 - 00:42:20.671  
(2.31)

Prof. Taronger TC and this/  
00:42:22.981 - 00:42:23.751  
(0.7)

Estudiant 2 TC zero\  
00:42:24.451 - 00:42:24.671  
(0.42)

Prof. Taronger TC no\  
00:42:25.091 - 00:42:25.581  
(0.37)

Prof. Taronger TC one zero zero [zero what] number is is hexadecimal/  
00:42:25.951 - 00:42:29.479

Estudiant 2 TC [a:h\  
00:42:26.841 - 00:42:27.271  
(5.76)

Estudiant 2 TC xxx  
00:42:33.031 - 00:42:33.281  
(1.21)

Prof. Taronger TC mmm\ this is binary code\  
00:42:34.491 - 00:42:36.481  
(0.54)

Prof. Taronger TC this is binary\  
00:42:37.021 - 00:42:38.121  
(7.34)

Prof. Taronger TC two to zero\ two to one\ two to\_  
00:42:45.469 - 00:42:47.649  
(0.77)

Prof. Taronger TC eight/  
00:42:48.419 - 00:42:48.909  
(3.09)

Prof. Taronger TC sorry two to zero two to one two to two and two to three\ this is to\_  
00:42:51.999 - 00:42:55.669  
(0.17)

Estudiant 2 TC eight\  
00:42:55.843 - 00:42:56.113  
(0.29)

Prof. Taronger TC is a power of two\  
00:42:56.403 - 00:42:58.213  
(0.23)

Prof. Taronger TC to three right/  
00:42:58.443 - 00:42:59.273  
(0.1)

Prof. Taronger TC eight\ exactly\  
00:42:59.373 - 00:43:00.323  
(0.66)

Prof. Taronger TC this is eight and the rest are zeros\  
00:43:00.983 - 00:43:03.283  
(0.69)

Prof. Taronger TC is this just the number eight (showing #)  
00:43:03.973 - 00:43:05.283  
(0.87)

Prof. Taronger TC okay/  
00:43:06.153 - 00:43:06.873  
(2.21)

Prof. Taronger TC if you translate that to decimal is eight\  
00:43:09.085 - 00:43:11.535  
(0.62)

Prof. Taronger TC is that right/  
00:43:12.155 - 00:43:12.935  
(1.49)

Prof. Taronger TC and eight in decimal  
00:43:14.425 - 00:43:16.715  
(0.58)

Prof. Taronger TC how is represented in hexadecimal\  
00:43:17.295 - 00:43:19.545  
(2.02)

Prof. Taronger TC el numero vuit amb decimal com es representa en hexadecimal/  
00:43:21.565 - 00:43:24.505  
(1.17)

Unknown Student TC eight\  
00:43:25.683 - 00:43:26.043  
(0.82)

Prof. Taronger TC igual no/  
00:43:26.865 - 00:43:27.935  
(1.42)

Prof. Taronger TC now  
00:43:29.355 - 00:43:30.095  
(0.41)

Prof. Taronger TC eight zero  
00:43:30.505 - 00:43:31.795  
(1.1)

Prof. Taronger TC one hundred twenty eight in decimal is exactly the same that\_ (writing on board)  
00:43:32.895 - 00:43:37.495  
(0.24)

Prof. Taronger TC one\  
00:43:37.735 - 00:43:38.525  
(0.1)

Prof. Taronger TC sorry\ eight zero in  
00:43:38.625 - 00:43:40.515  
(0.15)

Prof. Taronger TC hexadecimal\  
00:43:40.665 - 00:43:41.854  
(4.09)

Prof. Taronger TC and this is the: the reason\_  
00:43:45.945 - 00:43:48.255  
(0.47)

Prof. Taronger TC because  
00:43:48.725 - 00:43:49.775  
(0.09)

Prof. Taronger TC many\  
00:43:49.865 - 00:43:50.955  
(0.17)

Prof. Taronger TC many places are using hexadecimal instead of binary\  
00:43:51.125 - 00:43:54.686  
(1.27)

Prof. Taronger TC in order to just  
00:43:55.965 - 00:43:57.785

(0.53)

Prof. Taronger  
TC a:hh  
00:43:58.315 - 00:43:59.335  
(0.36)

Prof. Taronger  
TC short  
00:43:59.695 - 00:44:00.535  
(0.26)

Prof. Taronger  
TC the number  
00:44:00.795 - 00:44:01.875  
(1.07)

Prof. Taronger  
TC to use\  
00:44:02.945 - 00:44:03.765  
(2.34)

Prof. Taronger  
TC agrupant en numeros de quatre agru- agrupant de quatre en quatre bits\_  
00:44:06.105 - 00:44:10.215  
(0.37)

Prof. Taronger  
TC ens permet ficar una xifra hexadecimal\  
00:44:10.585 - 00:44:12.965  
(1.0)

Prof. Taronger  
TC veieu/  
00:44:13.970 - 00:44:14.580  
(0.08)

Prof. Taronger  
TC aquesta xifra binària amb hexadecimal és vuit\  
00:44:14.660 - 00:44:17.640  
(1.16)

Prof. Taronger  
TC i el número que no sé quin és eh/ el número aquest\  
00:44:18.800 - 00:44:21.880  
(1.13)

Prof. Taronger  
TC ara no sé què és en decimal això eh/  
00:44:23.010 - 00:44:27.020  
(0.15)

Prof. Taronger  
TC però aquest número en binari\_  
00:44:27.173 - 00:44:29.213  
(0.27)

Prof. Taronger  
TC com seria passat ràpidament a hexadecimal/  
00:44:29.483 - 00:44:32.783  
(0.2)

Prof. Taronger  
TC agrupant de quatre en quatre ho passem ràpid\  
això és zero i això és/  
00:44:32.983 - 00:44:36.103  
(0.28)

Estudiant 2  
TC màxim\  
00:44:36.383 - 00:44:36.873  
(0.89)

Prof. Taronger  
TC el màxim no/que és quinze \ no/  
00:44:37.763 - 00:44:39.363

Estudiant 2  
TC si\  
00:44:38.934 - 00:44:39.424  
(0.12)

Prof. Taronger  
TC i que és/ quan és quinze en hexadecimal/  
00:44:39.553 - 00:44:41.703  
(0.06)

Estudiant 2  
TC efa\  
00:44:41.763 - 00:44:42.053  
(0.42)

Prof. Taronger  
TC [efa\  
00:44:42.473 - 00:44:43.033

Estudiant 6  
TC [ xxxxxxxx]  
00:44:42.553 - 00:44:44.053  
(0.91)

Prof. Taronger  
TC [ho veieu/  
00:44:44.963 - 00:44:45.713  
(0.15)

Prof. Taronger  
TC el\_  
00:44:45.863 - 00:44:46.653  
(0.2)

Prof. Taronger TC ens permet traduir fàcilment\_ 00:44:46.853 - 00:44:48.693 (0.13)

Prof. Taronger TC i vuit\ un byte\ 00:44:48.823 - 00:44:50.623 (0.07)

Prof. Taronger TC es representarà només amb dues xifres hexadecimal\ 00:44:50.693 - 00:44:54.043 (0.45)

Prof. Taronger TC i això és la raó per la qual s'utilitza l'hexadecimal\ 00:44:54.493 - 00:44:57.201 (0.25)

Prof. Taronger TC perquè fer anar quatre bits és molt fàcil\ 00:44:57.452 - 00:45:00.092 (0.5)

Prof. Taronger TC fer anar trenta-dos bits és molt difícil\ 00:45:00.592 - 00:45:03.052 (0.79)

Prof. Taronger TC si els teniu que escriure tots\ 00:45:03.842 - 00:45:05.312 (0.75)

Prof. Taronger TC és molt fàcil equivocar-se\ 00:45:06.062 - 00:45:07.872 (0.43)

Prof. Taronger TC aleshores moltes vegades s'entren els numeros els binaris i els no binaris s'entren en hexadecimal\ 00:45:08.302 - 00:45:13.372 (0.12)

Estudiant 2 TC llavors\_ 00:45:13.492 - 00:45:13.902 (0.28)

Estudiant 3 TC xxxx de cuatro en cuatro\ 00:45:14.182 - 00:45:15.952 (0.1)

Estudiant 3 TC lo haces para xxxxxx[decimal\] 00:45:16.052 - 00:45:18.592

Prof. Taronger TC [exacto\] 00:45:17.952 - 00:45:18.592 (0.12)

Estudiant 3 TC si: 00:45:18.716 - 00:45:19.076 (0.15)

Estudiant 3 TC fuera decimal tendria que coger una serie de ocho\ no/ 00:45:19.226 - 00:45:21.526 (1.59)

Prof. Taronger TC si fuera/ 00:45:23.116 - 00:45:23.926 (0.1)

Estudiant 3 TC si fuera para pasarlo a decimal\_ 00:45:24.026 - 00:45:25.756 (1.0)

Prof. Taronger TC si fuera para pasarlo al decimal entonces haríamos lo que hemos hecho siempre\ multiplicar por las potencias\ 00:45:26.756 - 00:45:31.636 (0.24)

Prof. Taronger TC pero és más fàcil así\ 00:45:31.876 - 00:45:33.156 (0.13)

Prof. Taronger TC verdad/ 00:45:33.286 - 00:45:33.776 (1.53)

Prof. Taronger TC a:h I'm 00:45:35.306 - 00:45:36.846 (0.22)

Prof. Taronger TC we can make an analogy now with the octal code/

TC	00:45:37.066 - 00:45:40.955 (0.99)
Prof. Taronger TC	octal code\ how many characters_ 00:45:41.946 - 00:45:44.977 (0.56)
Estudiant 2 TC	three\ 00:45:45.546 - 00:45:45.966 (0.36)
Estudiant 2 TC	no/ 00:45:46.326 - 00:45:46.616 (0.08)
Estudiant 2 TC	three\ 00:45:46.696 - 00:45:46.946 (0.18)
Prof. Taronger TC	e:h\ 00:45:47.126 - 00:45:47.516 (0.47)
Prof. Taronger TC	a: complete your your answer please\ 00:45:47.986 - 00:45:50.585 (0.56)
Prof. Taronger TC	what is three/ 00:45:51.146 - 00:45:52.026 (0.55)
Estudiant 2 TC	three: bytes/ 00:45:52.576 - 00:45:53.716 (0.3)
Estudiant 2 TC	bits or bits/ 00:45:54.018 - 00:45:54.568
Prof. Taronger TC	bits\ (nodding) 00:45:54.568 - 00:45:54.968
Estudiant 2 TC	bits\ 00:45:54.978 - 00:45:55.438 (1.36)
Estudiant 2 TC	perquè són (? tots\)) (flux) 00:45:56.805 - 00:45:58.265 (0.26)
Prof. Taronger TC	three bits you can [ count ] till_ 00:45:58.525 - 00:46:00.685
Estudiant 2 TC	xxx 00:45:59.215 - 00:45:59.665 (4.33)
Prof. Taronger TC	with [three bits] you can count from zero to_ 00:46:03.995 - 00:46:06.695
Estudiant 2 TC	[three bits] 00:46:04.295 - 00:46:04.795 (2.85)
Estudiant 8 TC	to eight\ 00:46:07.645 - 00:46:08.065 (0.14)
Estudiant 8 TC	to one\ 00:46:08.205 - 00:46:08.835 (0.21)
Prof. Taronger TC	this is the octal code\ with three bits you can count can count easily_ 00:46:09.045 - 00:46:14.655 (0.96)
Prof. Taronger TC	right/ 00:46:15.615 - 00:46:16.235 (0.67)
Prof. Taronger TC	eight_ 00:46:16.905 - 00:46:17.645 (0.39)
Prof. Taronger TC	things\ whatever but EIGHT things\ 00:46:18.035 - 00:46:20.831 (0.3)

Prof. Taronger TC if you group if you make a: a group of three bits \_  
00:46:21.135 - 00:46:25.595

Prof. Taronger TC you can translate that  
00:46:25.595 - 00:46:27.465  
(0.4)

Prof. Taronger TC to octal code\  
00:46:27.871 - 00:46:29.281  
(0.44)

Prof. Taronger TC let's do that as an exercise\  
00:46:29.721 - 00:46:33.281  
(4.34)

Prof. Taronger TC let's go to translate THIS binary code to octal now\  
00:46:37.621 - 00:46:42.171  
(0.66)

Prof. Taronger TC using exactly the same technique\  
00:46:42.831 - 00:46:44.751  
(0.24)

Prof. Taronger TC right/  
00:46:44.991 - 00:46:45.711  
(0.12)

Prof. Taronger TC making groups of THREE\  
00:46:45.831 - 00:46:48.271  
(0.08)

Prof. Taronger TC because three are\_  
00:46:48.351 - 00:46:50.461

Estudiant 7 TC (el uno?) \  
00:46:50.471 - 00:46:51.001  
(0.58)

Prof. Taronger TC a total amount of eight  
00:46:51.581 - 00:46:54.131  
(0.13)

Prof. Taronger TC numbers\  
00:46:54.261 - 00:46:55.201  
(4.55)

Prof. Taronger TC three\  
00:46:59.751 - 00:47:00.441  
(0.99)

Prof. Taronger TC three and what  
00:47:01.431 - 00:47:03.011  
(0.56)

Prof. Taronger TC I have a trouble here\  
00:47:03.571 - 00:47:05.181  
(1.6)

Prof. Taronger TC what can we do/  
00:47:06.781 - 00:47:07.941  
(0.08)

Prof. Taronger TC I need another one\  
00:47:08.021 - 00:47:09.091  
(0.04)

Estudiant 2 TC zero\ (softly)  
00:47:09.131 - 00:47:09.491

Estudiant 8 TC zero\ (very softly)  
00:47:09.487 - 00:47:09.707  
(0.21)

Prof. Taronger TC zero\ exactly\  
00:47:09.917 - 00:47:11.137  
(0.36)

Prof. Taronger TC very good\  
00:47:11.497 - 00:47:12.227  
(0.47)

Prof. Taronger TC we can put a zero here\  
00:47:12.697 - 00:47:14.377  
(0.15)

Prof. Taronger TC okay/  
00:47:14.527 - 00:47:15.167

(0.12)

Prof. Taronger  
TC and now we can just  
00:47:15.287 - 00:47:17.607  
(0.62)

Prof. Taronger  
TC we can just a: translate  
00:47:18.227 - 00:47:20.327  
(0.09)

Prof. Taronger  
TC these three groups of three\  
00:47:20.417 - 00:47:22.357  
(0.5)

Prof. Taronger  
TC this is zero\  
00:47:22.857 - 00:47:24.117  
(0.32)

Prof. Taronger  
TC this is  
00:47:24.437 - 00:47:25.207  
(1.56)

Estudiant 2  
TC u: (molt fluix)  
00:47:26.772 - 00:47:27.082  
(1.13)

Estudiant 2  
TC u zero\ (molt fluix)  
00:47:28.212 - 00:47:28.842  
(3.43)

Prof. Taronger  
TC you can mmake that  
00:47:32.272 - 00:47:33.552  
(0.87)

Prof. Taronger  
TC a little a little bit fast/  
00:47:34.422 - 00:47:36.192  
(0.2)

Estudiant 8  
TC four bits\  
00:47:36.392 - 00:47:36.732  
(0.71)

Estudiant 2  
TC one one one and set\  
00:47:37.442 - 00:47:39.052  
(0.47)

Estudiant 2  
TC seven ( no?)\  
00:47:39.522 - 00:47:40.302  
(0.52)

Prof. Taronger  
TC this is  
00:47:40.822 - 00:47:41.632  
(0.17)

Prof. Taronger  
TC the weight of this is one right/  
00:47:41.802 - 00:47:43.492

Estudiant 2  
TC right\  
00:47:43.492 - 00:47:43.692

Prof. Taronger  
TC one by zero is zero\  
00:47:43.692 - 00:47:45.252  
(0.25)

Prof. Taronger  
TC the weight of this is two\  
00:47:45.502 - 00:47:47.602

Unknown Student  
TC dos\  
00:47:47.163 - 00:47:47.573  
(0.18)

Prof. Taronger  
TC two by one is  
00:47:47.756 - 00:47:48.726  
(1.13)

Prof. Taronger  
TC two\  
00:47:49.856 - 00:47:50.226  
(0.19)

Prof. Taronger  
TC and this is  
00:47:50.416 - 00:47:51.246  
(0.11)

Prof. Taronger  
TC four right/  
00:47:51.356 - 00:47:52.116  
(0.33)



EStudent 6 TC	quatre dos sis set set\ 00:47:52.449 - 00:47:53.340 (0.22)
Estudiant 3 TC	xxx 00:47:53.569 - 00:47:53.977 (1.39)
Prof. Taronger TC	no\ seven is not possible\ this [is]_ 00:47:55.369 - 00:47:57.379
Estudiant 2 TC	[seven]\ 00:47:57.109 - 00:47:57.389
Estudiant 3 TC	six\ 00:47:57.359 - 00:47:57.703 (0.28)
Unknown Student TC	[six] 00:47:57.989 - 00:47:58.559
EStudent 6 TC	[six\ 00:47:57.999 - 00:47:58.559 (0.04)
Prof. Taronger TC	six [exactly]\ (writes 6) 00:47:58.599 - 00:47:59.639
Unknown Student TC	[six\ 00:47:59.139 - 00:47:59.589 (1.03)
Prof. Taronger TC	and this one/ 00:48:00.619 - 00:48:01.889 (0.11)
Prof. Taronger TC	this is easy\ 00:48:01.999 - 00:48:02.899 (0.4)
Estudiant 2 TC	three\ no\ four\ 00:48:03.299 - 00:48:04.499 (0.18)
Estudiant 2 TC	no\ 00:48:04.679 - 00:48:04.859 (0.43)
EStudent 6 TC	no\ three\ 00:48:05.289 - 00:48:06.579 (0.15)
Prof. Taronger TC	three\ (then writes 3) 00:48:06.729 - 00:48:07.359 (3.1)
Prof. Taronger TC	okay/ 00:48:10.459 - 00:48:11.109 (0.33)
Prof. Taronger TC	this is the same number in octal\ 00:48:11.439 - 00:48:13.790 (5.72)
Prof. Taronger TC	a: i: 00:48:19.519 - 00:48:20.679 (0.63)
Prof. Taronger TC	now you_ 00:48:21.309 - 00:48:22.459 (0.15)
Prof. Taronger TC	are you seeing the the advantage_ 00:48:22.609 - 00:48:24.748 (0.57)
Prof. Taronger TC	working_ 00:48:25.319 - 00:48:26.279 (0.44)
Prof. Taronger TC	in octal and hexadecimal_ 00:48:26.719 - 00:48:28.729 (0.56)
Prof. Taronger TC	is not for_ 00:48:29.294 - 00:48:30.634 (0.49)

Prof. Taronger  
TC usual  
00:48:31.124 - 00:48:32.344  
(0.07)

Prof. Taronger  
TC is not for usual writing  
00:48:32.414 - 00:48:34.347  
(0.05)

Prof. Taronger  
TC in your common life\  
00:48:34.405 - 00:48:35.955  
(0.08)

Prof. Taronger  
TC no\  
00:48:36.035 - 00:48:36.515  
(0.22)

Prof. Taronger  
TC you only are going to use this kind of binary code\_  
00:48:36.735 - 00:48:39.895  
(0.07)

Prof. Taronger  
TC if you have to deal with big very big numbers\_  
00:48:39.965 - 00:48:44.357  
(0.53)

Prof. Taronger  
TC in binary\ in binary code\  
00:48:44.895 - 00:48:47.365  
(0.2)

Prof. Taronger  
TC okay/  
00:48:47.565 - 00:48:48.095  
(0.38)

Prof. Taronger  
TC instead of write  
00:48:48.475 - 00:48:50.526  
(0.53)

Prof. Taronger  
TC thirty two numbers\  
00:48:51.056 - 00:48:52.646  
(0.58)

Prof. Taronger  
TC you can write  
00:48:53.235 - 00:48:54.575  
(0.11)

Prof. Taronger  
TC how many hexadecimal/  
00:48:54.685 - 00:48:56.259  
(0.77)

Estudiant 2  
TC (two/ ?)  
00:48:57.036 - 00:48:57.496  
(0.65)

Estudiant 4  
TC vint-i-dos entre quatre\ (molt fluix), parlant amb estudiant 2)  
00:48:58.146 - 00:48:59.606  
(1.06)

Estudiant 2  
TC vint-i-dos entre quatre\ (riu)  
00:49:00.675 - 00:49:01.925  
(2.81)

Prof. Taronger  
TC okay/  
00:49:04.736 - 00:49:05.568  
(2.99)

Prof. Taronger  
TC now this is the this is the point\  
00:49:08.562 - 00:49:11.194  
(1.38)

Prof. Taronger  
TC okay  
00:49:12.582 - 00:49:13.562  
(0.76)

Prof. Taronger  
TC we have time to:\  
00:49:14.322 - 00:49:17.012  
(0.95)

Prof. Taronger  
TC go further now\  
00:49:17.962 - 00:49:19.312  
(5.01)

Prof. Taronger  
TC s-so far we have seen how translate between different\_  
00:49:24.325 - 00:49:28.952  
(0.15)

Prof. Taronger  
TC a:  
00:49:29.105 - 00:49:29.885

(0.67)

Prof. Taronger TC between different codifications o: of just numbers\ but\_  
00:49:30.555 - 00:49:35.335  
(0.11)

Prof. Taronger TC take a look just integers\  
00:49:35.445 - 00:49:37.705  
(1.23)

Prof. Taronger TC the integers is what we haca seen so far\  
00:49:38.935 - 00:49:41.603  
(0.22)

Prof. Taronger TC maybe we've made some little point about real right/ but we-  
00:49:41.827 - 00:49:45.997  
(0.3)

Prof. Taronger TC but we have not going deeper inside\  
00:49:46.297 - 00:49:48.757  
(0.55)

Prof. Taronger TC just  
00:49:49.307 - 00:49:49.887  
(0.19)

Prof. Taronger TC superficial see what is under real\  
00:49:50.077 - 00:49:53.157  
(0.47)

Prof. Taronger TC okay\  
00:49:53.627 - 00:49:54.387  
(2.02)

Prof. Taronger TC a: what is the problem with (a?) computers/  
00:49:56.407 - 00:49:59.117  
(0.62)

Prof. Taronger TC the computers has a: just  
00:49:59.737 - 00:50:02.763  
(0.99)

Prof. Taronger TC an special  
00:50:03.757 - 00:50:05.537  
(1.81)

Prof. Taronger TC the computer has as fix  
00:50:07.347 - 00:50:09.597  
(0.14)

Prof. Taronger TC amount of characters to represent a number\ right/  
00:50:09.745 - 00:50:13.265  
(1.24)

Prof. Taronger TC els ordinadors tene un numero fix de caràcters per representar un numero\  
00:50:14.505 - 00:50:18.765  
(0.07)

Prof. Taronger TC no podeu agafar un numero i: representar doncs trenta-dos milions\_  
00:50:18.835 - 00:50:23.595  
(0.99)

Prof. Taronger TC a:mb tan exacte com com vulgheu\ amb tants zeros com vulgheu\ oi que no/  
00:50:24.585 - 00:50:29.242  
(0.35)

Prof. Taronger TC per representar trenta-dos milions\_  
00:50:29.595 - 00:50:31.705  
(0.03)

Prof. Taronger TC amb un enter necessitariu molts zeros\  
00:50:31.735 - 00:50:34.303  
(0.29)

Prof. Taronger TC perdó molts zeros moltes xifres binàries\ oi que sí/  
00:50:34.595 - 00:50:38.005  
(0.48)

Prof. Taronger TC aleshores els ordinadors treballen\_  
00:50:38.485 - 00:50:41.266  
(0.06)

Prof. Taronger TC amb un conjunt ells quan treballen treballen amb un conjunt de bits\  
00:50:41.335 - 00:50:45.235  
(0.46)

Prof. Taronger TC i: a: normalment es diu bueno\ jo tinc vuit bits per representar enters\

TC	00:50:45.695 - 00:50:50.655 (0.95)
Prof. Taronger TC	val/ 00:50:51.605 - 00:50:52.114 (0.52)
Prof. Taronger TC	si jo 00:50:52.635 - 00:50:54.155 (1.2)
Prof. Taronger TC	diguem-ho d'una altra manera\ vuit bits per a representar naturals\ 00:50:55.355 - 00:50:58.379 (0.17)
Prof. Taronger TC	diguem-ho així perquè en el fons hem vist naturals només allà\ 00:50:58.557 - 00:51:01.127 (0.11)
Prof. Taronger TC	fixeu-se que el signe 00:51:01.237 - 00:51:02.987 (0.3)
Prof. Taronger TC	el signe no l'hem posat en cap vegada oi encara/ 00:51:03.287 - 00:51:05.927 (0.15)
Estudiant Unknown II TC	no\ 00:51:06.077 - 00:51:06.507 (0.34)
Prof. Taronger TC	només naturals\ 00:51:06.847 - 00:51:08.047 (0.59)
Prof. Taronger TC	si us ho explicava malament\ 00:51:08.637 - 00:51:10.437 (0.87)
Estudiant Unknown II TC	ai pobre\ 00:51:11.315 - 00:51:11.715 (0.58)
Prof. Taronger TC	how many/ 00:51:12.297 - 00:51:13.547 (0.7)
Prof. Taronger TC	how many a: 00:51:14.247 - 00:51:16.147 (0.19)
Estudiant 1 TC	ja ja l'ha: 00:51:16.339 - 00:51:17.299 (0.21)
Prof. Taronger TC	natural numbers can I represent with_ 00:51:17.517 - 00:51:20.477 (0.18)
Prof. Taronger TC	a byte/ 00:51:20.666 - 00:51:22.286 (2.21)
Estudiant 2 TC	a byte/ 00:51:24.496 - 00:51:24.866 (0.41)
Prof. Taronger TC	a byte (assentint) 00:51:25.282 - 00:51:26.542 (0.42)
Estudiant 2 TC	in binary or/ depen de quin codi no/(al company del costat) 00:51:26.962 - 00:51:32.662 (0.33)
Prof. Taronger TC	only/ 00:51:32.992 - 00:51:33.812 (3.35)
Prof. Taronger TC	two hundred fifty six\ 00:51:37.162 - 00:51:38.982 (1.23)
Prof. Taronger TC	okay/ is a 00:51:40.212 - 00:51:41.592 (0.1)

Prof. Taronger TC is two two a:  
00:51:41.692 - 00:51:44.262  
(0.82)

Prof. Taronger TC two  
00:51:45.082 - 00:51:45.490  
(0.7)

Prof. Taronger TC two two nine\  
00:51:46.197 - 00:51:47.409  
(1.09)

Prof. Taronger TC okay/  
00:51:48.499 - 00:51:49.119  
(2.07)

Prof. Taronger TC TWO-HUNDRED FIFTY SIX\  
00:51:51.189 - 00:51:53.399  
(0.85)

Prof. Taronger TC different ways\_ remember the ASCII code right/  
00:51:54.249 - 00:51:56.715  
(0.25)

Prof. Taronger TC the ASCII code we saw that we can represent till two hundred fifty six\  
00:51:56.969 - 00:52:03.089  
(0.28)

Prof. Taronger TC different characters right/  
00:52:03.370 - 00:52:05.930  
(0.42)

Prof. Taronger TC but  
00:52:06.350 - 00:52:06.910  
(0.49)

Prof. Taronger TC in natural numbers is exactly the same\  
00:52:07.400 - 00:52:09.880  
(0.31)

Prof. Taronger TC but what happens if we have to introduce here the sign/  
00:52:10.190 - 00:52:13.260  
(1.43)

Prof. Taronger TC we  
00:52:14.690 - 00:52:15.490

Estudiant Unknown II TC oh/  
00:52:15.329 - 00:52:15.549  
(0.1)

Prof. Taronger TC we need to codify the sign in some way\  
00:52:15.650 - 00:52:18.340  
(2.17)

Prof. Taronger TC a:h  
00:52:20.510 - 00:52:21.400  
(1.32)

Prof. Taronger TC do you know any\_/ (arronsa espatlles)  
00:52:22.720 - 00:52:24.210  
(0.1)

Prof. Taronger TC or maybe you can imagine a way to codify a sign/  
00:52:24.310 - 00:52:27.850  
(3.02)

Prof. Taronger TC well it's not a:/  
00:52:30.870 - 00:52:33.390  
(0.48)

Prof. Taronger TC I'm just asking you\ what/  
00:52:33.870 - 00:52:36.280  
(0.55)

Prof. Taronger TC what we can do to codify a sign/  
00:52:36.830 - 00:52:38.980  
(1.39)

Estudiant 2 TC zero one\  
00:52:40.372 - 00:52:41.262  
(1.05)

Estudiant 2 TC que signifiquin  
00:52:42.312 - 00:52:43.782  
(1.38)

Estudiant 2                    que signifiquin més o menys\  
TC                                00:52:45.162 - 00:52:46.582  
(1.72)

Prof. Taronger                exactly\ we can codify we can use a bit to codify\  
TC                                00:52:48.302 - 00:52:52.682  
(0.33)

Prof. Taronger                the: sign\  
TC                                00:52:53.012 - 00:52:54.302  
(0.85)

Prof. Taronger                the sign minus or the sign\_  
TC                                00:52:55.152 - 00:52:56.742  
(0.16)

Prof. Taronger                plus the positive and the negative\ right/  
TC                                00:52:56.910 - 00:52:59.000

Estudiant 2                    the last\ the last number/ no\  
TC                                00:52:59.000 - 00:53:00.609  
(0.9)

Prof. Taronger                why not\  
TC                                00:53:01.510 - 00:53:02.370  
(0.5)

Prof. Taronger                is up to you\  
TC                                00:53:02.870 - 00:53:03.770  
(0.07)

Prof. Taronger                you can you can now decide a kind of codification for that\  
TC                                00:53:03.840 - 00:53:08.180  
(0.26)

Estudiant 2                    però perds un bit\  
TC                                00:53:08.440 - 00:53:09.650  
(0.39)

Estudiant 2                    però perds molt números\  
TC                                00:53:10.040 - 00:53:10.980  
(0.11)

Prof. Taronger                yes\ (amb la ma)  
TC                                00:53:11.090 - 00:53:11.640  
(0.15)

Prof. Taronger                this is the: this is a good point because\_  
TC                                00:53:11.790 - 00:53:15.190  
(0.53)

Prof. Taronger                if we introduce\_  
TC                                00:53:15.720 - 00:53:17.530  
(0.04)

Prof. Taronger                negative numbers  
TC                                00:53:17.570 - 00:53:18.850  
(0.09)

Prof. Taronger                we lose\_  
TC                                00:53:18.940 - 00:53:19.960  
(0.94)

Prof. Taronger                a:h  
TC                                00:53:20.900 - 00:53:21.847  
(0.15)

Prof. Taronger                there rank that we can't represent\  
TC                                00:53:22.000 - 00:53:24.110  
(0.48)

Prof. Taronger                with eight bits we can represent two hundred fifty six\  
TC                                00:53:24.590 - 00:53:28.270  
(0.65)

Prof. Taronger                but if you put a sign you are losing one bit\  
TC                                00:53:28.920 - 00:53:32.180  
(0.52)

Prof. Taronger                for the reason you only can represent one hundred twenty eight\  
TC                                00:53:32.700 - 00:53:35.500  
(0.18)

Prof. Taronger                the half\  
TC                                00:53:35.680 - 00:53:36.430  
(0.74)

Prof. Taronger TC okay/  
00:53:37.175 - 00:53:37.565  
(1.5)

Prof. Taronger TC si: treiem un bit perquè tenim el signe\_  
00:53:39.065 - 00:53:41.485  
(0.09)

Prof. Taronger TC només podem representar-ne la meitat\  
00:53:41.575 - 00:53:43.655  
(1.52)

Prof. Taronger TC oi que sí/  
00:53:45.175 - 00:53:46.055  
(0.49)

Estudiant 3 TC xxx (molt fluix)  
00:53:46.551 - 00:53:47.491  
(1.38)

Prof. Taronger TC digue'm/  
00:53:48.871 - 00:53:49.431  
(3.07)

Prof. Taronger any time\  
TC you can contribute a: when you want and you can interrupt me and ask me  
00:53:52.508 - 00:53:57.668  
(0.15)

Prof. Taronger TC dont' worry\  
00:53:57.818 - 00:53:58.658  
(0.59)

Estudiant 3 TC un byte para una signo no/  
00:53:59.248 - 00:54:01.088  
(1.77)

Prof. Taronger TC yes\ one byte for the sign\  
00:54:02.858 - 00:54:04.358  
(0.15)

Prof. Taronger TC for the sign\  
00:54:04.508 - 00:54:05.368  
(0.64)

Prof. Taronger TC but you lose\_  
00:54:06.008 - 00:54:07.038  
(0.14)

Prof. Taronger TC one byte\  
00:54:07.178 - 00:54:07.848

Prof. Taronger TC and you ca:n represent less\_  
00:54:07.848 - 00:54:10.708  
(0.21)

Prof. Taronger TC numbers\  
00:54:10.918 - 00:54:11.708  
(0.03)

Estudiant 3 TC xxxx (fluix)  
00:54:11.738 - 00:54:12.268  
(1.01)

Prof. Taronger TC I mean  
00:54:13.278 - 00:54:14.248  
(0.15)

Prof. Taronger TC not less numbers\ you can represent maybe\_  
00:54:14.398 - 00:54:16.368  
(0.07)

Prof. Taronger bits till one hundred TC the rank of the numbers are different you only can represent with seven  
twenty eight\  
00:54:16.438 - 00:54:22.908  
(0.32)

Prof. Taronger TC okay/  
00:54:23.229 - 00:54:23.979  
(0.36)

Prof. Taronger TC but\_  
00:54:24.339 - 00:54:25.019  
(0.35)

Prof. Taronger TC you  
00:54:25.369 - 00:54:26.339

(0.27)

Prof. Taronger a:  
TC 00:54:26.609 - 00:54:27.849  
(0.1)

Prof. Taronger in that case you  
TC 00:54:27.949 - 00:54:29.089  
(0.16)

Prof. Taronger you win  
TC 00:54:29.249 - 00:54:30.349  
(2.26)

Prof. Taronger you win that a:  
TC 00:54:32.609 - 00:54:34.689  
(0.24)

Prof. Taronger at least now you can represent\_  
TC 00:54:34.929 - 00:54:36.909  
(0.3)

Prof. Taronger from minus one hundred twenty eight\_  
TC 00:54:37.209 - 00:54:39.635  
(0.13)

Prof. Taronger till one hundred twenty eight\  
TC 00:54:39.769 - 00:54:41.489  
(0.22)

Prof. Taronger I mean that\  
TC 00:54:41.709 - 00:54:42.689  
(0.49)

Prof. Taronger here\  
TC 00:54:43.179 - 00:54:43.959  
(1.04)

Prof. Taronger if you put  
TC 00:54:44.999 - 00:54:46.049  
(0.68)

Prof. Taronger a sign\  
TC 00:54:46.729 - 00:54:47.699  
(0.7)

Prof. Taronger in the bit\  
TC 00:54:48.399 - 00:54:49.519  
(2.31)

Prof. Taronger instead of one byte le'ts go tot put an example in less\  
TC 00:54:51.829 - 00:54:55.209

Prof. Taronger in less bits okay/  
TC 00:54:55.219 - 00:54:56.709  
(0.16)

Prof. Taronger otherwise we have\_  
TC 00:54:56.869 - 00:54:57.939  
(0.05)

Prof. Taronger a lot of troubles  
TC 00:54:57.989 - 00:54:59.429  
(0.22)

Prof. Taronger with a lot of\_  
TC 00:54:59.649 - 00:55:00.539  
(0.28)

Prof. Taronger binary characters\  
TC 00:55:00.819 - 00:55:02.259  
(1.33)

Prof. Taronger anem a buscar un exemple més senzil\  
TC 00:55:03.589 - 00:55:04.989  
(5.71)

Prof. Taronger imagine that we are going to represent\  
TC 00:55:10.699 - 00:55:13.149  
(0.45)

Prof. Taronger we using  
TC 00:55:13.599 - 00:55:14.739  
(1.19)

Prof. Taronger three characters\ only\ three binary characters\  
TC 00:55:15.929 - 00:55:19.229



(1.66)

Prof. Taronger TC with three characters\ we can represent till\_ 00:55:20.889 - 00:55:23.759 (0.67)

Prof. Taronger TC eight\ 00:55:24.429 - 00:55:24.969 (0.18)

Prof. Taronger TC well no\ 00:55:25.149 - 00:55:25.839 (0.3)

Prof. Taronger TC till seven\ 00:55:26.139 - 00:55:26.909 (0.11)

Prof. Taronger TC zero to seven\ 00:55:27.019 - 00:55:28.509 (0.25)

Prof. Taronger TC okay/ 00:55:28.759 - 00:55:29.359 (5.14)

Prof. Taronger TC this is the rank that we can represent\_ 00:55:34.499 - 00:55:36.869

Prof. Taronger TC a: natural numbers\ 00:55:36.869 - 00:55:38.201 (1.09)

Prof. Taronger TC but what happens if this 00:55:39.299 - 00:55:41.149 (0.26)

Prof. Taronger TC is the: 00:55:41.409 - 00:55:42.539 (0.57)

Prof. Taronger TC the sign/ 00:55:43.109 - 00:55:44.199 (5.77)

Prof. Taronger TC if this is the sign 00:55:49.969 - 00:55:51.649 (0.16)

Prof. Taronger TC we lose 00:55:51.814 - 00:55:52.854 (0.27)

Prof. Taronger TC one character\ 00:55:53.124 - 00:55:54.504 (0.06)

Prof. Taronger TC and now we have two binary\_ 00:55:54.564 - 00:55:56.884 (1.44)

Prof. Taronger TC characters to represent 00:55:58.324 - 00:55:59.894 (0.4)

Prof. Taronger TC only 00:56:00.294 - 00:56:01.124 (0.26)

Prof. Taronger TC in that case will be 00:56:01.384 - 00:56:03.074 (0.86)

Prof. Taronger TC five\ 00:56:03.934 - 00:56:04.734 (1.98)

Estudiant 2 TC three no/ 00:56:06.723 - 00:56:07.443 (0.11)

Estudiant 3 TC three\ 00:56:07.553 - 00:56:07.733 (0.36)

Estudiant Unknown II TC xxxxxx 00:56:08.093 - 00:56:09.083

(0.78)

Prof. Taronger three\  
TC 00:56:09.863 - 00:56:10.343  
(0.11)

Prof. Taronger exactly\  
TC 00:56:10.453 - 00:56:11.113  
(0.66)

Prof. Taronger will be three\  
TC 00:56:11.773 - 00:56:13.103  
(0.62)

Prof. Taronger we can represent  
TC 00:56:13.723 - 00:56:15.043  
(0.23)

Prof. Taronger zero\  
TC 00:56:15.273 - 00:56:16.243  
(0.27)

Prof. Taronger two\  
TC 00:56:16.513 - 00:56:17.143  
(0.19)

Prof. Taronger three\  
TC 00:56:17.333 - 00:56:17.883  
(1.6)

Prof. Taronger and what about negative/  
TC 00:56:19.483 - 00:56:21.513  
(0.7)

Prof. Taronger about negative/ if we put here\_  
TC 00:56:22.213 - 00:56:24.783  
(0.2)

Prof. Taronger a one to represent negative for example\  
TC 00:56:24.983 - 00:56:27.373  
(0.42)

Prof. Taronger this is  
TC 00:56:27.793 - 00:56:28.473  
(0.15)

Prof. Taronger there are a lot of kind of codifications\  
TC 00:56:28.623 - 00:56:30.783  
(0.19)

Prof. Taronger okay/  
TC 00:56:30.973 - 00:56:31.463  
(0.46)

Prof. Taronger later we'll see which are the most usual\  
TC 00:56:31.923 - 00:56:34.683  
(0.23)

Prof. Taronger the most usual  
TC 00:56:34.913 - 00:56:36.603  
(0.13)

Prof. Taronger of them\ but/  
TC 00:56:36.733 - 00:56:37.883  
(0.38)

Prof. Taronger for example imagine that for us this is the negative number\  
TC 00:56:38.263 - 00:56:41.303  
(0.92)

Prof. Taronger you can put here now for example\_  
TC 00:56:42.223 - 00:56:44.893  
(0.16)

Prof. Taronger exactly the same\  
TC 00:56:45.053 - 00:56:46.473  
(0.32)

Prof. Taronger from zero  
TC 00:56:46.794 - 00:56:47.504  
(1.52)

Prof. Taronger from zero to three  
TC 00:56:49.024 - 00:56:50.734  
(1.69)

Prof. Taronger but negative\

TC	00:56:52.424 - 00:56:53.354 (0.27)
Prof. Taronger TC	acab d'escriure)) 00:56:53.624 - 00:56:54.184 (0.67)
Prof. Taronger TC	((s'ho mira en la distància)) 00:56:54.854 - 00:56:59.274 (0.02)
Prof. Taronger TC	a: 00:56:59.294 - 00:56:59.924 (1.71)
Prof. Taronger TC	you see here the:: 00:57:01.637 - 00:57:02.637 (0.67)
Prof. Taronger TC	difference/ 00:57:03.307 - 00:57:03.987 (0.19)
Prof. Taronger TC	((mira fixament estudiants)) 00:57:04.177 - 00:57:06.477 (0.2)
Prof. Taronger TC	here we can represent 00:57:06.677 - 00:57:08.037 (0.61)
Prof. Taronger TC	eight\ 00:57:08.653 - 00:57:09.013 (0.63)
Prof. Taronger TC	numbers\ 00:57:09.643 - 00:57:10.063 (1.48)
Prof. Taronger TC	and here/ 00:57:11.543 - 00:57:12.093 (1.09)
Estudiant 1 TC	seven 00:57:13.183 - 00:57:13.413 (0.58)
Prof. Taronger TC	seven\ 00:57:13.993 - 00:57:14.413 (0.18)
Prof. Taronger TC	exactly\ 00:57:14.593 - 00:57:14.973 (0.76)
Prof. Taronger TC	seven becasue the 00:57:15.734 - 00:57:16.964 (0.36)
Prof. Taronger TC	the 00:57:17.324 - 00:57:17.714 (0.47)
Prof. Taronger TC	plus zero and the minus zero is exactly the same\ 00:57:18.191 - 00:57:21.311 (1.01)
Prof. Taronger TC	okay/ 00:57:22.321 - 00:57:22.581 (0.26)
Prof. Taronger TC	we are losing here 00:57:22.841 - 00:57:23.811 (0.11)
Prof. Taronger TC	just one number 00:57:23.921 - 00:57:25.121 (1.03)
Prof. Taronger TC	a:: 00:57:26.151 - 00:57:27.071 (0.2)
Prof. Taronger TC	instead of 00:57:27.271 - 00:57:27.981 (0.12)

Prof. Taronger TC a:  
00:57:28.101 - 00:57:28.621  
(0.29)

Prof. Taronger TC represent  
00:57:28.911 - 00:57:29.561  
(0.36)

Prof. Taronger TC set eight (xx) numbers  
00:57:29.921 - 00:57:30.841  
(0.25)

Prof. Taronger TC we can represent now  
00:57:31.091 - 00:57:33.231  
(2.09)

Prof. Taronger TC three positive\  
00:57:35.324 - 00:57:36.264  
(0.22)

Prof. Taronger TC three negative\  
00:57:36.484 - 00:57:37.494  
(0.58)

Prof. Taronger TC and the zero\  
00:57:38.074 - 00:57:38.994  
(0.85)

Estudiant 2 TC això vol dir que (flux al company del costat)  
00:57:39.845 - 00:57:40.625

Prof. Taronger TC [okay/]  
00:57:39.915 - 00:57:40.535  
(1.24)

Estudiant 2 TC (que genera cada ?) (flux al company)  
00:57:41.775 - 00:57:43.005  
(1.14)

Prof. Taronger TC a question so far/  
00:57:44.147 - 00:57:46.177  
(1.01)

Unknown Student TC xxxx (comenta al del costat)  
00:57:47.195 - 00:57:47.915  
(0.6)

Prof. Taronger TC am I making myself clear/  
00:57:48.515 - 00:57:50.005  
(0.22)

Estudiant 2 TC això vol dir que perds un número/  
00:57:50.225 - 00:57:52.225  
(0.04)

Estudiant 2 TC a part de perdre tots els positius perds un números cada vegada que/  
00:57:52.265 - 00:57:55.605  
(0.03)

Prof. Taronger TC exactly\  
00:57:55.635 - 00:57:56.575  
(0.31)

Prof. Taronger TC exactly\  
00:57:56.885 - 00:57:57.435  
(3.2)

Prof. Taronger TC [not only not only] in this kind of codification\ okay/ in this kind\  
00:58:00.641 - 00:58:05.390

Estudiant 2 TC [perquè xxx]  
00:58:00.725 - 00:58:01.705  
(3.99)

Prof. Taronger TC you can now propose another kind of codification and\_  
00:58:05.695 - 00:58:10.085  
(0.49)

Prof. Taronger TC and maybe it will be different\  
00:58:10.575 - 00:58:12.669  
(1.08)

Prof. Taronger TC okay/  
00:58:13.756 - 00:58:14.146  
(0.48)

Prof. Taronger use\  
TC but this is one of the: this kind of codification is one of the people  
00:58:14.626 - 00:58:19.796  
(11.1)

Prof. Taronger  
TC okay\  
00:58:30.896 - 00:58:31.726  
(15.45)

Estudiant 2  
TC xxxxxxxx( flux coment al company)  
00:58:47.179 - 00:58:51.119  
(0.2)

Prof. Taronger  
TC let's go to make here an example with\_  
00:58:51.319 - 00:58:54.099  
(0.35)

Prof. Taronger  
TC a:  
00:58:54.449 - 00:58:55.620

## APÈNDIX

### ii.4 Transcripció de CM4

Professor Llach    the situation can be found in the reality\_  
TC                    00:04:29.045 - 00:04:31.785  
                      (0.33)

Professor Llach    for example: our example:  
TC                    00:04:32.115 - 00:04:34.370  
                      (0.17)

Professor Llach    to what and in wind driver ah: generators\  
TC                    00:04:34.545 - 00:04:38.695  
                      (0.52)

Professor Llach    in aero gener- generators\ okay/  
TC                    00:04:39.220 - 00:04:41.835  
                      (1.27)

Professor Llach    and the: the third type of operation/  
TC                    00:04:43.105 - 00:04:46.709  
                      (0.18)

Professor Llach    the operation as a break\  
TC                    00:04:46.895 - 00:04:49.025  
                      (0.51)

Professor Llach    break means fre\  
TC                    00:04:49.535 - 00:04:51.155  
                      (0.13)

Professor Llach    en català\  
TC                    00:04:51.285 - 00:04:51.988  
                      (0.32)

Professor Llach    hm/ break\  
TC                    00:04:52.315 - 00:04:53.315  
                      (0.25)

Professor Llach    in the- in: in: this\_  
TC                    00:04:53.565 - 00:04:55.405  
                      (0.11)

Professor Llach    operation/  
TC                    00:04:55.515 - 00:04:56.755  
                      (0.37)

Professor Llach    the: machine absorbs\_  
TC                    00:04:57.125 - 00:04:59.543  
                      (0.2)

Professor Llach    Both mechanical:  
TC                    00:04:59.745 - 00:05:01.775  
                      (0.11)

Professor Llach    and electrical power\  
TC                    00:05:01.885 - 00:05:03.875  
                      (0.42)

Professor Llach    and THEse two powers: are dissipated\_  
TC                    00:05:04.295 - 00:05:07.890  
                      (0.9)

Professor Llach    as: heat\  
TC                    00:05:08.790 - 00:05:10.215  
                      (0.98)

Professor Llach    it-  
TC                    00:05:11.195 - 00:05:11.505  
                      (1.04)

Professor Llach    ah: it generates a lot of heating\  
TC                    00:05:12.545 - 00:05:15.370  
                      (0.38)

Professor Llach    okay/  
TC                    00:05:15.750 - 00:05:16.190  
                      (383.31)

Professor Llach    do you understand/  
TC                    00:11:39.501 - 00:11:40.461

(1.61)

Professor Llach now I have this current\  
TC 00:11:42.071 - 00:11:44.071  
(0.87)

Professor Llach the next step is to compute this current\  
TC 00:11:44.941 - 00:11:48.521  
(0.22)

Professor Llach ((writes on board  
TC 00:11:48.741 - 00:11:49.191  
(0.11)

Professor Llach the current)) through/  
TC 00:11:49.301 - 00:11:50.841  
(0.08)

Professor Llach the rotor of the machine\  
TC 00:11:50.921 - 00:11:52.600  
(0.97)

Professor Llach okay/  
TC 00:11:53.571 - 00:11:54.191  
(0.17)

Professor Llach the current  
TC 00:11:54.361 - 00:11:55.361  
(0.34)

Professor Llach through the rotor\  
TC 00:11:55.701 - 00:11:56.701  
(1.68)

Professor Llach in order to compute  
TC 00:11:58.381 - 00:12:00.381  
(0.31)

Professor Llach this current/  
TC 00:12:00.700 - 00:12:01.740  
(0.11)

Professor Llach we have to do nearly the same\  
TC 00:12:01.851 - 00:12:04.300  
(1.03)

Professor Llach we need  
TC 00:12:05.331 - 00:12:06.611  
(0.55)

Professor Llach to compute or- or to divide  
TC 00:12:07.161 - 00:12:10.159  
(0.26)

Professor Llach this voltage/  
TC 00:12:10.421 - 00:12:11.931  
(0.14)

Professor Llach by:  
TC 00:12:12.071 - 00:12:13.161  
(0.35)

Professor Llach (circles figure on board) this equivalent xx\  
TC 00:12:13.511 - 00:12:15.511  
(0.72)

Professor Llach okay/  
TC 00:12:16.231 - 00:12:16.711  
(0.46)

Professor Llach ((referring to figures on board) this voltage is down\_  
TC 00:12:17.171 - 00:12:19.361  
(0.1)

Professor Llach cause it's  
TC 00:12:19.461 - 00:12:20.351  
(1.14)

Professor Llach or it has this value/  
TC 00:12:21.491 - 00:12:22.900  
(0.74)

Professor Llach okay/ ((referring to slides) you have it here\  
TC 00:12:23.640 - 00:12:25.507  
(0.78)

Professor Llach this value/

TC 00:12:26.291 - 00:12:27.291  
(0.06)

Professor Llach must be divided by/  
TC 00:12:27.351 - 00:12:29.870  
(0.89)

Professor Llach this imperance\  
TC 00:12:30.761 - 00:12:31.655  
(1.62)

Professor Llach the: short circuit resistance\_  
TC 00:12:33.280 - 00:12:35.699  
(0.64)

Professor Llach ah: is:  
TC 00:12:36.341 - 00:12:37.600  
(0.24)

Professor Llach point six/  
TC 00:12:37.840 - 00:12:38.640  
(0.2)

Professor Llach because it's a arithmetic addition\  
TC 00:12:38.840 - 00:12:41.230  
(0.36)

Professor Llach o:f  
TC 00:12:41.590 - 00:12:42.310  
(0.29)

Professor Llach resistance in the starter and the resistance\_  
TC 00:12:42.600 - 00:12:45.430  
(0.12)

Professor Llach the:- from the rotor/  
TC 00:12:45.550 - 00:12:47.550  
(0.77)

Professor Llach okay/ this is forty-six/  
TC 00:12:48.320 - 00:12:50.161  
(0.56)

Professor Llach PLUS  
TC 00:12:50.730 - 00:12:51.790  
(0.5)

Professor Llach this REsistance  
TC 00:12:52.290 - 00:12:53.950  
(0.66)

Professor Llach this is:  
TC 00:12:54.610 - 00:12:55.400  
(0.2)

Professor Llach point five  
TC 00:12:55.600 - 00:12:56.880  
(0.63)

Professor Llach multiplied by one and divided by the speed\_  
TC 00:12:57.510 - 00:13:00.510  
(0.36)

Professor Llach minus one\  
TC 00:13:00.870 - 00:13:02.110  
(0.33)

Professor Llach PLUs/  
TC 00:13:02.440 - 00:13:03.540  
(1.07)

Professor Llach the xxx\  
TC 00:13:04.610 - 00:13:05.610  
(0.38)

Professor Llach okay/  
TC 00:13:05.990 - 00:13:06.790  
(2.28)

Professor Llach operating this expression  
TC 00:13:09.070 - 00:13:10.860  
(0.27)

Professor Llach we obtain this current\  
TC 00:13:11.130 - 00:13:12.950  
(2.9)



Professor Llach from these two currents/  
TC 00:13:15.850 - 00:13:17.890  
(0.68)

Professor Llach I have  
TC 00:13:18.570 - 00:13:19.940  
(0.59)

Professor Llach (writes on board) the current absorbed by the machine\  
TC 00:13:20.530 - 00:13:23.933  
(1.52)

Professor Llach okay/  
TC 00:13:25.460 - 00:13:25.990  
(0.03)

Professor Llach eh: this current can be computed/  
TC 00:13:26.020 - 00:13:28.570  
(0.24)

Professor Llach a:s  
TC 00:13:28.810 - 00:13:29.690  
(2.32)

Professor Llach the: the current in the parallel range PLUs\_  
TC 00:13:32.010 - 00:13:36.010  
(0.17)

Professor Llach the current in the rotor\  
TC 00:13:36.180 - 00:13:38.600  
(1.35)

Professor Llach okay/  
TC 00:13:39.950 - 00:13:40.650  
(6.63)

Professor Llach HEre I drew  
TC 00:13:47.280 - 00:13:49.356  
(0.4)

Professor Llach a: a delta because is:  
TC 00:13:49.756 - 00:13:52.176  
(0.56)

Professor Llach this is  
TC 00:13:52.736 - 00:13:53.576  
(0.28)

Professor Llach the current in a phase of the motor  
TC 00:13:53.856 - 00:13:56.434  
(0.48)

Professor Llach and the phase at the motor is delta connected  
TC 00:13:56.916 - 00:14:00.296  
(1.14)

Professor Llach okay/  
TC 00:14:01.436 - 00:14:02.196  
(0.42)

Professor Llach the motor is delta connected\  
TC 00:14:02.616 - 00:14:04.616  
(1.53)

Professor Llach it MEAns that  
TC 00:14:06.146 - 00:14:08.146  
(0.15)

Professor Llach the line current  
TC 00:14:08.296 - 00:14:10.100  
(0.58)

Professor Llach ((writes on board)  
TC 00:14:10.686 - 00:14:11.286  
(0.2)

Professor Llach is the: )  
TC 00:14:11.486 - 00:14:12.520  
(1.28)

Professor Llach ((referring to the board) is a current in the phase\_  
TC 00:14:13.806 - 00:14:16.466  
(0.34)

Professor Llach the motor multiply- multiplied by the square) root of three\  
TC 00:14:16.806 - 00:14:22.224  
(1.83)

Professor Llach ((referring to the board) do you know why/  
TC 00:14:24.056 - 00:14:25.656  
(3.09)

Professor Llach do you know why/  
TC 00:14:28.746 - 00:14:30.186  
(0.42)

Professor Llach ((writing on board) because\_  
TC 00:14:30.606 - 00:14:31.496  
(1.08)

Professor Llach in a delta:/ in a delta load\_  
TC 00:14:32.576 - 00:14:35.576  
(2.43)

Professor Llach remember that in a delta load\_  
TC 00:14:38.006 - 00:14:40.637  
(1.81)

Professor Llach the re- relationship between\_  
TC 00:14:42.456 - 00:14:45.280  
(0.17)

Professor Llach the line current )  
TC 00:14:45.456 - 00:14:46.936  
(4.78)

Professor Llach ((referring to board) and\_  
TC 00:14:51.725 - 00:14:52.516  
(0.22)

Professor Llach the face current/  
TC 00:14:52.736 - 00:14:54.358  
(0.82)

Professor Llach is this square root of three\  
TC 00:14:55.186 - 00:14:57.796  
(0.07)

Professor Llach okay/  
TC 00:14:57.866 - 00:14:58.676  
(228.18)

Professor Llach the power dissipated this resistance can be computed -  
TC 00:18:46.859 - 00:18:50.871  
(0.22)

Professor Llach or ca:- calculated as three times -  
TC 00:18:51.099 - 00:18:54.519  
(0.03)

Professor Llach because the- there are three equivalent circuits like this  
TC 00:18:54.549 - 00:18:58.549  
(0.79)

Professor Llach three times\  
TC 00:18:59.339 - 00:19:00.379

Professor Llach the square of the current (.) okay\  
TC 00:19:00.379 - 00:19:03.089  
(0.27)

Professor Llach multiplied by this resistance  
TC 00:19:03.359 - 00:19:06.039  
(2.67)

Prof X (knock on door)  
TC 00:19:08.713 - 00:19:09.673  
(3.27)

Estudiants (laughs)  
TC 00:19:12.949 - 00:19:13.803

Professor Llach o:h/ què n'has fet dels dels te- alumnes/  
TC 00:19:13.805 - 00:19:16.185

Prof X és que jo havia quedat aquí (?)  
TC 00:19:15.985 - 00:19:17.345  
(1.41)

Professor Llach [que no /]  
TC 00:19:18.755 - 00:19:19.515

Prof X bueno[ els hi ]deixat fa tres minuts\  
TC 00:19:18.755 - 00:19:20.195

(0.57)

Professor Llach (erasing board) osti-  
TC 00:19:20.765 - 00:19:21.725  
(0.04)

Professor Llach estan perduts por ahi xxx  
TC 00:19:21.765 - 00:19:23.685  
(1.64)

Professor Llach (walks and expresses frustration by touching his chin)  
TC 00:19:25.325 - 00:19:28.075

Prof X no hay smoking\  
TC 00:19:26.655 - 00:19:27.615  
(0.46)

Professor Llach (laughs)  
TC 00:19:28.075 - 00:19:29.485

Prof X deuen estar [respirant]  
TC 00:19:28.696 - 00:19:29.656

Professor Llach [els hi]vaig a xxx per allà  
TC 00:19:29.485 - 00:19:31.085  
(0.15)

Professor Llach d'on d'on sortiu vosaltres/  
TC 00:19:31.235 - 00:19:33.235  
(0.34)

Estudiant 1 jo és que em pensava que vindries a-  
TC 00:19:33.576 - 00:19:34.736  
(0.11)

Professor Llach si home\  
TC 00:19:34.846 - 00:19:35.566  
(2.44)

Professor Llach [són com els nens petits\  
TC 00:19:38.006 - 00:19:39.526

Prof X [xxxxxxx (? ja van arribant)]  
TC 00:19:38.006 - 00:19:40.566

Investigadora [(laughs)]  
TC 00:19:39.476 - 00:19:40.596  
(0.06)

Estudiants (estudiants van arribant)  
TC 00:19:40.663 - 00:20:02.163

Prof X bueno\ u:n parèntesi\ trenta segons  
TC 00:20:02.163 - 00:20:05.910

Prof X els que els que hagin de fer projecte de fi de carrera hi ha un projecte que  
ho porta l'Escola  
TC 00:20:05.910 - 00:20:09.691

Prof X el que es pot fer és un model de dos\  
TC 00:20:09.691 - 00:20:12.177  
(0.15)

Prof X és la obtenció d'oli com a carburant per a motor dièsel  
TC 00:20:12.330 - 00:20:15.821  
(1.79)

Prof X val/  
TC 00:20:17.620 - 00:20:18.180

Prof X és que ja ho havia dir a classe i se m'ha passat per alt\  
TC 00:20:18.180 - 00:20:20.325  
(0.56)

Prof X vale/  
TC 00:20:20.890 - 00:20:21.940

Estudiants xxxxxx  
TC 00:20:21.940 - 00:20:23.540  
(5.49)

Professor Llach the internal power directed by the motor  
TC 00:20:29.030 - 00:20:33.167  
(1.34)

Professor Llach can be computed as electrical power  
TC 00:20:34.510 - 00:20:38.010

(0.24)

Professor Llach (writing on board) dissipated  
TC 00:20:38.250 - 00:20:40.250  
(0.19)

Professor Llach in the rotor\  
TC 00:20:40.440 - 00:20:41.710

Professor Llach (writing on board)  
TC 00:20:41.710 - 00:20:43.620  
(0.68)

Professor Llach or also (pronounces alsu:)  
TC 00:20:44.300 - 00:20:46.990

Professor Llach also it can be computed  
TC 00:20:46.990 - 00:20:49.570  
(0.64)

Professor Llach from the mechanical point of view that is-  
TC 00:20:50.210 - 00:20:53.571  
(0.31)

Professor Llach from the torque  
TC 00:20:53.890 - 00:20:55.170  
(0.23)

Professor Llach multiplied by the angular speed  
TC 00:20:55.400 - 00:20:59.160  
(0.35)

Professor Llach and this angular speed  
TC 00:20:59.510 - 00:21:01.670  
(0.22)

Professor Llach is computed  
TC 00:21:01.890 - 00:21:03.420  
(0.8)

Professor Llach at two times pi  
TC 00:21:04.220 - 00:21:06.750  
(0.12)

Professor Llach divide-divided by sixty and multiplied  
TC 00:21:06.870 - 00:21:10.240  
(0.68)

Professor Llach by the: actual speed of the rotor of the motor  
TC 00:21:10.920 - 00:21:15.669  
(1.06)

Professor Llach okay/  
TC 00:21:16.730 - 00:21:17.370  
(4.0)

Professor Llach the the torque  
TC 00:21:21.377 - 00:21:23.948  
(1.08)

Professor Llach here you have the torque as T\  
TC 00:21:25.037 - 00:21:27.507  
(0.14)

Professor Llach it's better as a xxx/  
TC 00:21:27.650 - 00:21:29.808  
(2.34)

Professor Llach we know this value\  
TC 00:21:32.150 - 00:21:34.270  
(0.08)

Professor Llach this one\  
TC 00:21:34.350 - 00:21:35.350

Professor Llach this one\  
TC 00:21:35.350 - 00:21:36.470

Professor Llach and this one  
TC 00:21:36.470 - 00:21:37.510  
(0.74)

Professor Llach okay/ from here we obtain the torque\  
TC 00:21:38.250 - 00:21:41.421  
(4.43)

Professor Llach yes/

TC 00:21:45.860 - 00:21:46.910  
(4.16)

Professor Llach now we are going to compute  
TC 00:21:51.078 - 00:21:53.188

Professor Llach the: output power generated by the motor  
TC 00:21:53.188 - 00:21:56.198

Professor Llach this is to say the MECHANICAL -  
TC 00:21:56.198 - 00:21:58.455  
(0.04)

Professor Llach power generated by the motor  
TC 00:21:58.498 - 00:22:00.768  
(0.25)

Professor Llach or the useful power  
TC 00:22:01.018 - 00:22:03.445  
(1.31)

Professor Llach the useful power  
TC 00:22:04.761 - 00:22:06.232  
(1.27)

Professor Llach the useful power is the difference between the mechanical power\ the net\_  
TC 00:22:07.508 - 00:22:13.058  
(0.83)

Professor Llach mechanical power\  
TC 00:22:13.888 - 00:22:15.815  
(0.09)

Professor Llach and  
TC 00:22:15.908 - 00:22:16.860  
(0.24)

Professor Llach the power a::  
TC 00:22:17.108 - 00:22:19.526  
(0.1)

Professor Llach dissipated as losses and two two frictions \  
TC 00:22:19.628 - 00:22:23.888  
(0.74)

Professor Llach due due to inter internal frictions  
TC 00:22:24.628 - 00:22:28.170  
(0.91)

Professor Llach for example with the beams amb els coixinets  
TC 00:22:29.088 - 00:22:32.264  
(0.13)

Professor Llach with the (?grins) of the frictions with the air  
TC 00:22:32.398 - 00:22:35.956  
(0.3)

Professor Llach okay/ when it rotates  
TC 00:22:36.258 - 00:22:37.868  
(0.19)

Professor Llach generates  
TC 00:22:38.058 - 00:22:38.918  
(0.12)

Professor Llach generates a: friction with the beams-  
TC 00:22:39.038 - 00:22:41.598  
(0.13)

Professor Llach and with the air that surrounds the motor  
TC 00:22:41.728 - 00:22:44.658  
(0.56)

Professor Llach okay/  
TC 00:22:45.218 - 00:22:45.577  
(1.28)

Professor Llach this friction  
TC 00:22:46.857 - 00:22:48.117  
(0.16)

Professor Llach is estimated  
TC 00:22:48.277 - 00:22:49.376  
(0.07)

Professor Llach in about one thousand watts \  
TC 00:22:49.447 - 00:22:51.906

(3.21)

Professor Llach and the internal power is this one\  
TC 00:22:55.117 - 00:22:58.240  
(1.3)

Professor Llach okay/  
TC 00:22:59.541 - 00:23:00.101  
(0.4)

Professor Llach the difference between these two values (pronounced valu:s)  
TC 00:23:00.501 - 00:23:03.311  
(0.94)

Professor Llach forty one kilowatts  
TC 00:23:04.257 - 00:23:05.907

Professor Llach this is the useful power generated by the motor  
TC 00:23:05.907 - 00:23:09.734  
(1.09)

Professor Llach do you understand what mean what does it means/  
TC 00:23:10.827 - 00:23:14.187  
(0.43)

Professor Llach the useful power the power that -  
TC 00:23:14.617 - 00:23:17.258  
(1.6)

Professor Llach that the:  
TC 00:23:18.867 - 00:23:20.644  
(0.06)

Professor Llach the loads [xxxxxxxx]  
TC 00:23:20.707 - 00:23:23.707

Estudiants (students talking softly about ppt)  
TC 00:23:21.677 - 00:23:23.377  
(0.76)

Professor Llach okay/  
TC 00:23:24.137 - 00:23:25.018  
(3.39)

Professor Llach now/  
TC 00:23:28.408 - 00:23:29.210  
(0.51)

Professor Llach we want to:  
TC 00:23:29.720 - 00:23:30.940  
(0.14)

Professor Llach to: compute the efficiency/  
TC 00:23:31.088 - 00:23:34.068  
(0.08)

Professor Llach of this motor\  
TC 00:23:34.148 - 00:23:35.466  
(0.04)

Professor Llach the efficiency\  
TC 00:23:35.508 - 00:23:37.028  
(0.12)

Professor Llach the efficiency is a ratio/  
TC 00:23:37.148 - 00:23:40.080  
(1.08)

Professor Llach ((writing on board) expressing\_  
TC 00:23:41.160 - 00:23:42.310  
(0.97)

Professor Llach in per cent/  
TC 00:23:43.288 - 00:23:44.550  
(0.18)

Professor Llach as:  
TC 00:23:44.738 - 00:23:45.617  
(0.19)

Professor Llach between the: useful power/  
TC 00:23:45.810 - 00:23:48.383  
(1.81)

Professor Llach and the input power\  
TC 00:23:50.200 - 00:23:52.206  
(0.72)

Professor Llach this is the ratio\  
TC 00:23:52.928 - 00:23:55.215  
(0.62)

Professor Llach ((referring to board) NOw in order to compute the efficiency\_  
TC 00:23:55.838 - 00:23:59.280  
(0.11)

Professor Llach FIRst we must compute the input power \  
TC 00:23:59.390 - 00:24:02.707  
(1.31)

Professor Llach okay/  
TC 00:24:04.026 - 00:24:04.666  
(0.55)

Professor Llach the in- the input power can be computed/  
TC 00:24:05.218 - 00:24:08.568  
(0.38)

Professor Llach ((referring to slides) a:s  
TC 00:24:08.948 - 00:24:09.578  
(0.77)

Professor Llach the square root of three multiplied by the light voltage\_  
TC 00:24:10.348 - 00:24:14.356  
(0.23)

Professor Llach and multiplied by\_  
TC 00:24:14.590 - 00:24:16.140  
(1.26)

Professor Llach the light current and multiplied by\_  
TC 00:24:17.406 - 00:24:20.186  
(0.1)

Professor Llach the:\_  
TC 00:24:20.286 - 00:24:20.910  
(0.37)

Professor Llach power factor\  
TC 00:24:21.280 - 00:24:22.259  
(2.46)

Professor Llach ((referring to slides) we do:- eh: we have the value of the power factor\_  
TC 00:24:24.726 - 00:24:28.096  
(0.62)

Professor Llach also we have the value\_  
TC 00:24:28.716 - 00:24:30.410  
(0.18)

Professor Llach of the: light current  
TC 00:24:30.596 - 00:24:32.976  
(0.39)

Professor Llach and the value of the light voltage\  
TC 00:24:33.366 - 00:24:36.073  
(3.16)

Professor Llach and from it we obtain this amount\  
TC 00:24:39.236 - 00:24:42.237  
(0.48)

Professor Llach and nearly forty eight kilowatts\  
TC 00:24:42.726 - 00:24:45.789  
(0.57)

Professor Llach ((referring to slides) and the relationship between\_  
TC 00:24:46.366 - 00:24:48.926  
(1.81)

Professor Llach these two gives us\_  
TC 00:24:50.736 - 00:24:52.470  
(0.2)

Professor Llach the efficiency of the motor/  
TC 00:24:52.676 - 00:24:55.097  
(0.28)

Professor Llach that in this case is a: of a:n\_  
TC 00:24:55.386 - 00:24:58.686  
(0.67)

Professor Llach ah eighty seven percent\  
TC 00:24:59.356 - 00:25:01.976

(0.92)

Professor Llach okay/  
TC 00:25:02.896 - 00:25:03.456  
(3.73)

Professor Llach it is important  
TC 00:25:07.190 - 00:25:08.451  
(0.06)

Professor Llach ((referring to slides) that in this case the machine operates as a motor\  
TC 00:25:08.511 - 00:25:13.117  
(2.03)

Professor Llach in this case\_  
TC 00:25:15.151 - 00:25:16.321  
(0.24)

Professor Llach the:  
TC 00:25:16.561 - 00:25:17.072  
(0.31)

Professor Llach the power flows  
TC 00:25:17.387 - 00:25:19.121  
(0.43)

Professor Llach from the electrical side\_  
TC 00:25:19.559 - 00:25:21.758  
(0.24)

Professor Llach to the mechanical side\  
TC 00:25:22.001 - 00:25:23.527  
(1.68)

Professor Llach okay/  
TC 00:25:25.213 - 00:25:25.718  
(0.71)

Professor Llach the- the machine absorbs\_  
TC 00:25:26.428 - 00:25:28.499  
(0.15)

Professor Llach an electrical power/  
TC 00:25:28.656 - 00:25:30.270  
(0.18)

Professor Llach and gives to the load or drives to the load a mechanical power\  
TC 00:25:30.450 - 00:25:36.183  
(0.97)

Professor Llach okay/  
TC 00:25:37.160 - 00:25:37.720  
(0.83)

Professor Llach and the: the efficiency must be\_  
TC 00:25:38.550 - 00:25:41.240  
(0.14)

Professor Llach computed  
TC 00:25:41.380 - 00:25:42.500  
(0.63)

Professor Llach from the mechanical power obtained from the motor \_  
TC 00:25:43.130 - 00:25:46.750  
(0.11)

Professor Llach divided by the electrical power absorbed\_  
TC 00:25:46.864 - 00:25:50.084  
(0.23)

Professor Llach by the motor\  
TC 00:25:50.314 - 00:25:51.034  
(1.12)

Professor Llach ((to student 1) yes/  
TC 00:25:52.154 - 00:25:52.734

Estudiant 1 sí (llavors com és el generador?)\  
TC 00:25:52.734 - 00:25:54.410  
(0.43)

Estudiant 1 hauríem de xxx-  
TC 00:25:54.844 - 00:25:56.037

Professor Llach next problem\  
TC 00:25:55.984 - 00:25:57.124  
(0.31)



Professor Llach okay/ next problem is a generator\  
TC 00:25:57.434 - 00:26:00.104  
(0.96)

Professor Llach yes/  
TC 00:26:01.068 - 00:26:01.708  
(1.56)

Professor Llach this example over here\  
TC 00:26:03.271 - 00:26:04.631  
(1.93)

Professor Llach this example of- the second example/  
TC 00:26:06.561 - 00:26:10.386  
(0.91)

Professor Llach says that we have abso- ah the same machine\_  
TC 00:26:11.301 - 00:26:15.200  
(0.15)

Professor Llach as in the previous problem\  
TC 00:26:15.351 - 00:26:18.108  
(0.67)

Professor Llach okay/  
TC 00:26:18.781 - 00:26:19.341  
(0.43)

Professor Llach it's exactly the same machine\  
TC 00:26:19.771 - 00:26:22.010  
(1.22)

Professor Llach but now runs as a generator\  
TC 00:26:23.231 - 00:26:26.561  
(2.55)

Professor Llach with the same numerical value/  
TC 00:26:29.111 - 00:26:31.771  
(0.43)

Professor Llach of the slip\  
TC 00:26:32.201 - 00:26:33.436  
(1.12)

Professor Llach okay/  
TC 00:26:34.561 - 00:26:35.447  
(2.71)

Professor Llach but it means now- that now the slip is not positive\  
TC 00:26:38.161 - 00:26:43.007  
(0.62)

Professor Llach because it is negative now\  
TC 00:26:43.631 - 00:26:45.441  
(0.64)

Professor Llach when it operates as a generator/  
TC 00:26:46.081 - 00:26:48.670  
(0.14)

Professor Llach means/  
TC 00:26:48.810 - 00:26:49.800  
(0.34)

Professor Llach that  
TC 00:26:50.141 - 00:26:50.920  
(1.07)

Professor Llach the speed of the rotor is greater than the speed of the magnetic field\  
TC 00:26:51.991 - 00:26:58.651  
(2.48)

Professor Llach ((referring to board) we have\_  
TC 00:27:01.131 - 00:27:02.473  
(0.23)

Professor Llach this relationship\  
TC 00:27:02.711 - 00:27:04.303  
(1.63)

Professor Llach okay/  
TC 00:27:05.941 - 00:27:06.779  
(0.22)

Professor Llach the speed of the motor  
TC 00:27:07.001 - 00:27:09.315

(0.45)

Professor Llach is greater than the speed of the magnetic field\  
TC 00:27:09.771 - 00:27:12.761  
(0.1)

Professor Llach this means/  
TC 00:27:12.861 - 00:27:14.061  
(0.47)

Professor Llach that the slip MUST BE negative\  
TC 00:27:14.531 - 00:27:17.688  
(4.93)

Professor Llach yes/  
TC 00:27:22.620 - 00:27:23.281  
(0.24)

Professor Llach in there when it operates as a generator the slip is always negative\  
TC 00:27:23.521 - 00:27:29.264  
(3.33)

Professor Llach ((referring to slide) from this negative s- slip we obtain\_  
TC 00:27:32.597 - 00:27:36.461  
(0.22)

Professor Llach this speed\  
TC 00:27:36.681 - 00:27:37.871  
(1.32)

Professor Llach like  
TC 00:27:39.200 - 00:27:39.750  
(0.32)

Professor Llach ((erases board, writes, copying from slides))  
TC 00:27:40.070 - 00:28:05.691  
(0.12)

Professor Llach okay/  
TC 00:28:05.811 - 00:28:06.551  
(0.69)

Professor Llach ((referring to board) this is the: the actual speed\_  
TC 00:28:07.241 - 00:28:09.661  
(0.21)

Professor Llach of the machine WHEN runs  
TC 00:28:09.871 - 00:28:12.721  
(0.66)

Professor Llach as a generator\  
TC 00:28:13.381 - 00:28:14.871  
(4.12)

Professor Llach ah this machine is not usually used\_  
TC 00:28:18.991 - 00:28:22.791  
(0.23)

Professor Llach as a generator\  
TC 00:28:23.021 - 00:28:24.239  
(0.08)

Professor Llach it is only used as a generator\_  
TC 00:28:24.321 - 00:28:27.341  
(0.07)

Professor Llach in the WInd driven  
TC 00:28:27.411 - 00:28:29.811  
(0.47)

Professor Llach or wind driven (+draiven+) generators\  
TC 00:28:30.281 - 00:28:32.800  
(1.25)

Professor Llach és a dir amb els ae- aerogeneradors és l'únic cas en que s'utilitza aquesta  
màquina com a generador\  
TC 00:28:34.050 - 00:28:39.059  
(0.45)

Estudiant 1 amb els generadors de gasolina tampoc/  
TC 00:28:39.510 - 00:28:41.380  
(0.07)

Professor Llach °com/°  
TC 00:28:41.450 - 00:28:41.930  
(0.41)

Estudiant 1            amb els generadors de gasolina tampoc/=  
TC                      00:28:42.340 - 00:28:43.880

Professor Llach        =no\  
TC                      00:28:43.840 - 00:28:44.430  
                         (0.05)

Estudiant 1            (vale vale?)  
TC                      00:28:44.480 - 00:28:45.120  
                         (1.41)

Professor Llach        i:t  
TC                      00:28:46.530 - 00:28:46.990  
                         (0.45)

Professor Llach        ah: the: the usual machine\_  
TC                      00:28:47.440 - 00:28:50.588  
                         (0.73)

Professor Llach        ah:  
TC                      00:28:51.320 - 00:28:51.980  
                         (0.19)

Professor Llach        ah: used as a generator is a SYNchronous machine\  
TC                      00:28:52.170 - 00:28:56.170  
                         (0.16)

Professor Llach        is not this\  
TC                      00:28:56.330 - 00:28:57.370  
                         (1.09)

Professor Llach        but in: in the case of wind driven generators we need this type of machine\_  
TC                      00:28:58.460 - 00:29:03.941  
                         (3.34)

Professor Llach        with ah:  
TC                      00:29:07.290 - 00:29:08.724  
                         (0.25)

Professor Llach        variable speeds\  
TC                      00:29:08.980 - 00:29:10.660  
                         (0.32)

Professor Llach        because the- the- the wind  
TC                      00:29:10.980 - 00:29:12.892  
                         (0.13)

Professor Llach        has not a- a- a- well definite speed\  
TC                      00:29:13.022 - 00:29:17.079  
                         (0.76)

Professor Llach        because it changes with the: with the weather\  
TC                      00:29:17.842 - 00:29:21.222  
                         (0.21)

Professor Llach        okay/  
TC                      00:29:21.432 - 00:29:21.912  
                         (0.57)

Professor Llach        and this type of machine\_  
TC                      00:29:22.482 - 00:29:24.252  
                         (0.16)

Professor Llach        can operate with DIfferent\_  
TC                      00:29:24.412 - 00:29:26.852  
                         (0.28)

Professor Llach        values of the: speed  
TC                      00:29:27.132 - 00:29:29.464  
                         (0.14)

Professor Llach        of the rotor\_  
TC                      00:29:29.612 - 00:29:30.853  
                         (0.08)

Professor Llach        (value?) xx\  
TC                      00:29:30.942 - 00:29:32.236

Estudiants            (estudiants parlen sobre contingut fluix i assenyalen pissarra)  
TC                      00:29:30.942 - 00:29:34.062  
                         (3.79)

Estudiants  
TC                      00:29:37.860 - 00:29:42.848

Estudiants            the: these parameters are the same xxxxx the machine is exactly the same  
TC                      00:29:42.848 - 00:29:50.360

(1.03)

Estudiants okay/ I have a:  
TC 00:29:51.394 - 00:29:53.554  
(0.13)

Estudiants I have not changed it  
TC 00:29:53.688 - 00:29:55.568  
(0.53)

Estudiants all the complements of this machine  
TC 00:29:56.098 - 00:29:59.562  
(0.07)

Estudiants are the same  
TC 00:29:59.638 - 00:30:00.788

Estudiant 1 as in the previous case  
TC 00:30:00.772 - 00:30:02.534  
(3.97)

Professor Llach it means  
TC 00:30:06.508 - 00:30:07.548

Professor Llach that is this  
TC 00:30:07.548 - 00:30:08.848  
(0.03)

Professor Llach if this  
TC 00:30:08.878 - 00:30:09.983  
(0.08)

Professor Llach voltage is the same as in the previous case  
TC 00:30:10.068 - 00:30:13.128

Professor Llach and this  
TC 00:30:13.128 - 00:30:14.353  
(0.16)

Professor Llach resistance  
TC 00:30:14.513 - 00:30:15.473

Professor Llach and xxxx are the same  
TC 00:30:15.473 - 00:30:17.633  
(0.08)

Professor Llach this current  
TC 00:30:17.718 - 00:30:19.112

Professor Llach must be exactly the same  
TC 00:30:19.112 - 00:30:20.802  
(0.57)

Professor Llach okay/  
TC 00:30:21.380 - 00:30:22.100  
(0.42)

Professor Llach if you compare this value  
TC 00:30:22.520 - 00:30:24.660

Professor Llach with the value obtained  
TC 00:30:24.660 - 00:30:27.224  
(1.22)

Professor Llach in the previous  
TC 00:30:28.450 - 00:30:29.680  
(0.12)

Professor Llach example is exactly the same  
TC 00:30:29.800 - 00:30:31.720  
(2.03)

Professor Llach okay/  
TC 00:30:33.750 - 00:30:34.549  
(0.57)

Professor Llach but NOW/  
TC 00:30:35.120 - 00:30:36.480  
(0.27)

Professor Llach this current is not the same\  
TC 00:30:36.750 - 00:30:39.236

Professor Llach because the slip is different now  
TC 00:30:39.240 - 00:30:42.254  
(0.66)

Professor Llach if the slip change/  
TC 00:30:42.920 - 00:30:44.804

Professor Llach all these imperances change  
TC 00:30:44.804 - 00:30:46.885  
(1.58)

Professor Llach and if this imperance change it means that this current also change\  
TC 00:30:48.470 - 00:30:54.789  
(2.24)

Professor Llach okay/  
TC 00:30:57.038 - 00:30:57.678  
(1.65)

Professor Llach now I ca- we can compute  
TC 00:30:59.330 - 00:31:02.346  
(0.21)

Professor Llach this current as the relationship between  
TC 00:31:02.556 - 00:31:06.306

Professor Llach the voltage applied  
TC 00:31:06.306 - 00:31:08.256  
(0.33)

Professor Llach between these two terminals  
TC 00:31:08.586 - 00:31:10.486

Professor Llach and the imperance  
TC 00:31:10.486 - 00:31:12.197  
(0.29)

Professor Llach of this branch  
TC 00:31:12.496 - 00:31:13.696  
(1.37)

Professor Llach okay/  
TC 00:31:15.066 - 00:31:15.716  
(0.58)

Professor Llach thi:s imperance  
TC 00:31:16.296 - 00:31:17.776

Professor Llach i:s  
TC 00:31:17.786 - 00:31:18.506  
(0.14)

Professor Llach this value (pronounced balu:) which is point six  
TC 00:31:18.646 - 00:31:21.126  
(1.15)

Professor Llach this value is point four-  
TC 00:31:22.276 - 00:31:24.706  
(0.11)

Professor Llach multiplied by one divided by /  
TC 00:31:24.816 - 00:31:27.136

Professor Llach the slip  
TC 00:31:27.136 - 00:31:28.256

Professor Llach this is the slip which is which ha:s a  
TC 00:31:28.256 - 00:31:30.274

Professor Llach negative value  
TC 00:31:30.274 - 00:31:32.036

Professor Llach minus one  
TC 00:31:32.036 - 00:31:33.176

Professor Llach plus (? G4)  
TC 00:31:33.176 - 00:31:35.416  
(0.42)

Professor Llach which is the rare (?cuts) of short circuits  
TC 00:31:35.836 - 00:31:39.560  
(1.61)

Professor Llach and now we obtain  
TC 00:31:41.176 - 00:31:43.576  
(0.54)

Professor Llach this current  
TC 00:31:44.116 - 00:31:45.236  
(0.14)

Professor Llach TC the addition -  
00:31:45.376 - 00:31:46.896  
(0.46)

Professor Llach TC of these two currents gives us -  
00:31:47.356 - 00:31:49.971  
(0.7)

Professor Llach TC the: current/  
00:31:50.676 - 00:31:52.686  
(1.16)

Professor Llach TC the current a: absorbed by one phase of the machine  
00:31:53.846 - 00:31:59.109  
(1.95)

Professor Llach TC okay/  
00:32:01.066 - 00:32:01.786  
(254.23)

Professor Llach TC in order to compute  
00:36:16.020 - 00:36:17.910  
(0.79)

Professor Llach TC the mechanical power generated by: by the machine/  
00:36:18.700 - 00:36:23.080  
(3.99)

Professor Llach TC w- we have ah:  
00:36:27.070 - 00:36:29.736  
(0.93)

Professor Llach TC two::  
00:36:30.670 - 00:36:31.530  
(1.4)

Professor Llach TC two possi- two possibilities\  
00:36:32.930 - 00:36:34.849  
(0.22)

Professor Llach TC the- the first one is to compute\_  
00:36:35.070 - 00:36:37.920  
(0.51)

Professor Llach TC the: the mechanical torque\  
00:36:38.430 - 00:36:40.550  
(0.27)

Professor Llach TC from this formula\  
00:36:40.820 - 00:36:41.740  
(0.41)

Professor Llach TC in this formula/  
00:36:42.150 - 00:36:43.510  
(2.25)

Professor Llach TC the slip is negative\  
00:36:45.760 - 00:36:47.820  
(0.97)

Professor Llach TC the slip is negative\  
00:36:48.790 - 00:36:50.380  
(0.26)

Professor Llach TC and when WE  
00:36:50.640 - 00:36:52.254  
(0.3)

Professor Llach TC solve this formula with- with this negative\_  
00:36:52.560 - 00:36:55.750  
(0.15)

Professor Llach TC slip/  
00:36:55.900 - 00:36:56.700  
(0.23)

Professor Llach TC we obtain  
00:36:56.930 - 00:36:58.510  
(0.23)

Professor Llach TC a negative torque\  
00:36:58.740 - 00:37:00.310  
(2.31)

Professor Llach TC okay/  
00:37:02.620 - 00:37:03.420  
(1.26)

Professor Llach do you understand  
TC 00:37:04.680 - 00:37:05.980  
(0.14)

Professor Llach what does it mean/  
TC 00:37:06.120 - 00:37:07.540  
(0.39)

Professor Llach a negative torque/  
TC 00:37:07.930 - 00:37:09.290  
(1.1)

Professor Llach a nega- a negative torque MEAns\_  
TC 00:37:10.390 - 00:37:13.244  
(0.89)

Professor Llach that the machine is making\_  
TC 00:37:14.141 - 00:37:16.861  
(0.38)

Professor Llach a FORce a TORque in a\_  
TC 00:37:17.241 - 00:37:19.070  
(0.27)

Professor Llach opposite/  
TC 00:37:19.343 - 00:37:20.943  
(0.23)

Professor Llach opposite to the external torque applied to the machine\  
TC 00:37:21.181 - 00:37:25.149  
(0.77)

Professor Llach okay/  
TC 00:37:25.921 - 00:37:26.430  
(1.83)

Professor Llach és a dir ella no es deixa moure\  
TC 00:37:28.261 - 00:37:30.446  
(1.32)

Professor Llach la idea és que quan li apliquem una força externa\_  
TC 00:37:31.771 - 00:37:34.809  
(0.12)

Professor Llach ella o sigui la intentem fer girar i ella s'hi oposa en un moment\  
TC 00:37:34.930 - 00:37:38.832  
(2.77)

Professor Llach okay/  
TC 00:37:41.609 - 00:37:42.300  
(3.51)

Professor Llach we also can apply  
TC 00:37:45.819 - 00:37:47.974  
(0.3)

Professor Llach or can ca- can calculate  
TC 00:37:48.279 - 00:37:50.800  
(0.19)

Professor Llach thi:s this torque/  
TC 00:37:50.993 - 00:37:52.630  
(0.12)

Professor Llach from the- the power dissipated\_  
TC 00:37:52.758 - 00:37:55.900  
(0.13)

Professor Llach in this resistance\  
TC 00:37:56.038 - 00:37:57.388  
(0.14)

Professor Llach this vehicular resistance\  
TC 00:37:57.528 - 00:37:59.288  
(0.15)

Professor Llach do you remember/  
TC 00:37:59.438 - 00:38:00.610  
(0.11)

Professor Llach that this resistance is not REAL\  
TC 00:38:00.728 - 00:38:04.050  
(0.33)

Professor Llach it is a VIRtual resistance\_  
TC 00:38:04.380 - 00:38:06.520

(0.19)

Professor Llach in order to simulate\  
TC 00:38:06.710 - 00:38:08.690  
(0.27)

Professor Llach the:  
TC 00:38:08.962 - 00:38:09.690  
(0.19)

Professor Llach POver or the mechanical power generated by the machine\  
TC 00:38:09.882 - 00:38:14.047  
(2.57)

Professor Llach when WE  
TC 00:38:16.622 - 00:38:18.221  
(0.17)

Professor Llach solve this equ- equation/  
TC 00:38:18.392 - 00:38:20.712  
(0.12)

Professor Llach we obtain this result\  
TC 00:38:20.832 - 00:38:22.832  
(0.78)

Professor Llach it is the same to compute this\_  
TC 00:38:23.612 - 00:38:25.992  
(0.77)

Professor Llach or this or this one eh/ it is exactly the same\  
TC 00:38:26.762 - 00:38:30.202  
(2.11)

Professor Llach but WE always WILL obtain a negative torque\  
TC 00:38:32.319 - 00:38:36.362  
(1.46)

Professor Llach okay/  
TC 00:38:37.822 - 00:38:38.622  
(4.9)

Professor Llach now we have a mechanical input\_  
TC 00:38:43.522 - 00:38:47.308  
(0.72)

Professor Llach a- a mechanical power which is the input of the machine\_  
TC 00:38:48.032 - 00:38:52.352  
(0.94)

Professor Llach and as output\_  
TC 00:38:53.292 - 00:38:54.880  
(0.25)

Professor Llach we obtain an electrical power\  
TC 00:38:55.132 - 00:38:57.380  
(2.54)

Professor Llach which flows through  
TC 00:38:59.922 - 00:39:02.122  
(0.53)

Professor Llach the net\ to the: electrical net\  
TC 00:39:02.652 - 00:39:05.051  
(1.43)

Professor Llach we are generAting an electrical power\  
TC 00:39:06.482 - 00:39:09.382  
(0.86)

Professor Llach okay/  
TC 00:39:10.242 - 00:39:10.800  
(2.99)

Professor Llach and now/  
TC 00:39:13.794 - 00:39:14.990  
(2.59)

Professor Llach the TTotal  
TC 00:39:17.581 - 00:39:19.021  
(0.43)

Professor Llach input\_  
TC 00:39:19.460 - 00:39:20.300  
(0.15)

Professor Llach power\_



TC 00:39:20.450 - 00:39:21.570  
(0.4)

Professor Llach is THIS one  
TC 00:39:21.970 - 00:39:23.140  
(0.11)

Professor Llach plus  
TC 00:39:23.250 - 00:39:24.369  
(0.5)

Professor Llach plus  
TC 00:39:24.870 - 00:39:25.990  
(1.09)

Professor Llach the:  
TC 00:39:27.080 - 00:39:27.950  
(0.19)

Professor Llach friction losses\  
TC 00:39:28.140 - 00:39:29.810  
(1.21)

Professor Llach here we have to add  
TC 00:39:31.020 - 00:39:33.260  
(0.24)

Professor Llach the friction losses\ because\_  
TC 00:39:33.500 - 00:39:35.580  
(0.22)

Professor Llach here I have to apply\_  
TC 00:39:35.800 - 00:39:37.880  
(1.52)

Professor Llach a superior value  
TC 00:39:39.400 - 00:39:41.320  
(0.08)

Professor Llach of power\ because\_  
TC 00:39:41.400 - 00:39:43.160  
(1.28)

Professor Llach I ah- ah:\  
TC 00:39:44.440 - 00:39:45.740  
(0.09)

Professor Llach we have  
TC 00:39:45.830 - 00:39:46.880  
(0.12)

Professor Llach the:- the friction of losses\  
TC 00:39:47.000 - 00:39:49.000  
(1.04)

Professor Llach okay/  
TC 00:39:50.040 - 00:39:50.510  
(0.25)

Professor Llach the:  
TC 00:39:50.760 - 00:39:51.280  
(0.12)

Professor Llach it means that as an input/ the total input of the- of the machine/  
TC 00:39:51.400 - 00:39:55.720  
(0.27)

Professor Llach is there\  
TC 00:39:55.990 - 00:39:57.473  
(1.41)

Professor Llach the internal pow- the power plus the mechanical power DUE\_  
TC 00:39:58.890 - 00:40:03.850  
(0.2)

Professor Llach to:  
TC 00:40:04.050 - 00:40:04.730  
(0.51)

Professor Llach the friction and the ventilation\_  
TC 00:40:05.240 - 00:40:08.030  
(0.16)

Professor Llach losses\  
TC 00:40:08.190 - 00:40:09.140  
(0.31)

Professor Llach okay/  
TC 00:40:09.450 - 00:40:10.180  
(1.57)

Professor Llach this\  
TC 00:40:11.750 - 00:40:12.380  
(0.49)

Professor Llach power\  
TC 00:40:12.870 - 00:40:13.690  
(0.3)

Professor Llach is obtained from this expression\_  
TC 00:40:13.990 - 00:40:16.438  
(0.48)

Professor Llach and I give  
TC 00:40:16.920 - 00:40:18.160  
(0.29)

Professor Llach the absolute value because  
TC 00:40:18.450 - 00:40:20.370  
(0.14)

Professor Llach it results as negative  
TC 00:40:20.510 - 00:40:22.910  
(0.71)

Professor Llach okay/  
TC 00:40:23.620 - 00:40:24.160  
(1.03)

Professor Llach and here I have to add  
TC 00:40:25.190 - 00:40:27.260  
(0.5)

Professor Llach the: mecahnical losses\  
TC 00:40:27.760 - 00:40:29.200  
(0.2)

Professor Llach this is  
TC 00:40:29.400 - 00:40:30.120  
(0.19)

Professor Llach the result of the TTotal power absorbed\_  
TC 00:40:30.310 - 00:40:34.071  
(0.5)

Professor Llach by this generator\  
TC 00:40:34.580 - 00:40:35.800  
(0.14)

Professor Llach the TTotal  
TC 00:40:35.940 - 00:40:37.020  
(0.12)

Professor Llach mechanical power\  
TC 00:40:37.140 - 00:40:38.660  
(2.16)

Professor Llach and the electrical output  
TC 00:40:40.820 - 00:40:43.460  
(2.47)

Professor Llach the electrical output\  
TC 00:40:45.930 - 00:40:47.610  
(0.14)

Professor Llach of the machine\_  
TC 00:40:47.750 - 00:40:48.890  
(0.15)

Professor Llach is  
TC 00:40:49.040 - 00:40:49.530  
(0.56)

Professor Llach is calculated as  
TC 00:40:50.090 - 00:40:51.650  
(0.1)

Professor Llach the square root of three/ multiplied by the light voltage\_  
TC 00:40:51.750 - 00:40:55.250  
(0.1)

Professor Llach by the line current  
TC 00:40:55.350 - 00:40:56.790  
(0.08)

Professor Llach and by the power factor\  
TC 00:40:56.870 - 00:40:58.660  
(1.34)

Professor Llach okay\  
TC 00:41:00.000 - 00:41:00.550  
(0.17)

Professor Llach we have all these values\  
TC 00:41:00.720 - 00:41:03.050  
(0.08)

Professor Llach the power factor\  
TC 00:41:03.130 - 00:41:04.720  
(0.16)

Professor Llach the light current\  
TC 00:41:04.887 - 00:41:06.487  
(1.05)

Professor Llach and the light voltage is\  
TC 00:41:07.540 - 00:41:09.620  
(0.15)

Professor Llach four hundred forty\  
TC 00:41:09.770 - 00:41:10.970  
(1.93)

Professor Llach okay\  
TC 00:41:12.900 - 00:41:13.470  
(0.15)

Professor Llach and this is the result\  
TC 00:41:13.620 - 00:41:15.140  
(0.16)

Professor Llach and NOW in order to compute the Efficiency\_  
TC 00:41:15.300 - 00:41:19.071  
(0.16)

Professor Llach the efficiency is\  
TC 00:41:19.231 - 00:41:20.651  
(0.12)

Professor Llach the OUTput power divided by the total input power\  
TC 00:41:20.771 - 00:41:25.860  
(0.57)

Professor Llach okay\  
TC 00:41:26.431 - 00:41:27.130  
(1.08)

Professor Llach and this is more or less\  
TC 00:41:28.211 - 00:41:30.170  
(0.09)

Professor Llach eighty seven per cent also\  
TC 00:41:30.261 - 00:41:32.021  
(1.54)

Professor Llach okay\  
TC 00:41:33.561 - 00:41:34.170  
(2.42)

Estudiant 1 x tot el xxx de (?operació)  
TC 00:41:36.591 - 00:41:38.421  
(0.34)

Estudiant 1 posa aquí que cinquanta quatre no són MENYS que noranta\  
TC 00:41:38.761 - 00:41:41.801  
(1.4)

Professor Llach okay\  
TC 00:41:43.201 - 00:41:43.921  
(1.32)

Professor Llach I explain you\  
TC 00:41:45.241 - 00:41:46.341  
(0.47)

Professor Llach yes\  
TC 00:41:46.820 - 00:41:47.290  
(0.15)

Estudiant 1 allò que has dit abans\  
TC 00:41:47.441 - 00:41:48.801

(0.25)

Professor Llach no\  
TC 00:41:49.051 - 00:41:49.681  
(1.33)

Professor Llach because you-  
TC 00:41:51.011 - 00:41:51.620  
(0.04)

Professor Llach we have to apply: ((writing on board) this one\  
TC 00:41:51.661 - 00:41:54.381  
(5.19)

Professor Llach really/  
TC 00:41:59.571 - 00:42:00.550  
(0.14)

Professor Llach there is a faceshift of one hundred\_  
TC 00:42:00.691 - 00:42:04.011  
(0.55)

Professor Llach eighty- eh eighty degrees\  
TC 00:42:04.561 - 00:42:06.280  
(0.59)

Professor Llach because the current\_  
TC 00:42:06.871 - 00:42:08.631  
(0.24)

Professor Llach should be computed  
TC 00:42:08.871 - 00:42:10.791  
(1.22)

Professor Llach ah in opposite d: directions\  
TC 00:42:12.011 - 00:42:14.380  
(0.06)

Professor Llach okay/  
TC 00:42:14.440 - 00:42:15.020  
(1.6)

Estudiant 1 yes\  
TC 00:42:16.620 - 00:42:17.420  
(116.81)

Professor Llach now  
TC 00:44:14.235 - 00:44:14.845  
(0.31)

Professor Llach a:h  
TC 00:44:15.155 - 00:44:15.565  
(1.08)

Professor Llach let's go to read\_  
TC 00:44:16.645 - 00:44:17.705  
(0.45)

Professor Llach the statement of this problem\  
TC 00:44:18.155 - 00:44:19.535  
(3.75)

Professor Llach the same machine  
TC 00:44:23.285 - 00:44:24.355  
(0.2)

Professor Llach as\_  
TC 00:44:24.555 - 00:44:25.015  
(0.38)

Professor Llach in the previous examples\  
TC 00:44:25.404 - 00:44:26.854  
(0.74)

Professor Llach which\_  
TC 00:44:27.594 - 00:44:28.174  
(0.31)

Professor Llach is conne-  
TC 00:44:28.484 - 00:44:28.944  
(0.39)

Professor Llach connected at the same\_  
TC 00:44:29.334 - 00:44:30.664  
(0.91)

Professor Llach grid\  
TC

TC 00:44:31.574 - 00:44:32.394  
(1.11)

Professor Llach at the same a:  
TC 00:44:33.509 - 00:44:34.129  
(1.71)

Professor Llach generator\  
TC 00:44:35.839 - 00:44:36.609  
(0.09)

Professor Llach at the same grid\ at the same net\ at the same a:h line\ vale/  
TC 00:44:36.699 - 00:44:40.938  
(1.12)

Professor Llach runs  
TC 00:44:42.059 - 00:44:42.689  
(0.15)

Professor Llach at  
TC 00:44:42.839 - 00:44:43.079  
(0.97)

Professor Llach at  
TC 00:44:44.049 - 00:44:44.309  
(0.44)

Professor Llach a speed of one thousand four hundred forty seven\_  
TC 00:44:44.749 - 00:44:48.469  
(1.26)

Professor Llach rpms  
TC 00:44:49.729 - 00:44:50.419  
(1.37)

Professor Llach and suddenly\_  
TC 00:44:51.789 - 00:44:53.232  
(0.5)

Professor Llach and instantaneously  
TC 00:44:53.739 - 00:44:54.569  
(0.71)

Professor Llach phases  
TC 00:44:55.279 - 00:44:56.069  
(0.55)

Professor Llach R and S are permuted\  
TC 00:44:56.619 - 00:44:59.139  
(2.14)

Professor Llach this means  
TC 00:45:01.279 - 00:45:01.849  
(2.47)

Professor Llach that suddenly\_  
TC 00:45:04.319 - 00:45:05.479  
(4.36)

Professor Llach if I have  
TC 00:45:09.839 - 00:45:10.649  
(0.32)

Professor Llach the motor connected to\_  
TC 00:45:10.969 - 00:45:13.029  
(0.99)

Professor Llach RST  
TC 00:45:14.019 - 00:45:15.419  
(4.25)

Professor Llach these phases\_  
TC 00:45:19.669 - 00:45:20.489  
(1.95)

Professor Llach are permuted\  
TC 00:45:22.439 - 00:45:23.409  
(39.58)

Professor Llach and now/  
TC 00:46:02.990 - 00:46:03.890  
(0.16)

Professor Llach this speed/  
TC 00:46:04.050 - 00:46:05.133  
(0.96)

Professor Llach change\_ TC 00:46:06.093 - 00:46:06.973 (0.43)

Professor Llach instantaneously\ TC 00:46:07.403 - 00:46:08.843 (4.71)

Professor Llach this speed change\_ TC 00:46:13.556 - 00:46:14.980 (0.09)

Professor Llach at the moment\ TC 00:46:15.076 - 00:46:16.276 (0.67)

Professor Llach absolutely in zero seconds we can change this speed\ TC 00:46:16.946 - 00:46:21.043 (0.61)

Professor Llach okay/ TC 00:46:21.656 - 00:46:22.340 (0.67)

Professor Llach it (could be?) needs nothing to change because\_ TC 00:46:23.016 - 00:46:26.087 (0.15)

Professor Llach it is an elecromagnetic TC 00:46:26.246 - 00:46:28.566 (0.24)

Professor Llach magnitude\ TC 00:46:28.806 - 00:46:29.686 (0.42)

Professor Llach and the elec- elecromagnetic magnitude can change\_ TC 00:46:30.106 - 00:46:34.315 (0.4)

Professor Llach in one instant\ TC 00:46:34.716 - 00:46:35.836 (0.12)

Professor Llach eh/ TC 00:46:35.956 - 00:46:36.330 (0.1)

Professor Llach very very very quickly\ TC 00:46:36.436 - 00:46:38.005 (0.22)

Professor Llach okay/ TC 00:46:38.226 - 00:46:38.706 (0.48)

Professor Llach BUt TC 00:46:39.186 - 00:46:40.466 (0.19)

Professor Llach in this case\_ TC 00:46:40.656 - 00:46:42.256 (0.32)

Professor Llach the rotor speed TC 00:46:42.580 - 00:46:45.239 (0.1)

Professor Llach is one thousand four hundred forty seven rpms\_ TC 00:46:45.346 - 00:46:49.496 (0.24)

Professor Llach and HEre\_ TC 00:46:49.736 - 00:46:51.336 (1.64)

Professor Llach it is the same\ TC 00:46:52.976 - 00:46:54.736 (0.29)

Professor Llach because\_ TC 00:46:55.026 - 00:46:56.306 (0.22)

Professor Llach between between these situations\_ TC 00:46:56.526 - 00:46:59.543 (0.29)

Professor Llach    you supposed for example  
TC                    00:46:59.833 - 00:47:01.680  
(0.13)

Professor Llach    there is one milisecond of difference \  
TC                    00:47:01.813 - 00:47:04.630  
(0.62)

Professor Llach    okay are TWO  
TC                    00:47:05.253 - 00:47:06.870  
(0.47)

Professor Llach    instants\  
TC                    00:47:07.343 - 00:47:08.283  
(0.08)

Professor Llach    very very close in time\  
TC                    00:47:08.363 - 00:47:10.363  
(0.45)

Professor Llach    okay/  
TC                    00:47:10.813 - 00:47:11.453  
(0.23)

Professor Llach    the rotor has no time to CHAnge\_  
TC                    00:47:11.683 - 00:47:15.103  
(0.16)

Professor Llach    its velocity\_  
TC                    00:47:15.270 - 00:47:16.773  
(0.21)

Professor Llach    i- its speed\_  
TC                    00:47:16.983 - 00:47:18.530  
(0.52)

Professor Llach    because it has a:  
TC                    00:47:19.053 - 00:47:21.132  
(0.21)

Professor Llach    an ((moving hands in circular motion) inertia\_ (+inerthia+))  
TC                    00:47:21.343 - 00:47:22.943  
(0.13)

Professor Llach    also\  
TC                    00:47:23.073 - 00:47:23.670  
(0.95)

Professor Llach    it has a::  
TC                    00:47:24.620 - 00:47:25.830  
(0.1)

Professor Llach    a: big inertia (+interthia+)  
TC                    00:47:25.933 - 00:47:28.013  
(0.13)

Professor Llach    bu:t  
TC                    00:47:28.143 - 00:47:29.423  
(1.83)

Professor Llach    the magnetic field can change its\_  
TC                    00:47:31.253 - 00:47:33.973  
(0.21)

Professor Llach    speed\_  
TC                    00:47:34.183 - 00:47:34.983  
(0.15)

Professor Llach    instantaneously\  
TC                    00:47:35.133 - 00:47:36.463  
(0.46)

Professor Llach    because it is  
TC                    00:47:36.923 - 00:47:38.175  
(0.91)

Professor Llach    an electromagnetic magnitude\  
TC                    00:47:39.093 - 00:47:42.053  
(0.16)

Professor Llach    okay/  
TC                    00:47:42.213 - 00:47:42.850  
(0.37)

Professor Llach    do you understand why/  
TC                    00:47:43.223 - 00:47:44.380

(0.11)

Professor Llach TC és a dir el camp magnetic pot canviar de cop\_  
00:47:44.493 - 00:47:46.740  
(0.12)

Professor Llach TC instantàniament\_  
00:47:46.860 - 00:47:47.910  
(0.1)

Professor Llach TC perquè és una magnitud electromagnètica\_  
00:47:48.013 - 00:47:49.910  
(0.2)

Professor Llach TC PERÒ el rotor necessita un temps de canvi\_  
00:47:50.113 - 00:47:53.880  
(0.26)

Professor Llach TC perquè:  
00:47:54.143 - 00:47:55.180  
(0.24)

Professor Llach TC té una inèrcia\  
00:47:55.423 - 00:47:56.493  
(0.52)

Professor Llach TC i una magnitud mecànica necessita una temps per canviar\  
00:47:57.015 - 00:47:59.895  
(1.48)

Professor Llach TC okay/  
00:48:01.375 - 00:48:01.850  
(2.33)

Professor Llach TC ((referring to board) YOU understand the two situations\  
00:48:04.185 - 00:48:06.665  
(1.42)

Professor Llach TC and here) the machine acts as a brake\  
00:48:08.085 - 00:48:11.290  
(0.15)

Professor Llach TC because  
00:48:11.445 - 00:48:12.725  
(1.03)

Professor Llach TC because  
00:48:13.755 - 00:48:14.870  
(0.8)

Professor Llach TC ((writing on board) the rotor\_  
00:48:15.675 - 00:48:17.755  
(0.53)

Professor Llach TC ((referring to board) rotates\_  
00:48:18.285 - 00:48:19.480  
(0.16)

Professor Llach TC in this  
00:48:19.645 - 00:48:20.560  
(0.12)

Professor Llach TC direction/  
00:48:20.685 - 00:48:21.710  
(0.41)

Professor Llach TC and the ma- ((writing on board) the:\_  
00:48:22.125 - 00:48:23.820  
(0.42)

Professor Llach TC the magnetic field rotates )  
00:48:24.245 - 00:48:27.125  
(1.63)

Professor Llach TC ((referring to board) opposite as a rotor\  
00:48:28.755 - 00:48:31.275  
(0.72)

Professor Llach TC okay/ okay/  
00:48:31.995 - 00:48:33.180  
(0.13)

Professor Llach TC it MEAns/  
00:48:33.315 - 00:48:34.340  
(0.17)

Professor Llach TC that the torque\_



TC 00:48:34.515 - 00:48:36.030  
(0.32)

Professor Llach ((writing on board) that the torque generated\_  
TC 00:48:36.350 - 00:48:38.390  
(0.3)

Professor Llach by the mo-) by the motor  
TC 00:48:38.694 - 00:48:40.525  
(0.03)

Professor Llach if it eh IS in opposite direction\_  
TC 00:48:40.555 - 00:48:43.875  
(0.03)

Professor Llach as a actual speed\_  
TC 00:48:43.905 - 00:48:46.384  
(0.5)

Professor Llach of the: of the rotor\  
TC 00:48:46.885 - 00:48:48.565  
(1.91)

Professor Llach and it means that the torque tends\_  
TC 00:48:50.475 - 00:48:53.514  
(0.67)

Professor Llach to break  
TC 00:48:54.185 - 00:48:55.705  
(0.63)

Professor Llach to brake the machine\  
TC 00:48:56.335 - 00:48:57.935  
(0.73)

Professor Llach tendeix a frenar la màquina\  
TC 00:48:58.665 - 00:49:00.345  
(1.24)

Professor Llach okay/  
TC 00:49:01.585 - 00:49:02.305  
(2.75)

Professor Llach yes/  
TC 00:49:05.055 - 00:49:05.787  
(0.11)

Professor Llach and now were are going to solve\_  
TC 00:49:05.905 - 00:49:08.106  
(0.19)

Professor Llach the same problem\  
TC 00:49:08.305 - 00:49:09.345  
(2.73)

Professor Llach this is the actual speed  
TC 00:49:12.075 - 00:49:14.552  
(0.24)

Professor Llach of the machine\_  
TC 00:49:14.795 - 00:49:15.705  
(0.06)

Professor Llach and\_  
TC 00:49:15.765 - 00:49:16.565  
(0.03)

Professor Llach the speed of the magnetic field\  
TC 00:49:16.595 - 00:49:18.994  
(0.18)

Professor Llach it has a MINus here\  
TC 00:49:19.175 - 00:49:21.095  
(0.26)

Professor Llach it is very important this minus because we have changed\_  
TC 00:49:21.355 - 00:49:25.345  
(1.35)

Professor Llach the:  
TC 00:49:26.695 - 00:49:27.550  
(0.1)

Professor Llach the direction\_  
TC 00:49:27.655 - 00:49:28.940  
(0.09)

Professor Llach of the- of the synchronous speed\  
TC 00:49:29.035 - 00:49:31.755  
(0.72)

Professor Llach but we have not time\_  
TC 00:49:32.484 - 00:49:34.560  
(0.11)

Professor Llach ((pointing to slide) to change\_  
TC 00:49:34.675 - 00:49:36.195  
(0.24)

Professor Llach to change\_  
TC 00:49:36.435 - 00:49:37.715  
(0.52)

Professor Llach the: speed\_  
TC 00:49:38.235 - 00:49:39.470  
(0.12)

Professor Llach of) the rotor\  
TC 00:49:39.595 - 00:49:40.715  
(0.17)

Professor Llach because it is in the precise (+presis+) instant\_  
TC 00:49:40.885 - 00:49:43.375  
(0.11)

Professor Llach instant\  
TC 00:49:43.485 - 00:49:44.285  
(0.41)

Professor Llach of\_  
TC 00:49:44.695 - 00:49:45.175  
(0.4)

Professor Llach this\_  
TC 00:49:45.575 - 00:49:46.100  
(0.27)

Professor Llach phase termination\  
TC 00:49:46.370 - 00:49:47.669  
(1.03)

Professor Llach okay/  
TC 00:49:48.705 - 00:49:49.345  
(0.34)

Professor Llach we compute this problem\_  
TC 00:49:49.685 - 00:49:51.555  
(0.12)

Professor Llach ju:st\_  
TC 00:49:51.680 - 00:49:52.755  
(0.31)

Professor Llach after just after the phase permutation\  
TC 00:49:53.065 - 00:49:56.130  
(2.37)

Professor Llach Now the same ((pointing at slide) as in the previous problems\  
TC 00:49:58.505 - 00:50:01.952  
(1.07)

Professor Llach we have to compute\_  
TC 00:50:03.025 - 00:50:04.865  
(0.13)

Professor Llach the the current in the parallel branch\_  
TC 00:50:05.000 - 00:50:08.161  
(0.1)

Professor Llach it is absolutely the same va- the same current) computed\_  
TC 00:50:08.270 - 00:50:12.839  
(0.29)

Professor Llach as in the previous problem\_  
TC 00:50:13.130 - 00:50:14.889  
(1.16)

Professor Llach okay/ ((pointing to slide) this is-  
TC 00:50:16.050 - 00:50:17.010  
(1.01)

Professor Llach it's the same value/  
TC 00:50:18.020 - 00:50:19.460  
(0.04)

Professor Llach because the: th- the resistance and the xxx and the:\_  
TC 00:50:19.500 - 00:50:23.462  
(0.25)

Professor Llach the voltage is the same\_  
TC 00:50:23.720 - 00:50:25.400  
(2.84)

Professor Llach ((pointing to slide) the current change\_  
TC 00:50:28.244 - 00:50:29.780  
(0.14)

Professor Llach becau- because now the slip change\_  
TC 00:50:29.924 - 00:50:32.964  
(0.89)

Professor Llach when it acts\_  
TC 00:50:33.860 - 00:50:35.470  
(0.12)

Professor Llach or when the machine acts-  
TC 00:50:35.590 - 00:50:37.650  
(0.18)

Professor Llach as a break/  
TC 00:50:37.830 - 00:50:39.230  
(0.08)

Professor Llach the slip\_  
TC 00:50:39.310 - 00:50:40.240  
(0.11)

Professor Llach is greater than one\  
TC 00:50:40.350 - 00:50:42.160  
(2.09)

Professor Llach is superior to one\ okay/  
TC 00:50:44.250 - 00:50:46.810  
(378.5)

Professor Llach we have checked  
TC 00:57:05.316 - 00:57:06.996  
(0.82)

Professor Llach okay/  
TC 00:57:07.822 - 00:57:08.942  
(0.04)

Professor Llach ((pointing to slide) we have checked that\_  
TC 00:57:08.982 - 00:57:10.902  
(0.72)

Professor Llach this power and this power/  
TC 00:57:11.622 - 00:57:14.422  
(0.66)

Professor Llach is the same as\_  
TC 00:57:15.082 - 00:57:17.194  
(0.05)

Professor Llach as these two )  
TC 00:57:17.252 - 00:57:18.240  
(0.15)

Professor Llach input powers  
TC 00:57:18.392 - 00:57:19.671  
(1.08)

Professor Llach okay/  
TC 00:57:20.752 - 00:57:21.320  
(0.15)

Professor Llach the losses  
TC 00:57:21.472 - 00:57:22.510  
(0.08)

Professor Llach are equal to:\_  
TC 00:57:22.592 - 00:57:23.960  
(0.09)

Professor Llach the two inputs\  
TC 00:57:24.050 - 00:57:25.730  
(2.22)

Professor Llach do you understand/  
TC 00:57:27.954 - 00:57:29.154

(1.03)

Professor Llach okay\  
TC 00:57:30.192 - 00:57:30.752  
(0.97)

Professor Llach it means that in this case we have an efficiency\_  
TC 00:57:31.722 - 00:57:36.630  
(0.18)

Professor Llach of  
TC 00:57:36.812 - 00:57:37.772  
(0.58)

Professor Llach quina eficiència té aquesta màquina\  
TC 00:57:38.352 - 00:57:40.261  
(2.15)

Professor Llach zero\  
TC 00:57:42.412 - 00:57:43.052  
(0.76)

Professor Llach we have  
TC 00:57:43.812 - 00:57:44.692  
(0.13)

Professor Llach an efficiency of zero\  
TC 00:57:44.822 - 00:57:46.412  
(0.05)

Professor Llach because  
TC 00:57:46.470 - 00:57:47.130  
(0.08)

Professor Llach all the input power is  
TC 00:57:47.212 - 00:57:49.692  
(0.16)

Professor Llach dissipated as heat  
TC 00:57:49.860 - 00:57:51.722  
(1.36)

Professor Llach okay/  
TC 00:57:53.082 - 00:57:53.802  
(0.57)

Professor Llach we have an efficiency of zero\  
TC 00:57:54.372 - 00:57:57.172  
(3.37)

Estudiant B Jordi una pregunta aquí quan calculem el factor de la potència no modifiquem  
el signe [de: l'altre/]  
TC 00:58:00.542 - 00:58:06.212

Professor Llach [°sí\ sí ] s'ha de modificar°\  
TC 00:58:05.583 - 00:58:07.103  
(0.68)

Professor Llach °sí°\  
TC 00:58:07.783 - 00:58:08.213

Estudiant B vale\  
TC 00:58:07.993 - 00:58:08.393  
(1.57)

Professor Llach you are right\  
TC 00:58:09.970 - 00:58:10.970  
(0.99)

Professor Llach this eh-  
TC 00:58:11.962 - 00:58:13.242  
(0.35)

Professor Llach here/  
TC 00:58:13.592 - 00:58:14.552  
(0.12)

Professor Llach I need a minus\  
TC 00:58:14.677 - 00:58:15.877  
(4.05)

Professor Llach okay/  
TC 00:58:19.927 - 00:58:20.487  
(1.49)

Professor Llach you know that these  
TC 00:58:21.977 - 00:58:23.737

(0.69)

Professor Llach slides  
TC 00:58:24.427 - 00:58:25.307  
(0.42)

Professor Llach can have some mistakes  
TC 00:58:25.727 - 00:58:27.534  
(0.39)

Professor Llach that we have to correct\  
TC 00:58:27.927 - 00:58:29.126  
(7.58)

Professor Llach and NOW we are going to do the last problem of the of this course\  
TC 00:58:36.714 - 00:58:42.071  
(0.86)

Professor Llach the last problem\  
TC 00:58:42.940 - 00:58:44.448  
(8.6)

Estudiants (estudiants parlen entre ells)  
TC 00:58:53.048 - 00:59:03.898

Professor Llach okay you know that we have two types\_  
TC 00:58:59.948 - 00:59:03.800  
(0.06)

Professor Llach of invection mo- motors\  
TC 00:59:03.868 - 00:59:06.268  
(0.18)

Professor Llach two types\  
TC 00:59:06.448 - 00:59:07.718  
(0.83)

Professor Llach do you remember/  
TC 00:59:08.548 - 00:59:09.988  
(0.42)

Professor Llach the typical one is the SQUIrrel cage rotor\  
TC 00:59:10.408 - 00:59:15.032  
(0.76)

Professor Llach with the:- is the motor which has a squirrel cage\  
TC 00:59:15.798 - 00:59:20.137  
(0.22)

Professor Llach una gàbia d'esquirol\  
TC 00:59:20.358 - 00:59:21.797  
(0.87)

Professor Llach okay/  
TC 00:59:22.670 - 00:59:23.275  
(1.04)

Professor Llach it is the: the MOst usual\  
TC 00:59:24.318 - 00:59:27.178  
(0.27)

Professor Llach motor\  
TC 00:59:27.448 - 00:59:28.328  
(0.98)

Professor Llach because it is very rugged\  
TC 00:59:29.308 - 00:59:31.506  
(0.39)

Professor Llach molt hm:  
TC 00:59:31.900 - 00:59:33.250  
(0.96)

Professor Llach ((cat) robust\  
TC 00:59:34.218 - 00:59:35.338  
(0.23)

Professor Llach okay/  
TC 00:59:35.568 - 00:59:36.208  
(0.12)

Professor Llach but in SOme  
TC 00:59:36.330 - 00:59:37.898  
(0.63)

Professor Llach special es- special a:h  
TC 00:59:38.530 - 00:59:41.098

(3.68)

Professor Llach in some special ah occasions\_  
TC 00:59:44.778 - 00:59:47.497 -  
(3.09)

Professor Llach SOMETimes\ sometimes\  
TC 00:59:50.593 - 00:59:52.440  
(0.08)

Professor Llach ((gesturing with fingers) very few very few very very few times \_)  
TC 00:59:52.528 - 00:59:55.267  
(0.14)

Professor Llach it is applied\_  
TC 00:59:55.410 - 00:59:56.918  
(0.15)

Professor Llach a special type of invection motor\_  
TC 00:59:57.068 - 01:00:00.553  
(0.39)

Professor Llach which is the low rotor\  
TC 01:00:00.948 - 01:00:02.850  
(0.09)

Professor Llach el rotor ordinari\  
TC 01:00:02.948 - 01:00:04.628  
(2.12)

Professor Llach vale/  
TC 01:00:06.748 - 01:00:07.468  
(0.97)

Professor Llach a rotor motor means\_  
TC 01:00:08.438 - 01:00:10.358  
(0.29)

Professor Llach a rotor\_  
TC 01:00:10.648 - 01:00:11.830  
(0.79)

Professor Llach with  
TC 01:00:12.628 - 01:00:13.268  
(0.14)

Professor Llach three/  
TC 01:00:13.410 - 01:00:14.268  
(1.09)

Professor Llach windings (+windings+)\  
TC 01:00:15.358 - 01:00:16.238  
(0.47)

Professor Llach ((writing on board))  
TC 01:00:16.710 - 01:00:22.170  
(0.3)

Professor Llach it is a rotor/  
TC 01:00:22.478 - 01:00:23.998  
(0.18)

Professor Llach with three windings (+windings+)\  
TC 01:00:24.178 - 01:00:25.458  
(2.57)

Professor Llach and it has here in the shaft\_  
TC 01:00:28.028 - 01:00:30.668  
(0.56)

Professor Llach a l'eix\  
TC 01:00:31.228 - 01:00:32.058  
(0.18)

Professor Llach it has  
TC 01:00:32.240 - 01:00:32.728  
(0.03)

Professor Llach three rings\  
TC 01:00:32.760 - 01:00:34.008  
(1.61)

Professor Llach tres anells\  
TC 01:00:35.618 - 01:00:36.498  
(1.56)

Professor Llach okay/

TC 01:00:38.058 - 01:00:38.778  
(2.29)

Professor Llach the end of each winding (+winding+)\_  
TC 01:00:41.070 - 01:00:44.161  
(1.17)

Professor Llach is connected to:  
TC 01:00:45.338 - 01:00:47.128  
(0.19)

Professor Llach a ring\  
TC 01:00:47.318 - 01:00:48.150  
(4.11)

Professor Llach okay/  
TC 01:00:52.268 - 01:00:52.988  
(0.16)

Professor Llach and here/  
TC 01:00:53.148 - 01:00:54.358  
(0.29)

Professor Llach the- there are brushes/ ((writes on blackboard))  
TC 01:00:54.650 - 01:00:57.638  
(1.41)

Professor Llach brushes means escombretes/  
TC 01:00:59.048 - 01:01:01.624  
(1.84)

Professor Llach okay/  
TC 01:01:03.470 - 01:01:04.407  
(0.6)

Professor Llach which allows us  
TC 01:01:05.008 - 01:01:06.820  
(0.18)

Professor Llach to connect  
TC 01:01:07.008 - 01:01:08.038  
(0.15)

Professor Llach (to/two?) series  
TC 01:01:08.190 - 01:01:09.478  
(3.84)

Professor Llach to connect (two/to?) series\_  
TC 01:01:13.327 - 01:01:15.407  
(0.44)

Professor Llach a (resistance?)\  
TC 01:01:15.850 - 01:01:17.208  
(1.06)

Professor Llach the series with the:  
TC 01:01:18.268 - 01:01:19.650  
(0.08)

Professor Llach rotor/  
TC 01:01:19.730 - 01:01:20.310  
(0.07)

Professor Llach windings (+windings+)/  
TC 01:01:20.380 - 01:01:21.040  
(0.09)

Professor Llach are (resistant?)\  
TC 01:01:21.138 - 01:01:22.178  
(3.39)

Professor Llach okay/  
TC 01:01:25.568 - 01:01:26.250  
(1.34)

Professor Llach I have (found?)  
TC 01:01:27.598 - 01:01:29.230  
(1.03)

Professor Llach a variable resistance\  
TC 01:01:30.268 - 01:01:32.368  
(0.92)

Professor Llach this arrow means variable\  
TC 01:01:33.288 - 01:01:35.528  
(0.35)

Professor Llach e:h la fletxa significa  
TC 01:01:35.878 - 01:01:37.878  
(0.51)

Professor Llach que és variable\  
TC 01:01:38.388 - 01:01:39.188  
(4.79)

Professor Llach you now/  
TC 01:01:43.978 - 01:01:45.418  
(0.69)

Professor Llach ((erases blackboard))  
TC 01:01:46.108 - 01:01:51.404  
(0.06)

Professor Llach that the force of the torque\_  
TC 01:01:51.470 - 01:01:53.840 -  
(0.13)

Professor Llach permutes  
TC 01:01:53.970 - 01:01:55.280  
(0.66)

Professor Llach the slip/  
TC 01:01:55.944 - 01:01:56.970  
(0.77)

Professor Llach has\_  
TC 01:01:57.744 - 01:01:58.580  
(0.43)

Professor Llach more or less\_  
TC 01:01:59.014 - 01:02:00.214  
(0.97)

Professor Llach this form\  
TC 01:02:01.193 - 01:02:01.993  
(0.75)

Professor Llach okay/  
TC 01:02:02.743 - 01:02:03.383  
(0.52)

Professor Llach this i- this is\_  
TC 01:02:03.903 - 01:02:05.173  
(0.07)

Professor Llach ((writing on blackboard) slip one\  
TC 01:02:05.250 - 01:02:06.503  
(0.02)

Professor Llach slip two\  
TC 01:02:06.523 - 01:02:07.883  
(1.39)

Professor Llach we almo:-  
TC 01:02:09.278 - 01:02:11.038  
(0.59)

Professor Llach we:  
TC 01:02:11.630 - 01:02:12.470  
(0.16)

Professor Llach nearly always\_  
TC 01:02:12.633 - 01:02:14.473  
(3.97)

Professor Llach the machine) operates in this si- in this ratio\  
TC 01:02:18.443 - 01:02:22.203  
(0.54)

Professor Llach because typical slips are ((writes on board) more or less\_  
TC 01:02:22.744 - 01:02:26.040  
(0.22)

Professor Llach point) zero five\  
TC 01:02:26.264 - 01:02:28.120



## APÈNDIX

### ii.5 Transcripció de CM5/TG2

CLA: va\  
TC 00:00:02.200 - 00:00:02.770  
(0.36)

CAT hola\ (coming in)  
TC 00:00:03.130 - 00:00:03.730  
(0.16)

CLA: hola\  
TC 00:00:03.890 - 00:00:04.760  
(0.87)

CLA: a veure\ avui\_  
TC 00:00:05.630 - 00:00:06.770  
(0.14)

CLA: tal i com us vaig dir ahir\_  
TC 00:00:06.910 - 00:00:09.700  
(0.13)

CLA: farem una cosa una mica diferent\  
TC 00:00:09.831 - 00:00:12.531  
(0.24)

CLA: te a veure amb el projecte\  
TC 00:00:12.771 - 00:00:14.441  
(0.41)

CLA: vostre (mirant alguns dels estudiants)  
TC 00:00:14.851 - 00:00:15.171  
(0.92)

CLA: o sigui amb el projecte de\_  
TC 00:00:16.091 - 00:00:17.551  
(0.17)

CLA: depuració d'aigües\  
TC 00:00:17.730 - 00:00:19.850  
(0.45)

CLA: i es tractara de\_  
TC 00:00:20.300 - 00:00:22.140  
(0.2)

CLA: a:  
TC 00:00:22.340 - 00:00:23.040  
(1.93)

CLA: de llegir i:  
TC 00:00:24.970 - 00:00:26.390  
(0.17)

CLA: saber el que posa una mica i resumir\_  
TC 00:00:26.560 - 00:00:28.890  
(0.49)

CLA: lo que esta en angles\  
TC 00:00:29.380 - 00:00:31.510  
(0.36)

CLA: llavors\_  
TC 00:00:31.870 - 00:00:33.060  
(0.24)

CLA: tindrem ajuda de\_  
TC 00:00:33.300 - 00:00:34.320  
(0.47)

CLA: dels estudiants turcs perque a ells el tema aquest també els interessa\  
TC 00:00:34.795 - 00:00:38.835  
(0.37)

CLA: i el que farem  
TC 00:00:39.205 - 00:00:40.115  
(0.37)

CLA: sera una mica en dinamica de: de grups\  
TC 00:00:40.489 - 00:00:44.039

(0.71)

CLA: aviam\  
TC 00:00:44.749 - 00:00:45.439  
(0.15)

CLA: el projecte es un projecte i per tant no es un exercici\  
TC 00:00:45.589 - 00:00:48.859  
(0.52)

CLA: mmm\_ o sigui no son unes dades que us donem\ fareu uns càlculs\ no se que\ i arribareu a  
un reactor\ sino que\_ (.) com que es tracta d'un projecte\_  
TC 00:00:49.383 - 00:00:57.823  
(0.63)

CLA: heu d'acabar sabent que es una depuracio d'aigues\ una depuracio biologica\  
TC 00:00:58.453 - 00:01:02.563  
(0.61)

CLA: i per tant una mica TOT el que comporta i TOTS el del grup heu de saber-ho\  
TC 00:01:03.176 - 00:01:07.336  
(1.97)

CLA: llavors\ una manera\  
TC 00:01:09.306 - 00:01:10.576  
(0.28)

CLA: es anar buscant informacio\ anar-la llegit i tal\  
TC 00:01:10.865 - 00:01:13.415  
(0.43)

CLA: llavors avui una part d'aquesta informacio us la donem nosaltres\ es una informacio que  
ens ha semblat IMPORTANT que la sapigueu\  
TC 00:01:13.848 - 00:01:21.518  
(0.91)

CLA: que tambe correspon al projecte i que la treballarem d'una altra manera\  
TC 00:01:22.436 - 00:01:26.356  
(1.0)

CLA: llavors\  
TC 00:01:27.356 - 00:01:27.766  
(0.37)

CLA: ah\  
TC 00:01:28.136 - 00:01:28.496  
(0.39)

CLA: we are going to work in groups\ today\ (directing her gaze to the Turkish students now,  
as she changes languages)  
TC 00:01:28.886 - 00:01:32.526  
(0.48)

CLA: a: and you will help with the English language\  
TC 00:01:33.006 - 00:01:37.386  
(1.08)

CLA: to the groups\ (laughs)  
TC 00:01:38.468 - 00:01:39.550  
(0.39)

CLA: and we want to study also the\_  
TC 00:01:39.948 - 00:01:43.128  
(0.54)

CLA: group dynamics XXXX  
TC 00:01:43.675 - 00:01:47.145  
(0.24)

CLA: to work\ together\  
TC 00:01:47.385 - 00:01:49.435  
(0.49)

CLA: and how you achieve a:  
TC 00:01:49.925 - 00:01:51.925  
(0.32)

CLA: a:  
TC 00:01:52.245 - 00:01:52.665  
(0.17)

CLA: some aims or some objectives\ okay/  
TC 00:01:52.835 - 00:01:55.795  
(1.52)

CLA: we will give you  
TC 00:01:57.315 - 00:01:58.455

(0.54)

CLA: a:  
TC 00:01:58.995 - 00:01:59.665  
(1.01)

CLA: a piece of paper\  
TC 00:02:00.678 - 00:02:03.178  
(0.41)

CLA: concerning water treatment\  
TC 00:02:03.588 - 00:02:06.224  
(0.53)

CLA: AND a: you must understand\  
TC 00:02:06.758 - 00:02:09.508  
(0.8)

CLA: and make an abstract\  
TC 00:02:10.308 - 00:02:12.048  
(0.19)

CLA: of\ of this\ in groups\ okay\  
TC 00:02:12.238 - 00:02:15.708  
(0.81)

CLA: so\  
TC 00:02:16.518 - 00:02:16.888  
(0.27)

CLA: first of all we are going to make the groups\ now\ mm\  
TC 00:02:17.160 - 00:02:20.276  
(0.81)

CLA: hem fet una mica els grups\  
TC 00:02:21.090 - 00:02:22.160  
(0.58)

CLA: i si un cas ara us assenteu JA amb els grups\ i us expliquem el que heu de fer\ però  
ja asseguts una mica amb els grups\ vale/  
TC 00:02:22.748 - 00:02:29.553  
(0.67)

CLA: aviam el grup u\ seria  
TC 00:02:30.223 - 00:02:31.653  
(0.34)

CLA: el marti\  
TC 00:02:31.993 - 00:02:32.713  
(1.16)

CLA: la nuria\  
TC 00:02:33.873 - 00:02:34.513  
(0.64)

CLA: la merce\  
TC 00:02:35.153 - 00:02:36.083  
(0.48)

CLA: i la meltem\  
TC 00:02:36.563 - 00:02:37.723  
(7.14)

CLA: (profe anuncia grups i estudiants s'aixequen i es distribueixen per grups)  
TC 00:02:44.866 - 00:04:40.047  
(13.06)

DAN me tendre que xx a mi para comunicarme\  
TC 00:04:53.108 - 00:04:55.368  
(4.17)

DAN y no tengo ni idea\  
TC 00:04:59.538 - 00:05:01.228  
(1.99)

CAT (distributing articles)  
TC 00:05:03.221 - 00:05:12.085  
(0.46)

DAN el Altug ho sap aixó\  
TC 00:05:12.552 - 00:05:14.812  
(6.42)

DAN el Altug ho sap aixó\  
TC 00:05:21.232 - 00:05:22.892  
(13.35)

CLA: llavors\  
 TC 00:05:36.242 - 00:05:36.942  
 (0.16)

CLA: ara teniu  
 TC 00:05:37.102 - 00:05:38.822  
 (0.3)

CLA: teniu\  
 TC 00:05:39.122 - 00:05:40.052  
 (0.18)

CLA: sh sh (demanant silenci)  
 TC 00:05:40.234 - 00:05:42.194  
 (0.51)

CLA: people\ (fent signes amb les mans perque callin)  
 TC 00:05:42.704 - 00:05:43.914  
 (0.5)

CLA: ara teniu  
 TC 00:05:44.414 - 00:05:46.004  
 (0.21)

CLA: vint minuts maxim\  
 TC 00:05:46.217 - 00:05:47.887  
 (0.64)

CLA: per llegir el tros que us toca\  
 TC 00:05:48.527 - 00:05:51.127  
 (0.75)

CLA: repartit entre els que vulgueu\ (fa cercles en sentit d'inclusio)  
 TC 00:05:51.877 - 00:05:53.917  
 (0.59)

CLA: i: feu un resum\ on cada grup ha de tenir un resum d'aquell tros acordat per tots\  
 TC 00:05:54.510 - 00:06:00.930  
 (0.51)

CLA: val/  
 TC 00:06:01.440 - 00:06:01.840  
 (0.83)

CLA: o sigui  
 TC 00:06:02.670 - 00:06:03.000  
 (0.25)

CLA: now\  
 TC 00:06:03.250 - 00:06:03.580  
 (0.27)

CLA: a:  
 TC 00:06:03.850 - 00:06:04.570  
 (0.58)

CLA: you you have to write in English  
 TC 00:06:05.150 - 00:06:07.380  
 (1.15)

CLA: to read  
 TC 00:06:08.533 - 00:06:09.393  
 (0.42)

CLA: the piece of a:  
 TC 00:06:09.813 - 00:06:11.563  
 (0.74)

CLA: document\  
 TC 00:06:12.303 - 00:06:12.813  
 (0.42)

CLA: you you must read\  
 TC 00:06:13.236 - 00:06:14.576  
 (0.45)

CLA: and make an abstract\  
 TC 00:06:15.026 - 00:06:16.386  
 (0.28)

CLA: but an abstract a:  
 TC 00:06:16.666 - 00:06:18.416  
 (0.58)

CLA: agreed for al the people of the group\  
 TC 00:06:18.996 - 00:06:21.496  
 (0.32)

CLA: okay/  
TC 00:06:21.824 - 00:06:22.084  
(0.28)

CLA: a single abstra\ abstract\ for each group\  
TC 00:06:22.364 - 00:06:25.114  
(0.25)

CLA: vale/  
TC 00:06:25.364 - 00:06:26.014  
(0.96)

CLA: we are giving you the instructions written\_  
TC 00:06:26.974 - 00:06:29.294  
(0.61)

CLA: and afterwards\_a: after having this abstract\_  
TC 00:06:29.912 - 00:06:33.012  
(0.45)

CLA: we\ we will\  
TC 00:06:33.462 - 00:06:34.922  
(0.21)

CLA: give you  
TC 00:06:35.132 - 00:06:36.172  
(0.53)

CLA: three questions\  
TC 00:06:36.707 - 00:06:37.487  
(0.32)

CLA: three questions each group\  
TC 00:06:37.807 - 00:06:39.297  
(0.26)

CLA: and you must answer these questions\  
TC 00:06:39.557 - 00:06:40.787  
(0.15)

CLA: okay/  
TC 00:06:40.937 - 00:06:41.257  
(0.67)

CLA: despres de fer el resum  
TC 00:06:41.927 - 00:06:43.057  
(0.33)

CLA: heu de contestar tres preguntes\  
TC 00:06:43.387 - 00:06:44.517  
(0.34)

CLA: pero primer el resum i:  
TC 00:06:44.859 - 00:06:46.279  
(0.13)

CLA: ens dieu que ja l'heu acabat\  
TC 00:06:46.409 - 00:06:47.289  
(0.4)

CLA: i despres us donem les preguntes\  
TC 00:06:47.689 - 00:06:48.979  
(3.45)

DAN the: the time/  
TC 00:06:52.433 - 00:06:54.803  
(0.02)

CAT twenty minutes\  
TC 00:06:54.823 - 00:06:56.363  
(0.06)

DAN twen ha ha ha (laughs histrionically)  
TC 00:06:56.429 - 00:06:59.569

CAT it's just the first page\  
TC 00:06:59.579 - 00:07:01.409  
(0.29)

CAT it's just the first page\  
TC 00:07:01.699 - 00:07:02.569  
(0.18)

DAN ah\ ah\  
TC 00:07:02.751 - 00:07:04.091  
(0.58)

CLA: okay\  
 TC 00:07:04.671 - 00:07:06.001  
 (0.12)

CLA: a: this group\  
 TC 00:07:06.121 - 00:07:07.501  
 (0.29)

CLA: first page\  
 TC 00:07:07.791 - 00:07:08.751  
 (0.63)

CLA: this group  
 TC 00:07:09.381 - 00:07:10.121  
 (0.21)

CLA: second page\  
 TC 00:07:10.337 - 00:07:11.757  
 (0.76)

CLA: until\  
 TC 00:07:12.517 - 00:07:13.577  
 (0.3)

CLA: vuit punt tres\  
 TC 00:07:13.877 - 00:07:14.707  
 (0.12)

CLA: o sigui\  
 TC 00:07:14.827 - 00:07:15.867  
 (0.47)

CLA: xxxx només això\ només això\ vuit punt dos\  
 TC 00:07:16.344 - 00:07:22.924  
 (1.16)

CLA: vuit punt dos\  
 TC 00:07:24.089 - 00:07:25.459

DAN això es impossible\  
 TC 00:07:25.428 - 00:07:27.028

CLA: fins aquí\  
 TC 00:07:25.609 - 00:07:26.589  
 (0.99)

DAN xxxx\ es una xxxx això\  
 TC 00:07:27.588 - 00:07:30.858  
 (1.47)

DAN es impossible\  
 TC 00:07:32.336 - 00:07:33.856  
 (16.15)

CLA: el resum ha de ser (a grup 2)  
 TC 00:07:50.012 - 00:07:51.362  
 (0.33)

CLA: comunitari\  
 TC 00:07:51.692 - 00:07:52.472  
 (0.41)

CLA: primer el feu cadascu\  
 TC 00:07:52.882 - 00:07:54.122  
 (0.1)

CLA: si voleu\  
 TC 00:07:54.222 - 00:07:54.702  
 (0.14)

CLA: i després ho acordeu\  
 TC 00:07:54.842 - 00:07:55.962  
 (0.65)

DAN en quin[ idioma]/  
 TC 00:07:56.612 - 00:07:57.592

CLA: o [us ho ]repartiu\  
 TC 00:07:56.912 - 00:07:58.262  
 (0.36)

CLA: com vulgheu\ (fa gest expansiu amb el braç mentre s'acosta a Dani)  
 TC 00:07:58.629 - 00:07:59.489

EST (estudiants grup 2 estan treabllant amb força silenci)  
 TC 00:07:59.489 - 00:12:01.348

CLA: acordeu-ho com vulgueu\  
TC 00:07:59.629 - 00:08:00.609  
(241.09)

CLA: (professora deixa informacio a al taula del grup)  
TC 00:12:01.702 - 00:12:04.172  
(1.12)

GUI que es/ (a profe)  
TC 00:12:05.292 - 00:12:05.912  
(0.74)

CLA: això es el que heu de  
TC 00:12:06.652 - 00:12:08.072  
(0.06)

GUI xxx\ val\  
TC 00:12:08.132 - 00:12:09.972  
(9.13)

GUI xxx/ (pregunta fluix a Meritxell)  
TC 00:12:19.105 - 00:12:20.320  
(0.08)

MET aqui diu que això xxx\l'objectiu del xxxxx (fluix, a Guim)  
TC 00:12:20.400 - 00:12:27.790  
(0.49)

MET  
TC 00:12:28.287 - 00:12:30.547  
(2.51)

FAT xxxxx/ (to Meritxell, assenyalant part de l'article)  
TC 00:12:33.060 - 00:12:35.340  
(0.81)

FAT xxx (it can happen?)  
TC 00:12:36.150 - 00:12:37.810  
(0.99)

FAT what xxxxxx/  
TC 00:12:38.800 - 00:12:42.250  
(0.13)

MET I don't know\  
TC 00:12:42.380 - 00:12:43.330  
(20.43)

FAT where/  
TC 00:13:03.760 - 00:13:04.900  
(0.36)

CAR xxxx/ (assenyala article)  
TC 00:13:05.260 - 00:13:05.930  
(0.08)

FAT removing i:s (comença a moure la ma endavant i endarrera, fent un vaiven)  
TC 00:13:06.010 - 00:13:08.320  
(0.61)

FAT to let out\ to let out/ (continua fetn moviment de treure amb la ma, mirant la Carme)  
TC 00:13:08.930 - 00:13:11.410  
(1.01)

FAT xxxxxxxx (inaudible)  
TC 00:13:12.420 - 00:13:16.070  
(0.81)

FAT xxx\ (fa moviment amb la ma, com si espantes mosques)  
TC 00:13:16.880 - 00:13:19.110  
(0.06)

CAR ah\  
TC 00:13:19.170 - 00:13:19.620  
(1.21)

MET que passa/ (a Carme)  
TC 00:13:20.830 - 00:13:21.480  
(0.36)

FAT removing\  
TC 00:13:21.840 - 00:13:22.360  
(0.65)

MET what/  
TC 00:13:23.010 - 00:13:23.430

(0.05)

FAT removing\  
TC 00:13:23.480 - 00:13:24.130  
(0.79)

MET mmm\  
TC 00:13:24.929 - 00:13:26.019  
(1.89)

GUI removing\  
TC 00:13:27.909 - 00:13:28.619  
(1.64)

GUI removing\ (starts moving his hands arounds energetically)  
TC 00:13:30.259 - 00:13:33.179

MET es com si  
TC 00:13:30.759 - 00:13:32.279  
(2.09)

FAT xx\  
TC 00:13:34.369 - 00:13:35.469  
(0.2)

MET remove es com xx\  
TC 00:13:35.669 - 00:13:37.119  
(0.26)

FAT xxx\  
TC 00:13:37.379 - 00:13:38.139  
(0.49)

FAT mm\  
TC 00:13:38.629 - 00:13:39.579  
(0.16)

MET aqui representa que es  
TC 00:13:39.739 - 00:13:41.209  
(0.33)

MET aqui [removal es la part que es xxx porque ve xxx\ no]/ (a Guim)  
TC 00:13:41.539 - 00:13:47.539

FAT [removal xx]x outside\ (to Carme)\ xxx but [outside]\  
TC 00:13:41.779 - 00:13:52.339

GUI no se pas\  
TC 00:13:47.689 - 00:13:49.409  
(1.88)

MET mira\ (agafa diccionari)  
TC 00:13:51.289 - 00:13:52.319  
(0.37)

MET (busca al diccionari mentre ela altres reprehen la lectura en silenci. Fatma fa una gest d'aprovacoó quan veu que agafa el diccionari)  
TC 00:13:52.689 - 00:14:18.999  
(0.1)

MET veus/ removing\ treure alguna cosa (llegint de diccionari als altres)  
TC 00:14:19.099 - 00:14:21.479  
(0.36)

MET com es diria xx/  
TC 00:14:21.841 - 00:14:23.921  
(0.28)

CAT eliminate\ (passa per allà i intervé)  
TC 00:14:24.201 - 00:14:25.411

FAT [eliminate]\ (assenteix)  
TC 00:14:25.411 - 00:14:26.281

MET [si\ si\  
TC 00:14:25.411 - 00:14:26.281  
(3.58)

MET eliminar\  
TC 00:14:29.861 - 00:14:30.821  
(1.09)

EST (continuen treabllant en silenci)  
TC 00:14:31.911 - 00:14:44.050  
(0.64)

GUI xx (molt fluix, a Meritxell)



TC 00:14:44.690 - 00:14:45.830  
(1.61)

GUI xx( a Meritxell, molt fluix)  
TC 00:14:47.446 - 00:14:48.776  
(0.11)

MET son quimiautotrofs \ no/  
TC 00:14:48.886 - 00:14:50.236  
(0.43)

MET xxxx\ (fluix, a Guim)  
TC 00:14:50.666 - 00:14:53.006  
(0.42)

MET això es de draught\  
TC 00:14:53.426 - 00:14:54.956  
(0.56)

MET xxx\ (fluix, a Guim)  
TC 00:14:55.519 - 00:14:57.649  
(0.05)

EST (van llegint tots sols)  
TC 00:14:57.699 - 00:15:07.314  
(0.21)

EST (treballen junts Guim i Meritxell. Fatma va donant llambregades, intentant ser inclosa)  
TC 00:15:07.524 - 00:15:17.422  
(0.06)

CAR aquí diu sin embargo (consultant diccionari petit)  
TC 00:15:17.482 - 00:15:18.892  
(0.39)

MET tot i això\  
TC 00:15:19.282 - 00:15:19.822  
(0.44)

CAR sin embargo\  
TC 00:15:20.262 - 00:15:20.962  
(1.25)

MET tot i això\  
TC 00:15:22.212 - 00:15:22.842  
(0.27)

GUI no si em sembla que es el mateix\  
TC 00:15:23.112 - 00:15:23.742  
(0.1)

MET es en català (riu)  
TC 00:15:23.842 - 00:15:26.242  
(1.28)

CAR estava en aquest diccionari\ (l'ensenya)  
TC 00:15:27.522 - 00:15:29.112  
(0.05)

MET vale \ vale\  
TC 00:15:29.162 - 00:15:30.082  
(0.37)

MET (busca al diccionari)  
TC 00:15:30.452 - 00:15:40.142  
(0.07)

MET mes\ seria això\  
TC 00:15:40.212 - 00:15:42.162  
(0.14)

FAT xxxxxx\ (a Meritxell, Fatma va fent llambregades)  
TC 00:15:42.302 - 00:15:46.412  
(2.19)

EST (meritxell i Guim llegeixen sols i van comentant alguna cosa molt fluix, no se sent)  
TC 00:15:48.602 - 00:16:00.612  
(0.35)

EST (tots llegeixen i anoten en silenci)  
TC 00:16:00.966 - 00:17:07.956  
(0.19)

CAR waste que era/ bruta\ no/  
TC 00:17:08.146 - 00:17:09.666  
(0.13)

GUI assenteix\  
 TC 00:17:09.802 - 00:17:10.492

MET assenteix\  
 TC 00:17:09.802 - 00:17:10.492  
 (0.15)

CAR xxx\  
 TC 00:17:10.642 - 00:17:11.592  
 (0.11)

MET es com deixalla\  
 TC 00:17:11.702 - 00:17:12.962  
 (0.49)

MET waste com\_  
 TC 00:17:13.452 - 00:17:13.952  
 (0.56)

CAR xx\  
 TC 00:17:14.512 - 00:17:16.222  
 (0.32)

CAR deixalla\  
 TC 00:17:16.542 - 00:17:17.482  
 (0.06)

CAR xxx\  
 TC 00:17:17.542 - 00:17:18.212  
 (0.05)

MET bueno no\ wastewater seria aigües residuals\ (Fatma va mirant de tant en tant, sense  
 participar)  
 TC 00:17:18.262 - 00:17:22.161  
 (0.29)

GUI wastewater\  
 TC 00:17:22.452 - 00:17:23.542

CAR si\ no/  
 TC 00:17:22.597 - 00:17:23.227  
 (0.36)

MET si\  
 TC 00:17:23.592 - 00:17:24.462  
 (5.7)

MET callo (despres de veure que la Carme l'estava mirant)  
 TC 00:17:30.169 - 00:17:31.169  
 (0.39)

MET en aquests casos\_  
 TC 00:17:31.559 - 00:17:33.229  
 (1.02)

MET l'adicio de nutrients es necessari pel bon creixement de la bacteria\  
 TC 00:17:34.249 - 00:17:39.769  
 (0.56)

MET i consegüentment la degradacio\_  
 TC 00:17:40.329 - 00:17:42.969  
 (0.2)

MET de residu organic\  
 TC 00:17:43.176 - 00:17:46.036  
 (0.14)

MET que estava buscant ara (al diccionari)  
 TC 00:17:46.176 - 00:17:49.066  
 (0.06)

EST van buscant al diccionari i comenten flux Guim i Meritxell  
 TC 00:17:49.126 - 00:17:57.125

GUI que es xxxxx/ (a Meritxell)  
 TC 00:17:50.424 - 00:17:54.944  
 (0.48)

MET xxxxx\  
 TC 00:17:55.425 - 00:17:56.975  
 (0.15)

EST (tots van treballant pel seu compte)  
 TC 00:17:57.125 - 00:18:05.675  
 (0.32)

CAR xxx/ (mirant a Meritxell)

TC 00:18:05.996 - 00:18:07.096  
(3.07)

MET heterotrofs\  
TC 00:18:10.166 - 00:18:11.156  
(0.06)

CAR hete/ (mirant a Meritxell)  
TC 00:18:11.216 - 00:18:11.656  
(0.05)

CAR hete/  
TC 00:18:11.706 - 00:18:11.956

MET hete heterotrofs\  
TC 00:18:11.956 - 00:18:12.826  
(1.29)

MET això es de biologia de xx(a Merce)  
TC 00:18:14.116 - 00:18:17.876  
(6.78)

CAR (punxa al Guim amb el boli per cridar-lo)  
TC 00:18:24.656 - 00:18:25.526  
(0.6)

MET yield/ produir\ (llegeix del diccionari)  
TC 00:18:26.128 - 00:18:27.958  
(0.03)

CAR xxx (fluix, a Guim)  
TC 00:18:27.988 - 00:18:28.878  
(0.02)

MET produir xx\  
TC 00:18:28.898 - 00:18:30.848  
(1.04)

GUI xxx\ (contesta a Carme)  
TC 00:18:31.889 - 00:18:33.859  
(1.09)

GUI (tradueix directament per la Carme, Fatma el mira de tant en tant) els organismes heterotrofs poden ser més o menys agrupats pel tipus del seu metabolisme i amb el seu requeriment d'oxigen molecular\  
TC 00:18:34.949 - 00:18:45.069  
(1.23)

MET xxx\  
TC 00:18:46.299 - 00:18:47.899  
(2.24)

GUI (repetint-li per Carme) el seu requeriment \_ amb el seu requeriment d'oxigen molecular  
TC 00:18:50.139 - 00:18:55.489  
(1.15)

MET el produir\ el yield\  
TC 00:18:56.639 - 00:18:58.769  
(0.52)

MET xxx\  
TC 00:18:59.289 - 00:19:00.629  
(0.09)

GUI xxx\  
TC 00:19:00.719 - 00:19:06.699  
(3.0)

GUI xxxx\  
TC 00:19:09.699 - 00:19:13.069  
(3.03)

GUI xxxx(traduint molt fluix, parlant a Meritxell\  
TC 00:19:16.099 - 00:19:23.719  
(0.08)

GUI fermentació de de productes anaeròbics\  
TC 00:19:23.799 - 00:19:29.399  
(0.24)

GUI xx\  
TC 00:19:29.639 - 00:19:30.289  
(0.46)

MET (tots els estudiants estan intentant traduir, però Fatma queda exclosa i treballa pel seu compte) xxx a partir de xx tots els electrons\ d'un electro donant\ [electro extern] xxx\  
TC 00:19:30.749 - 00:19:48.109

GUI d'un electro extern acceptat\ xxx\  
 TC 00:19:43.221 - 00:19:48.391  
 (1.21)

EST (grup 1 treaballa en silenci)  
 TC 00:19:49.609 - 00:22:02.639  
 (0.07)

CLA: una coseta\  
 TC 00:22:02.709 - 00:22:04.349

CLA: d'aqui cinc minuts\  
 TC 00:22:04.349 - 00:22:05.879  
 (0.12)

CLA: haurieu de tenir l'esquema resum fet\  
 TC 00:22:05.999 - 00:22:08.149  
 (0.2)

CLA: i llavors us passem les preguntes\  
 TC 00:22:08.349 - 00:22:10.059  
 (0.25)

CLA: val/  
 TC 00:22:10.309 - 00:22:10.819  
 (0.48)

CLA: quatre o cinc minuts\  
 TC 00:22:11.304 - 00:22:13.184  
 (0.21)

CLA: five minutes maximum\ the abstract\  
 TC 00:22:13.394 - 00:22:16.624  
 (0.22)

CLA: the: skematic abstract\ done\  
 TC 00:22:16.844 - 00:22:19.244  
 (83.97)

LEY you write\ (pointing at piece of paper, to Dani)  
 TC 00:23:43.219 - 00:23:43.849  
 (0.34)

LEY because I don't recognize \ (points at paers)  
 TC 00:23:44.189 - 00:23:45.189  
 (0.15)

LEY this here\  
 TC 00:23:45.339 - 00:23:46.339  
 (0.98)

LEY it's better you write\  
 TC 00:23:47.319 - 00:23:50.259  
 (0.15)

DAN xx write  
 TC 00:23:50.409 - 00:23:51.799  
 (0.13)

LEY xxxx you write  
 TC 00:23:51.929 - 00:23:53.789  
 (0.54)

BER (to Dani) que escribas tu sino no se entendera nada despues\  
 TC 00:23:54.329 - 00:23:56.639  
 (23.78)

BER bueno\  
 TC 00:24:20.419 - 00:24:21.339  
 (0.22)

CLA: qui escriu/ (donant copet a al taula)  
 TC 00:24:21.559 - 00:24:22.589  
 (0.11)

BER (assenyala el Dani)  
 TC 00:24:22.699 - 00:24:23.399  
 (0.13)

DAN jo/ (rient) si es ella la que tiene la mejor letra\  
 TC 00:24:23.529 - 00:24:26.765  
 (0.11)

EST (riure general al grup 1)  
 TC 00:24:26.879 - 00:24:30.409  
 (0.07)

DAN a: (thinking out loud and then making assertion gesture)  
TC 00:24:30.479 - 00:24:31.549  
(0.06)

LEY mm\ we can we can make a schematic and then\_  
TC 00:24:31.609 - 00:24:36.429  
(0.37)

DAN yes\  
TC 00:24:36.799 - 00:24:37.709  
(0.46)

DAN and I: mm (makes long pause sutaining hand, as meaning he's looking for some word)  
TC 00:24:38.169 - 00:24:42.409  
(0.2)

DAN explicar/ (to Bernat)  
TC 00:24:42.617 - 00:24:43.677  
(0.05)

DAN I explain to you\_  
TC 00:24:43.727 - 00:24:45.717  
(0.08)

LEY mm\  
TC 00:24:45.797 - 00:24:46.377  
(0.1)

DAN you:r\_  
TC 00:24:46.477 - 00:24:47.027  
(0.03)

LEY ah\ first discu[ssion]\ then xx\  
TC 00:24:47.057 - 00:24:49.717

DAN [yes]\ (reiterant amb la ma)  
TC 00:24:48.497 - 00:24:48.917  
(0.81)

DAN and  
TC 00:24:49.727 - 00:24:50.017  
(0.23)

LEY okay\  
TC 00:24:50.247 - 00:24:50.727  
(0.12)

DAN a: two: a: mm\  
TC 00:24:50.856 - 00:24:53.726  
(1.6)

DAN com es diu xxx joder\  
TC 00:24:55.326 - 00:24:57.426  
(0.07)

BER xx el directori\_  
TC 00:24:57.496 - 00:24:58.676  
(0.33)

DAN això BASIC\ basic\ mm\ (buscant la paraula justa)  
TC 00:24:59.008 - 00:25:03.998  
(0.62)

DAN for design the: the process\  
TC 00:25:04.618 - 00:25:06.818  
(0.09)

LEY here/ no\ this one/ introduction/  
TC 00:25:06.908 - 00:25:09.678  
(0.07)

DAN yes\  
TC 00:25:09.748 - 00:25:10.188  
(0.04)

LEY aha\  
TC 00:25:10.228 - 00:25:10.798

DAN introduction\ two basic a:  
TC 00:25:10.798 - 00:25:13.628  
(0.36)

LEY requirements\  
TC 00:25:13.988 - 00:25:15.198  
(0.63)

DAN yes\  
TC 00:25:15.828 - 00:25:16.408  
(0.09)

LEY no/  
TC 00:25:16.498 - 00:25:17.088  
(0.12)

DAN a: to leave the:  
TC 00:25:17.210 - 00:25:19.090  
(0.02)

LEY two major topics\ (fa dos amb els dits)  
TC 00:25:19.117 - 00:25:21.157  
(0.24)

DAN two major topics\ ei\ eat\ (brings hand to mouth meaning food and laughs)  
TC 00:25:21.405 - 00:25:24.285

LEY aha\  
TC 00:25:24.234 - 00:25:24.584  
(0.08)

DAN microorganisms\  
TC 00:25:24.665 - 00:25:25.835  
(0.14)

LEY aha\  
TC 00:25:25.984 - 00:25:26.414

DAN and a: the metabolism  
TC 00:25:26.345 - 00:25:29.725  
(0.1)

LEY aha\ their [need for oxygen]  
TC 00:25:29.834 - 00:25:31.814

DAN [ need]  
TC 00:25:30.235 - 00:25:31.075  
(0.59)

DAN oxygen\  
TC 00:25:31.665 - 00:25:32.675  
(0.47)

DAN two basics\  
TC 00:25:33.145 - 00:25:34.575  
(0.18)

DAN and this in  
TC 00:25:34.755 - 00:25:36.245  
(0.1)

DAN nutritional requeriments\  
TC 00:25:36.345 - 00:25:38.635  
(0.11)

LEY mm\ one of the: MAJOR topics\ mm  
TC 00:25:38.745 - 00:25:41.695  
(0.26)

LEY is nutritional\  
TC 00:25:41.955 - 00:25:42.515  
(0.76)

DAN nutritional\  
TC 00:25:43.275 - 00:25:44.295  
(0.15)

DAN first topic\  
TC 00:25:44.445 - 00:25:45.055  
(0.02)

LEY the need to-  
TC 00:25:45.075 - 00:25:45.545  
(0.33)

DAN they need to xx energy (helps himself with gestures with hand)  
TC 00:25:45.875 - 00:25:47.785  
(0.17)

LEY aha\  
TC 00:25:47.955 - 00:25:48.775  
(1.22)

DAN a: need to mm  
TC 00:25:50.002 - 00:25:52.362

(0.12)

LEY need to energy a:nd carbon\  
TC 00:25:52.485 - 00:25:53.625  
(0.19)

DAN in carbon source\ (nodding, reading from text)  
TC 00:25:53.822 - 00:25:54.832  
(0.11)

LEY source\  
TC 00:25:54.950 - 00:25:55.320  
(0.42)

DAN for the:  
TC 00:25:55.742 - 00:25:56.542  
(1.1)

DAN for the sintesis\  
TC 00:25:57.642 - 00:25:59.832  
(0.22)

DAN and new  
TC 00:26:00.052 - 00:26:00.852

LEY new\  
TC 00:26:00.870 - 00:26:01.150  
(0.18)

DAN [cells\  
TC 00:26:01.332 - 00:26:01.952

LEY [cells\  
TC 00:26:01.360 - 00:26:01.970  
(0.23)

LEY cells\  
TC 00:26:02.208 - 00:26:02.548  
(0.11)

DAN in the: in the: reactor\  
TC 00:26:02.659 - 00:26:04.419  
(0.3)

DAN in the:  
TC 00:26:04.719 - 00:26:05.429  
(0.61)

LEY (wastewater?) treatments\  
TC 00:26:06.042 - 00:26:07.322  
(0.56)

DAN in the WATER\  
TC 00:26:07.882 - 00:26:09.172  
(0.12)

LEY xxxx\  
TC 00:26:09.292 - 00:26:10.282  
(0.09)

DAN a:nd we need too inorganic compounds\  
TC 00:26:10.372 - 00:26:14.513  
(0.51)

DAN a: (puzzled, looking for location in article)  
TC 00:26:15.032 - 00:26:17.032  
(1.66)

LEY we need to find (buscant a article)  
TC 00:26:18.692 - 00:26:19.772

LEY a:h\ here\  
TC 00:26:19.772 - 00:26:20.342

DAN (nitrogen?)\  
TC 00:26:20.357 - 00:26:21.367  
(0.9)

DAN and potassium\ [and so]dium\ (explaining with hands)  
TC 00:26:22.267 - 00:26:24.747

LEY [carbon\  
TC 00:26:22.922 - 00:26:23.442  
(0.18)

LEY [and other\* needs  
TC 00:26:23.629 - 00:26:24.479

(0.4)

LEY aha\  
TC 00:26:24.882 - 00:26:25.232  
(0.17)

DAN a:nd\_  
TC 00:26:25.407 - 00:26:26.647  
(0.52)

DAN too\ a:nd maybe a: little ce \_ a little cells a: little\_ (looking for right word)  
TC 00:26:27.170 - 00:26:33.180  
(0.18)

DAN mm\  
TC 00:26:33.362 - 00:26:34.102  
(0.07)

DAN need too organic carbons\  
TC 00:26:34.181 - 00:26:36.281

LEY aha\  
TC 00:26:36.282 - 00:26:36.902  
(0.33)

LEY organic\ organic carbons\ (reading)  
TC 00:26:37.232 - 00:26:38.322  
(0.48)

LEY mm\  
TC 00:26:38.802 - 00:26:39.212  
(0.18)

LEY may also be a requirement\  
TC 00:26:39.392 - 00:26:40.102  
(0.32)

LEY aha\  
TC 00:26:40.422 - 00:26:41.232  
(1.01)

DAN and if the:  
TC 00:26:42.242 - 00:26:43.112  
(0.2)

DAN another\  
TC 00:26:43.312 - 00:26:44.192  
(0.73)

DAN another xx\  
TC 00:26:44.922 - 00:26:45.792  
(0.04)

LEY and this is different from organism xx organism xx\ maybe\  
TC 00:26:45.832 - 00:26:49.392  
(0.82)

LEY xxxx\  
TC 00:26:50.212 - 00:26:51.412  
(0.71)

DAN that doesn't\ two\  
TC 00:26:52.122 - 00:26:54.192  
(0.19)

DAN two class of microorganisms\ need to organic \ need to inorganic\ (moves hand first to  
one side, then to the other side)  
TC 00:26:54.382 - 00:26:57.882  
(0.7)

DAN yes/  
TC 00:26:58.582 - 00:26:59.202  
(0.71)

DAN that's right/  
TC 00:26:59.912 - 00:27:00.622  
(1.94)

DAN you don't understand/ ((laughs, as Leyla is trying to make sense of his own words by  
checking the article))  
TC 00:27:02.562 - 00:27:05.292

LEY ((laughs))  
TC 00:27:04.541 - 00:27:05.381  
(0.6)

DAN my English is very very poor\ ((laughs))



TC 00:27:05.982 - 00:27:08.092  
(0.65)

LEY xxx point ((trying to locate some info in the text))  
TC 00:27:08.744 - 00:27:10.884  
(0.21)

DAN yes but but a: ((moves towards Leyla's paper to explain his pointpointing at her copy of  
the article))  
TC 00:27:11.102 - 00:27:12.982  
(0.15)

DAN microorganisms need to a:  
TC 00:27:13.132 - 00:27:15.512  
(0.18)

DAN a carbon\ for synthesis\  
TC 00:27:15.692 - 00:27:17.932  
(0.21)

LEY mmm\  
TC 00:27:18.144 - 00:27:19.084

DAN need too  
TC 00:27:18.816 - 00:27:19.656  
(0.08)

DAN and energy\ /nodding) and need too [ inorganic] nutrients\  
TC 00:27:19.742 - 00:27:22.382

LEY [mm\  
TC 00:27:21.784 - 00:27:22.284  
(0.28)

DAN [nutrients]  
TC 00:27:22.572 - 00:27:23.442

LEY aha\  
TC 00:27:23.414 - 00:27:23.704  
(0.14)

LEY okay\aha\  
TC 00:27:23.844 - 00:27:24.344  
(0.4)

DAN another microorganism need to a organic xx\  
TC 00:27:24.752 - 00:27:27.582  
(0.02)

LEY organic xx\ (nodding)  
TC 00:27:27.602 - 00:27:28.682  
(0.29)

DAN and then two class\_ (makes two with fingers)  
TC 00:27:28.975 - 00:27:30.465  
(0.32)

DAN two class of microorganisms (separates hands to the sides)  
TC 00:27:30.785 - 00:27:32.405

LEY mm\  
TC 00:27:32.412 - 00:27:32.742  
(0.21)

DAN yes or no/  
TC 00:27:32.955 - 00:27:33.535  
(0.15)

LEY yes\  
TC 00:27:33.692 - 00:27:34.212  
(1.26)

LEY ((Leyla finishes reading what Dani had written, he has all his eyes on her))  
TC 00:27:35.473 - 00:27:39.463

BER organic/ (looking at Dani)  
TC 00:27:36.714 - 00:27:37.953  
(0.05)

BER xxxxxxxxxx/ (formulates question, gestures with hands))  
TC 00:27:38.004 - 00:27:40.954

LEY okay\  
TC 00:27:39.633 - 00:27:40.273  
(0.73)

LEY mm\

TC 00:27:41.012 - 00:27:41.632  
(0.66)

DAN it's right/ ((looking at Leyla))  
TC 00:27:42.297 - 00:27:43.637  
(1.12)

DAN a:nd  
TC 00:27:44.757 - 00:27:45.577  
(0.72)

DAN depends a: ((makes exhasperating sign at not being able to communicate, then laughs))  
TC 00:27:46.297 - 00:27:48.567  
(0.87)

DAN ((laughs))  
TC 00:27:49.437 - 00:27:52.457

LEY carbon use\  
TC 00:27:51.642 - 00:27:52.502  
(0.65)

DAN in carbon energy source\  
TC 00:27:53.157 - 00:27:54.867

LEY according to carbon and energy sources they're\  
TC 00:27:54.871 - 00:27:57.361  
(1.12)

LEY they are (split apart ?)\  
TC 00:27:58.481 - 00:28:00.751  
(0.12)

LEY they are different\  
TC 00:28:00.871 - 00:28:02.621  
(0.19)

DAN different what/  
TC 00:28:02.817 - 00:28:03.827

LEY types\  
TC 00:28:03.788 - 00:28:04.258  
(0.06)

DAN TYPES\  
TC 00:28:04.327 - 00:28:05.017  
(0.37)

BER °types°\  
TC 00:28:05.389 - 00:28:05.759  
(0.05)

DAN and  
TC 00:28:05.818 - 00:28:06.528  
(0.79)

DAN a:nd  
TC 00:28:07.327 - 00:28:08.597  
(0.92)

DAN THE CELL\ needs too organic carbon ((looking at article))  
TC 00:28:09.517 - 00:28:12.697  
(0.03)

LEY aha\  
TC 00:28:12.728 - 00:28:13.158  
(0.31)

DAN fo:r  
TC 00:28:13.477 - 00:28:14.777  
(0.18)

DAN <formation> of the new cell\  
TC 00:28:14.966 - 00:28:17.856  
(0.04)

LEY °formation°  
TC 00:28:17.898 - 00:28:18.268  
(0.06)

LEY aha\  
TC 00:28:18.329 - 00:28:19.409  
(1.54)

DAN [>heterotrophic<]  
TC 00:28:20.955 - 00:28:22.645

LEY [(one day?)] with organic  
 TC 00:28:21.099 - 00:28:23.039  
 (0.17)

LEY CARBON\  
 TC 00:28:23.209 - 00:28:25.019  
 (0.32)

LEY there\  
 TC 00:28:25.339 - 00:28:26.219  
 (1.43)

DAN for them/  
 TC 00:28:27.655 - 00:28:28.985  
 (0.09)

LEY aha\ for the cell\_  
 TC 00:28:29.080 - 00:28:30.600  
 (0.1)

LEY production\  
 TC 00:28:30.700 - 00:28:31.080  
 (0.24)

DAN for the cell [production]\ (nodding)  
 TC 00:28:31.325 - 00:28:32.445  
 (0.08)

DAN you need a carbon\  
 TC 00:28:32.525 - 00:28:33.535  
 (0.07)

LEY mm\  
 TC 00:28:33.610 - 00:28:34.250  
 (0.25)

DAN and  
 TC 00:28:34.505 - 00:28:35.275  
 (0.24)

DAN a:n <autotroph> °needs a carbon°\_  
 TC 00:28:35.515 - 00:28:38.536  
 (0.13)

DAN <a: fo:r>\ reduce\ (gesturing)  
 TC 00:28:38.672 - 00:28:42.485  
 (0.03)

DAN <reduce>\  
 TC 00:28:42.522 - 00:28:43.192  
 (0.05)

LEY reduction\  
 TC 00:28:43.245 - 00:28:43.725  
 (0.04)

DAN REDUCTION\ (laughs and acknowledges Leyla's help with ahnds)  
 TC 00:28:43.772 - 00:28:45.092  
 (0.38)

DAN (excuse me ?)\ reduction\ ah\ (exepresses frustration at language by putting hands on  
 face)  
 TC 00:28:45.472 - 00:28:46.982  
 (0.53)

DAN sorry\  
 TC 00:28:47.515 - 00:28:48.195

LEY okay\  
 TC 00:28:48.095 - 00:28:48.255  
 (0.16)

DAN reduction of carbon to dio- to: dioxid\  
 TC 00:28:48.416 - 00:28:52.015  
 (0.24)

DAN >DIOXIDE\  
 TC 00:28:52.255 - 00:28:53.345

LEY aha\  
 TC 00:28:53.335 - 00:28:53.755  
 (0.72)

DAN in the: >autotroph\  
 TC 00:28:54.475 - 00:28:56.465

LEY mm\

TC 00:28:56.225 - 00:28:56.525  
(0.18)

DAN TROPHS need carbon fo:r <reduction>\

TC 00:28:56.705 - 00:29:00.635  
(0.02)

LEY mm\  
TC 00:29:00.655 - 00:29:00.965  
(0.32)

DAN [and carbon] to: dioxid and need >more energy\  
TC 00:29:01.285 - 00:29:05.105

LEY [carbon dioxide]\

TC 00:29:01.322 - 00:29:02.152  
(3.02)

LEY (carbon?)\ okay\  
TC 00:29:05.172 - 00:29:06.744  
(1.26)

LEY carbon dioxide\  
TC 00:29:08.004 - 00:29:09.074  
(0.03)

LEY carbon dioxide YES\  
TC 00:29:09.104 - 00:29:10.764  
(0.07)

LEY OKAY\ mm\  
TC 00:29:10.834 - 00:29:11.444  
(0.12)

DAN and need more energy\  
TC 00:29:11.565 - 00:29:12.965

LEY =MORE ENERGY\ °yes°\ ((nodding))  
TC 00:29:12.924 - 00:29:13.564  
(0.42)

DAN =and the:-  
TC 00:29:13.985 - 00:29:15.155  
(0.04)

DAN the >metametabolism\  
TC 00:29:15.204 - 00:29:17.124  
(0.05)

DAN >METABOL[ISM]> ((colpeja suaument la mà amb els dits mentre pronuncia a poc a poc, com  
entrenant-se))

TC 00:29:17.174 - 00:29:18.884

LEY [growth] growth rate\ ((gesticulating))  
TC 00:29:18.264 - 00:29:19.774  
(1.14)

DAN grow /rain/ \ (indicating with hand he's trying to imitate Leyla)  
TC 00:29:20.915 - 00:29:22.405  
(0.26)

DAN very (good?)\ (mirant Clara, la profe)  
TC 00:29:22.670 - 00:29:23.410

CLA: ((Prof. Clara leaves paper on table and indicates with suttle finger noise that she left  
some paper))

TC 00:29:22.684 - 00:29:23.414  
(0.12)

DAN NO PUEDO ((es gira cap a professora))\  
TC 00:29:23.540 - 00:29:24.540

CLA: [xxxxxxx]  
TC 00:29:24.482 - 00:29:26.842

DAN [NO PUEDO\ NO PUEDO]\ ho he intentat per veure si es veritat perquè jo- (tirant-se cap  
endavant indicant patiment, parlant amb profe, que no es veu)

TC 00:29:24.540 - 00:29:28.570

CLA: (saps què que ?)  
TC 00:29:28.548 - 00:29:29.438  
(0.1)

DAN pero no puedo\ no puedo\ yo ((laughs))  
TC 00:29:29.543 - 00:29:31.663  
(4.79)

DAN jo tinc això\ (i ensenya els papers escrits)  
TC 00:29:36.453 - 00:29:38.246  
(0.75)

DAN fare això\  
TC 00:29:39.000 - 00:29:40.590  
(0.23)

DAN puc fer això\ ja t'ho dic ara\  
TC 00:29:40.820 - 00:29:42.839

CLA: pues que ho faci el Bernat\ (l'assenya-la)  
TC 00:29:42.820 - 00:29:43.690  
(0.78)

CLA: Bernat\ ves fent-ho tu\  
TC 00:29:44.470 - 00:29:46.410  
(0.23)

CLA: en català [xx]  
TC 00:29:46.640 - 00:29:49.630

DAN [xxx]  
TC 00:29:48.500 - 00:29:49.650  
(0.14)

DAN això es un resum\  
TC 00:29:49.792 - 00:29:51.132  
(0.04)

CLA: es que  
TC 00:29:51.180 - 00:29:52.190  
(2.7)

DAN ho fas tu/  
TC 00:29:54.893 - 00:29:55.793  
(0.29)

BER tu (fluix, i li torna la llibreta)  
TC 00:29:56.090 - 00:29:56.570  
(4.88)

BER primer\  
TC 00:30:01.450 - 00:30:02.260  
(0.21)

DAN (comença a escriure, i para quan la Leyla qüestiona l'idioma)  
TC 00:30:02.474 - 00:30:06.334  
(0.09)

LEY in catalan/ (staring at Dani)  
TC 00:30:06.424 - 00:30:07.404  
(0.81)

DAN writing writing in EN[GLISH is very VERY] dangerous\ (laughs)  
TC 00:30:08.223 - 00:30:13.143

LEY [no no no]\ (moves hand. laughs)  
TC 00:30:09.353 - 00:30:10.733  
(3.09)

DAN VERY DANGEROUS\  
TC 00:30:13.823 - 00:30:15.083  
(0.04)

LEY okay\ (laughs)  
TC 00:30:15.123 - 00:30:15.543  
(0.14)

DAN oh no\ is possible\ (sudden change in tone)  
TC 00:30:15.685 - 00:30:17.288  
(0.25)

DAN [any]\ (makes sign of conciliation)  
TC 00:30:17.545 - 00:30:18.645

LEY [no\ no\ no\ keep\  
TC 00:30:17.603 - 00:30:18.813

DAN [no problem\ no problem\  
TC 00:30:18.795 - 00:30:20.255

LEY do it\ faster\  
TC 00:30:18.853 - 00:30:20.073  
(0.35)

DAN I [copy] this part and I'm / and I align to: (uses humorous tone and starts checking his papers, joking around, all others laugh)  
TC 00:30:20.425 - 00:30:26.845

LEY [no\] (laughs)  
TC 00:30:20.573 - 00:30:21.013  
(5.86)

LEY okay no\ xx\  
TC 00:30:26.879 - 00:30:28.139  
(4.12)

DAN fem-el [en angles tio]\ ( bernat)  
TC 00:30:32.259 - 00:30:33.939

LEY first the subject\  
TC 00:30:32.649 - 00:30:33.939  
(0.12)

DAN fem-el en angles\  
TC 00:30:34.060 - 00:30:35.433  
(0.09)

DAN EN ANGLÉS\ YES\ el resum en anglès com es diu/ abstract\ va\ per darrera\ abstract\  
(tots riuen, inclou ell, que utilitza un to amb ironic/humor, gesticual molt amb les mans per recalcar que serà en angles)  
TC 00:30:35.525 - 00:30:41.163

GUI  
TC 00:30:35.525 - 00:30:36.575  
(4.75)

DAN (comença a escriure)  
TC 00:30:41.329 - 00:30:48.609

LEY subject\  
TC 00:30:47.379 - 00:30:48.659  
(0.13)

DAN mm/  
TC 00:30:48.795 - 00:30:49.605  
(0.24)

LEY subject\  
TC 00:30:49.849 - 00:30:50.689  
(0.77)

DAN subject/ (leaning towards Leyla)  
TC 00:30:51.465 - 00:30:52.175  
(0.27)

LEY subject of the: (refers to text)  
TC 00:30:52.449 - 00:30:54.429  
(0.27)

LEY (laughs)  
TC 00:30:54.699 - 00:30:55.829  
(0.03)

DAN introduction/  
TC 00:30:55.865 - 00:30:57.135

LEY introduction\  
TC 00:30:57.129 - 00:30:58.009  
(0.48)

LEY microbial  
TC 00:30:58.489 - 00:30:59.269  
(0.12)

DAN yes\  
TC 00:30:59.395 - 00:30:59.785  
(0.69)

LEY metabolism  
TC 00:31:00.479 - 00:31:01.199  
(0.73)

BER a: tittle/  
TC 00:31:01.933 - 00:31:02.823

DAN I write the xx/  
TC 00:31:02.835 - 00:31:04.265  
(0.1)

LEY that's right\  
TC 00:31:04.373 - 00:31:05.253

(0.7)

BER tittle\  
TC 00:31:05.953 - 00:31:06.563  
(1.34)

DAN es un rotllo tot lo que  
TC 00:31:07.905 - 00:31:09.905

DAN (tots tres , Leyla, Bernat i Dani) riuen amb ganes  
TC 00:31:09.905 - 00:31:14.545  
(0.14)

DAN oh\ (fent signe de tranquil.litat amb mans)  
TC 00:31:14.685 - 00:31:15.885  
(0.27)

DAN tranquilizate (a Leyla, molt fluix)  
TC 00:31:16.155 - 00:31:17.555  
(0.13)

DAN com es diu tranquil en angles/ (a Prof. Caterina)  
TC 00:31:17.693 - 00:31:19.353  
(0.27)

CAT mm\ relax\ or take it easy\  
TC 00:31:19.632 - 00:31:22.631  
(0.08)

DAN TAKE IT EASY\  
TC 00:31:22.713 - 00:31:23.597  
(0.09)

LEY okay\  
TC 00:31:23.692 - 00:31:23.922  
(0.09)

DAN (Dani writes)  
TC 00:31:24.013 - 00:32:00.180

LEY microbotic\  
TC 00:31:40.824 - 00:31:41.834  
(3.59)

LEY maybe microbotic will be here (and then will be?)/ (looking at Dani mainly)  
TC 00:31:45.424 - 00:31:50.904  
(10.48)

LEY this is general (Dani takes her papers and examines them)  
TC 00:32:01.384 - 00:32:02.604  
(1.35)

LEY it's complicated/  
TC 00:32:03.954 - 00:32:05.444  
(0.24)

DAN (mimics he can't see or understand the paper Leyla is holding)  
TC 00:32:05.693 - 00:32:06.973  
(2.16)

DAN microanalysis ah  
TC 00:32:09.134 - 00:32:10.554  
(0.26)

DAN a:\  
TC 00:32:10.814 - 00:32:12.004  
(0.06)

DAN two parts\  
TC 00:32:12.064 - 00:32:13.214  
(0.13)

LEY mm\  
TC 00:32:13.344 - 00:32:14.054  
(1.5)

LEY don't you want to use this/ if we make a mistake we can correct\ (offers pencil=)  
TC 00:32:15.557 - 00:32:19.237  
(0.39)

LEY (continues offering pencil, remains ignored)  
TC 00:32:19.634 - 00:32:20.824  
(0.28)

LEY (offers pencil again and then touces Dani's hand to get his attention)  
TC 00:32:21.104 - 00:32:22.004

BER (also offers pencil, ignored too)  
TC 00:32:21.112 - 00:32:22.042  
(0.15)

LEY if you write in this we can correct\  
TC 00:32:22.192 - 00:32:25.042

DAN (Dani takes pencil)  
TC 00:32:24.390 - 00:32:25.350  
(1.38)

DAN (Dani writes in pencil, as suggested by Leyla)  
TC 00:32:26.737 - 00:32:40.829

LEY xxxxxxxxxx\  
TC 00:32:32.612 - 00:32:35.203  
(1.85)

LEY a.nd nutritional a: (looking for word, laughs, glances with Dani, who smiles)  
TC 00:32:37.062 - 00:32:40.752  
(0.1)

DAN (Dani keeps writing under the careful sight of Leyla, who dictates or makes suggestions  
from time to time, which are acknowledged by Dani by means of his gaze)  
TC 00:32:40.860 - 00:33:40.180

LEY nutrition\ fine/  
TC 00:32:41.262 - 00:32:42.782  
(2.18)

LEY and the need for  
TC 00:32:44.963 - 00:32:46.253  
(0.21)

LEY okay/  
TC 00:32:46.463 - 00:32:47.343  
(0.45)

LEY xxxx (to Bernat)  
TC 00:32:47.793 - 00:32:49.243  
(1.36)

LEY xxxxx\  
TC 00:32:50.603 - 00:32:51.863  
(31.49)

LEY the need\  
TC 00:33:23.353 - 00:33:24.253  
(0.56)

LEY the need for more xx\  
TC 00:33:24.813 - 00:33:26.463  
(0.63)

LEY molecules\  
TC 00:33:27.093 - 00:33:29.013  
(0.45)

BER xx\  
TC 00:33:29.463 - 00:33:30.123  
(2.1)

BER xxxxx\  
TC 00:33:32.223 - 00:33:33.773  
(6.72)

DAN (Dani goes on writing) under Leyla's supervision and Bernat's presence.)  
TC 00:33:40.500 - 00:34:29.870

LEY mm\ (reassuring)  
TC 00:33:47.213 - 00:33:48.043  
(4.1)

BER xxx (to Leyla)  
TC 00:33:52.143 - 00:33:53.003  
(0.39)

LEY maybe we can xx the nutrition\_  
TC 00:33:53.393 - 00:33:58.383  
(15.68)

LEY xxxxxx carbon (llegint, dictant)  
TC 00:34:14.063 - 00:34:18.163  
(1.56)

LEY carbon xxxxx\  
TC 00:34:19.723 - 00:34:22.453



(38.58)

CLA: where are you now/  
TC 00:35:01.037 - 00:35:02.167

DAN at the microorganisms\  
TC 00:35:02.177 - 00:35:03.257  
(0.54)

CLA: here/ still/  
TC 00:35:03.803 - 00:35:04.943  
(0.52)

CLA: all\ very much\ no\ no\ no\  
TC 00:35:05.463 - 00:35:07.913

DAN I read/  
TC 00:35:06.456 - 00:35:07.246  
(1.37)

CLA: five minutes\ all this\ okay\  
TC 00:35:08.623 - 00:35:11.043  
(0.17)

DAN this is impossible\  
TC 00:35:11.216 - 00:35:12.655

LEY in catalan\ in catalan\  
TC 00:35:12.270 - 00:35:13.370  
(0.2)

DAN in catalan/  
TC 00:35:13.575 - 00:35:14.935

LEY in catalan will be faster\  
TC 00:35:14.830 - 00:35:16.280  
(0.21)

CLA: catalan it's okay\  
TC 00:35:16.490 - 00:35:18.130

LEY [xxx] you xxx in catalan\ (encouraging Dani to speed up)  
TC 00:35:17.010 - 00:35:19.540  
(1.67)

LEY only we really need this here\ (showing article)  
TC 00:35:21.211 - 00:35:23.741  
(0.42)

LEY here\  
TC 00:35:24.161 - 00:35:24.711  
(0.08)

LEY let's write everything\  
TC 00:35:24.791 - 00:35:26.381  
(0.17)

BER xxx ho escriu/  
TC 00:35:26.551 - 00:35:27.791  
(0.71)

DAN (continues writing)  
TC 00:35:28.502 - 00:35:42.012  
(0.21)

DAN RELAX (looking at Leyla)  
TC 00:35:42.222 - 00:35:43.722  
(0.78)

LEY we have one minute\  
TC 00:35:44.511 - 00:35:46.041  
(2.02)

DAN hi ha dos coses basiques\ que han de menjar els microorganismes\ la segona\  
TC 00:35:48.062 - 00:35:52.593

LEY mmm\  
TC 00:35:51.499 - 00:35:52.389  
(0.25)

DAN la naturalesa del metabolisme microbia\  
TC 00:35:52.642 - 00:35:55.082  
(8.33)

BER xx\  
TC 00:36:03.412 - 00:36:05.912  
(3.46)

DAN xxx\  
TC 00:36:09.377 - 00:36:10.947  
(4.64)

DAN vale\  
TC 00:36:15.587 - 00:36:16.717  
(0.31)

DAN la primera\  
TC 00:36:17.027 - 00:36:17.777  
(0.12)

LEY nice\  
TC 00:36:17.897 - 00:36:18.697  
(2.92)

DAN que hem de/ que necessiten/ que han de menjar o que necessiten per sobreviure/  
TC 00:36:21.617 - 00:36:26.030  
(3.11)

DAN sobreviure per sobreviure\ (eating sign with hand)  
TC 00:36:29.144 - 00:36:32.214  
(3.16)

DAN (continua escrivint sense dir res mentre Bernet i Leyla el contemplen, en silenci)  
TC 00:36:35.379 - 00:36:50.899

DAN necessiten energia\  
TC 00:36:50.899 - 00:36:53.309

LEY (arronsa les llavis, sembla signe de cansament o frustracio)  
TC 00:36:53.299 - 00:36:54.529  
(1.38)

DAN dos\ necessiten carboni\  
TC 00:36:55.910 - 00:36:58.160  
(2.55)

DAN tambe ha de sintetitzar sin si:n-te:-ti:t-za:\ noves cel.lules\ (escribint al mateix  
temps)  
TC 00:37:00.713 - 00:37:09.567  
(4.41)

DAN a:h i necessiten  
TC 00:37:13.980 - 00:37:15.370  
(0.66)

DAN [elements] inorganics (copiant)  
TC 00:37:16.030 - 00:37:17.660

BER [xxx]  
TC 00:37:16.050 - 00:37:16.720  
(73.82)

DAV but I think that all that is not important\  
TC 00:38:30.543 - 00:38:34.993  
(3.28)

DAV yes\ we say  
TC 00:38:38.280 - 00:38:39.930  
(0.94)

DAV all of this organic and after\ this\  
TC 00:38:40.870 - 00:38:44.990  
(1.34)

DAV this[ is important]\ (pointing at paragraph)  
TC 00:38:46.332 - 00:38:48.122

CAT you should get the main points\ only the main points\  
TC 00:38:46.462 - 00:38:48.912  
(0.64)

CAT don't focus on secondary things\ just get them main point I mean it should be\_ it  
shouldn't be so long\ e: just get the main points\  
TC 00:38:49.552 - 00:38:57.162  
(0.05)

DAV okay\  
TC 00:38:57.212 - 00:38:57.592  
(4.63)

Ahmet and there aren't xx\  
TC 00:39:02.222 - 00:39:05.522  
(27.65)

SAN ja està/  
TC 00:39:33.172 - 00:39:33.812  
(2.38)

DAV this xx/ (to Cem)  
TC 00:39:36.192 - 00:39:37.512  
(5.56)

DAV the organic compost that have this \_ (fa forma de triangle amb mans)  
TC 00:39:43.072 - 00:39:48.372

SEL xxx (en turc a Ahmet, assenyalant alguna cosa)  
TC 00:39:43.712 - 00:39:45.192  
(3.29)

CEM type\ no/  
TC 00:39:48.482 - 00:39:50.102  
(0.04)

DAV TYPE\  
TC 00:39:50.142 - 00:39:50.882  
(0.74)

DAV it's with nitrogen\  
TC 00:39:51.622 - 00:39:53.312  
(0.57)

SEL mm\  
TC 00:39:53.882 - 00:39:54.242  
(0.06)

DAV all of that\  
TC 00:39:54.302 - 00:39:55.132  
(0.21)

CEM doesn't\ doesn't/ no/  
TC 00:39:55.342 - 00:39:56.942  
(0.23)

Ahmet mm/  
TC 00:39:57.172 - 00:39:57.572  
(0.09)

SEL xxx (en turc)  
TC 00:39:57.662 - 00:39:59.422

CEM xxxx (en turc)  
TC 00:39:59.432 - 00:40:00.322

DAV això dels purins\ xxx\ això es el mateix\ (a Enric)  
TC 00:40:00.322 - 00:40:03.342  
(0.07)

SEL xxx (en turc)  
TC 00:40:03.412 - 00:40:04.212

ENR si\  
TC 00:40:04.212 - 00:40:04.762  
(19.72)

DAV els purins/  
TC 00:40:24.482 - 00:40:25.442

CLA: you are nearly finishing/ or not/  
TC 00:40:25.442 - 00:40:27.992  
(0.09)

DAV yes\  
TC 00:40:28.082 - 00:40:28.682  
(0.09)

CLA: okay\  
TC 00:40:28.772 - 00:40:29.182  
(0.64)

DAV una cosa\  
TC 00:40:29.830 - 00:40:30.180  
(0.18)

CLA: ah\  
TC 00:40:30.360 - 00:40:31.130  
(0.15)

CLA: say say\  
TC 00:40:31.280 - 00:40:32.270  
(0.11)

DAV e: els purins\  
 TC 00:40:32.380 - 00:40:34.230  
 (0.07)

CLA: els purins/  
 TC 00:40:34.300 - 00:40:34.740  
 (0.29)

DAV si\  
 TC 00:40:35.030 - 00:40:35.330  
 (0.35)

DAV els purins\  
 TC 00:40:35.680 - 00:40:38.080  
 (0.2)

CLA: the pork's the pigs shit (moves hand away)  
 TC 00:40:38.280 - 00:40:43.090  
 (61.45)

ENR que esta ficant ara/  
 TC 00:41:44.541 - 00:41:45.821  
 (0.09)

DAV això del final\  
 TC 00:41:45.911 - 00:41:47.441  
 (0.05)

ENR ah\  
 TC 00:41:47.491 - 00:41:48.031  
 (2.86)

ENR ah vale\  
 TC 00:41:50.891 - 00:41:51.935  
 (50.67)

DAV another aminor aminoxxx\  
 TC 00:42:42.607 - 00:42:46.523  
 (0.07)

DAV others like here we put three or four\ not all\  
 TC 00:42:46.597 - 00:42:50.217  
 (0.07)

CEM not important \ just\ xx\  
 TC 00:42:50.293 - 00:42:52.243  
 (0.5)

ENR no cal ficar-lo no/ o si/ vols ficar-lo/  
 TC 00:42:52.743 - 00:42:55.833

DAV o que els posin tots\ un per un\ [(rient)]  
 TC 00:42:55.833 - 00:43:00.333

ENR els posen tots\ (riu)  
 TC 00:42:58.053 - 00:43:00.333  
 (0.17)

ENR tots junts\ bueno es igual\ ara ho vaig [a xx]\  
 TC 00:43:00.503 - 00:43:04.043

DAV and THAT\ THAT\ (pointing)  
 TC 00:43:02.643 - 00:43:04.753  
 (1.41)

DAV yes\  
 TC 00:43:06.163 - 00:43:06.773  
 (0.31)

CEM and finish\  
 TC 00:43:07.083 - 00:43:07.963  
 (10.59)

CLA: all the groups\  
 TC 00:43:18.557 - 00:43:21.931  
 (3.37)

CLA: put the names on the sheet of paper every group\  
 TC 00:43:25.307 - 00:43:29.347  
 (0.14)

CLA: we will take a photo of  
 TC 00:43:29.487 - 00:43:31.617  
 (0.23)

CLA: your abstract\  
 TC 00:43:31.847 - 00:43:32.787

(0.69)

CLA: and now we are going to give you the questions\  
TC 00:43:33.486 - 00:43:37.446  
(0.25)

CLA: and you must answer the questions\_  
TC 00:43:37.696 - 00:43:39.815  
(0.38)

CLA: in here\  
TC 00:43:40.196 - 00:43:40.686  
(0.12)

CAT in the yellow paper\  
TC 00:43:40.806 - 00:43:41.626  
(0.38)

ENR okay\  
TC 00:43:42.006 - 00:43:42.256  
(0.15)

CLA: I read you\ okay\  
TC 00:43:42.406 - 00:43:44.026  
(1.09)

CLA: write the names\_  
TC 00:43:45.116 - 00:43:46.736  
(0.66)

CLA: in the  
TC 00:43:47.396 - 00:43:48.086  
(0.54)

CLA: in the abstract\  
TC 00:43:48.626 - 00:43:49.920  
(0.18)

ENR vale\ va\  
TC 00:43:50.106 - 00:43:51.056  
(2.03)

DAN a mi me havies estafao\ tengo que leer un apagina entera\ veinte minutos pegao\ xxx\  
TC 00:43:53.086 - 00:44:01.046  
(35.9)

DAN que: necessiten en requeriments nutricionals els microorganismes/ (llegint pregunta del  
paper que ha passat la Prof. Clara)  
TC 00:44:36.948 - 00:44:43.362  
(0.36)

DAN which are the main nutritional \_ que quiere decir/ por que necesitan\_ because\_  
TC 00:44:43.728 - 00:44:47.458  
(2.02)

LEY xxxxx\  
TC 00:44:49.478 - 00:44:51.538  
(18.45)

DAN quins son els elements nutricionals que es requereixen/  
TC 00:45:09.989 - 00:45:13.413  
(0.09)

EST (Dani, Leyla i Bernat busquen la resposta en l'article i van assenyalant informació)  
TC 00:45:13.509 - 00:45:20.019  
(1.44)

DAN ENERGY\ (assenyalant paper groc que ells han escrit)  
TC 00:45:21.459 - 00:45:22.559  
(0.02)

LEY [mm\  
TC 00:45:22.579 - 00:45:23.109  
(0.02)

DAN carbon\ organic carbon\ and ORGANIC compounds\ (mira Leyla, comprovant, fa gest a  
Bernat porque ho apunti)  
TC 00:45:23.129 - 00:45:27.119  
(0.08)

LEY mm\  
TC 00:45:27.199 - 00:45:27.519  
(0.38)

LEY and organic compounds\  
TC 00:45:27.899 - 00:45:29.529  
(0.21)

BER xx en catala/ (a Dani)  
TC 00:45:29.742 - 00:45:30.672  
(0.06)

DAN en catalan\  
TC 00:45:30.732 - 00:45:31.532  
(0.25)

DAN apunta que necessitem energia i carbonic per xx\ es gira i costa entendre que diu,  
mirant el que escriu el Bernat i donant indicacions amb el dit)  
TC 00:45:31.782 - 00:45:39.112  
(3.32)

LEY xx (inaudible)  
TC 00:45:42.434 - 00:45:43.704  
(0.85)

DAN tambien necesitan xxx\  
TC 00:45:44.554 - 00:45:48.534  
(3.09)

DAN els microorganismes (dictant a Bernat)  
TC 00:45:51.624 - 00:45:53.434  
(2.18)

DAN el sentit nutricional  
TC 00:45:55.614 - 00:45:57.784  
(0.68)

DAN xxxx\  
TC 00:45:58.470 - 00:46:00.650  
(6.13)

DAN we COPY THIS\ (touches paper with hand)  
TC 00:46:06.780 - 00:46:08.171  
(0.03)

LEY (assenteix)  
TC 00:46:08.201 - 00:46:08.541  
(0.04)

DAN que has posat aqui/ tu copy\ (al Bernat, fent sons expeditius amb la boca, com volent  
dir que ja està decidit)  
TC 00:46:08.590 - 00:46:12.390  
(0.43)

BER i que xx/ ( a Dani)  
TC 00:46:12.820 - 00:46:14.200  
(0.91)

DAN (fa gestos d'indiferència)  
TC 00:46:15.110 - 00:46:15.740  
(0.12)

DAN no lo se\  
TC 00:46:15.860 - 00:46:17.220  
(0.3)

DAN xxx\  
TC 00:46:17.528 - 00:46:18.508  
(0.22)

CLA: xxx alguna cosa\ (al grup)  
TC 00:46:18.728 - 00:46:21.258  
(0.15)

BER pongo las tres\ no/  
TC 00:46:21.408 - 00:46:22.398  
(0.12)

DAN si\  
TC 00:46:22.518 - 00:46:22.978  
(0.17)

BER (Bernat escriu alguna cosa. Tots en silenci)  
TC 00:46:23.152 - 00:46:33.322  
(0.26)

DAN sabes quien nos falta aqui/ que hoy no ha venio\  
TC 00:46:33.582 - 00:46:35.548  
(1.79)

DAN la Marta\  
TC 00:46:37.342 - 00:46:37.932  
(0.25)

DAN (hemos perdido ?) mucho\  
TC 00:46:38.182 - 00:46:39.112  
(0.89)

DAN hagues anat de collons\ tio\  
TC 00:46:40.002 - 00:46:41.612  
(0.08)

BER (assenteix mentre va escribint)  
TC 00:46:41.698 - 00:46:41.938  
(20.55)

DAN la segona\  
TC 00:47:02.488 - 00:47:03.378  
(0.71)

DAN que:\  
TC 00:47:04.088 - 00:47:05.818  
(0.1)

DAN que hay que hacer/ hay que firmar/  
TC 00:47:05.918 - 00:47:07.381  
(0.95)

LEY maybe we can write this/ some microorganisms nee:d- (assenyala part de l'article amb  
boli, a Bernat, que escriu)  
TC 00:47:08.338 - 00:47:12.681  
(1.06)

LEY also open no\  
TC 00:47:13.741 - 00:47:15.421  
(0.13)

LEY xxxxx\ (inaudible)  
TC 00:47:15.558 - 00:47:18.186  
(0.08)

DAN the second question is this\  
TC 00:47:18.273 - 00:47:19.443  
(0.26)

DAN is  
TC 00:47:19.705 - 00:47:20.115  
(0.58)

DAN there\ (showing locatoin in article)  
TC 00:47:20.703 - 00:47:21.453  
(2.22)

DAN xxx(reading from article)  
TC 00:47:23.673 - 00:47:28.393

LEY (Leyla is nodding)  
TC 00:47:24.445 - 00:47:25.465  
(3.32)

LEY xxx are microorganisms (nodding)  
TC 00:47:28.785 - 00:47:30.915  
(0.26)

DAN aquesta d'aqui\ (assenyala el text que te Bernat, aixecant-se de la cadira)  
TC 00:47:31.175 - 00:47:32.025  
(1.32)

BER vale\ xxxx/ (a Dani)  
TC 00:47:33.345 - 00:47:35.395  
(0.06)

DAN xxx que fan/ que fan/ xx\ what does \_ what does \_ (expressing frustration at not  
comprehending)  
TC 00:47:35.455 - 00:47:40.865  
(0.68)

DAN what does autotrogh organism mean/ (llegeix flux, pels altres, inaudible)  
TC 00:47:41.545 - 00:47:43.815

LEY what does\ what does\ (molt fluxet, assentint, mirant a Dani)  
TC 00:47:42.408 - 00:47:44.998

DAN que significa a: mil significate\_ (to Leyla)  
TC 00:47:43.835 - 00:47:47.035  
(0.69)

LEY definition\  
TC 00:47:47.725 - 00:47:48.285  
(0.39)

DAN definition of this microorganism\  
TC 00:47:48.675 - 00:47:50.985  
(0.48)

LEY aha\  
TC 00:47:51.465 - 00:47:51.855  
(0.46)

LEY what does it mean\  
TC 00:47:52.315 - 00:47:53.563  
(0.84)

DAN quien las ha xx/  
TC 00:47:54.405 - 00:47:55.615  
(0.07)

LEY xxx\  
TC 00:47:55.685 - 00:47:56.285  
(0.03)

DAN que es el que FA\  
TC 00:47:56.315 - 00:47:57.465  
(0.07)

DAN xxx[xx]\  
TC 00:47:57.535 - 00:48:00.925

LEY [xxxxx] xxxx\ (to Bernat)  
TC 00:47:57.808 - 00:48:03.528

DAN que fan els microorganismes anomenats autotrofs/  
TC 00:48:03.528 - 00:48:08.095  
(0.23)

BER (Bernat va apuntant)  
TC 00:48:08.328 - 00:48:10.558  
(0.38)

LEY x carbon\_ (to Dani)  
TC 00:48:10.940 - 00:48:11.710  
(0.33)

DAN carbon dioxide and  
TC 00:48:12.040 - 00:48:14.330  
(0.05)

DAN carbon [dioxid] (gesticulant)  
TC 00:48:14.380 - 00:48:15.740

LEY [carbon] dioxide\ (assenteix)  
TC 00:48:14.815 - 00:48:15.985  
(0.06)

LEY [xxx]  
TC 00:48:16.045 - 00:48:17.125

DAN [creixen]\  
TC 00:48:16.290 - 00:48:17.430  
(0.16)

DAN fo:r a: (makes expanding movements with arms)  
TC 00:48:17.590 - 00:48:18.690  
(0.41)

LEY making new cells\  
TC 00:48:19.105 - 00:48:20.645  
(0.03)

DAN yes\  
TC 00:48:20.675 - 00:48:21.135  
(0.05)

DAN (nodding)  
TC 00:48:21.190 - 00:48:21.520  
(0.62)

DAN utilitzen el CO2 per obtenir carboni i aixi: (es mou amunt i endavant, pujant la tensió  
del moment)  
TC 00:49:02.140 - 00:49:06.750  
(0.13)

DAN poder-se\_  
TC 00:49:06.880 - 00:49:08.360  
(0.06)

DAN transformar\ (BERnat ho va escribint)  
TC 00:49:08.428 - 00:49:09.328



(7.12)

CAT you done/  
TC 00:49:16.448 - 00:49:16.768  
(0.07)

LEY no\ just two minutes\  
TC 00:49:16.838 - 00:49:17.478  
(20.83)

DAN hostia\ este esta en catalan\ com s'anomenen els microorganismes que obtenen enrgia de  
la llum del carboni de CO2/ (llegint pregunta)  
TC 00:49:38.311 - 00:49:43.011  
(0.25)

DAN it's in Catalan\ (expressing happiness(surpriset) Leyla)  
TC 00:49:43.261 - 00:49:44.471  
(0.1)

LEY yes\ (expressionless)  
TC 00:49:44.575 - 00:49:44.875  
(1.81)

DAN a:nd the the name of this microorganism to: [to meet a:]  
TC 00:49:46.685 - 00:49:52.515

LEY [xxxxxxx]  
TC 00:49:50.085 - 00:49:52.675  
(0.02)

DAN right\ [carbon]\  
TC 00:49:52.695 - 00:49:53.795

LEY [autotrophs]\  
TC 00:49:53.145 - 00:49:54.065  
(1.03)

DAN they take carbon to the xx\  
TC 00:49:55.098 - 00:49:57.088  
(0.11)

DAN the phototrophs (raises from chair to show location in article)  
TC 00:49:57.198 - 00:49:58.658  
(4.59)

LEY here too\ carbon\ carbon from xx\ autotrophs\  
TC 00:50:03.248 - 00:50:08.960  
(0.08)

LEY photoheterotrophic\  
TC 00:50:09.048 - 00:50:10.708  
(2.1)

LEY xxx autotrophic phtotrophic\  
TC 00:50:12.816 - 00:50:16.336  
(0.96)

LEY xxx\  
TC 00:50:17.296 - 00:50:18.106  
(0.18)

LEY both\  
TC 00:50:18.286 - 00:50:18.806  
(1.82)

LEY i means and/ (to Dani, examining question 3, in Catalan from phtocopy)  
TC 00:50:20.630 - 00:50:22.343  
(0.78)

LEY and/ (staring at Dani)  
TC 00:50:23.130 - 00:50:23.580  
(0.06)

DAN AND\ YES\ (nodding)  
TC 00:50:23.640 - 00:50:24.680  
(0.09)

LEY mm\  
TC 00:50:24.770 - 00:50:25.470  
(0.62)

BER si\ els altre/  
TC 00:50:26.095 - 00:50:27.015  
(0.35)

BER si\  
TC 00:50:27.365 - 00:50:27.705

(0.12)

LEY phototrop\ phototrop\  
TC 00:50:27.825 - 00:50:29.145  
(1.31)

DAN bueno\ pero es que diu\_  
TC 00:50:30.455 - 00:50:31.905  
(1.67)

DAN com s'anomenen els microorganismes que obtenen energia i carboni del CO2/  
TC 00:50:33.575 - 00:50:37.685  
(0.42)

BER ah\ (aixecant ma)  
TC 00:50:38.105 - 00:50:38.385  
(0.07)

DAN com s'anomenen microorganismes\ no es autotrofic\ crec\  
TC 00:50:38.455 - 00:50:41.635  
(1.97)

LEY (s'acosta i mira el text)  
TC 00:50:43.605 - 00:50:44.305

DAN yes\ yes\  
TC 00:50:44.305 - 00:50:45.225  
(0.04)

DAN xxx\  
TC 00:50:45.265 - 00:50:46.555  
(0.08)

DAN a LIGHT\ a [CARBON]\  
TC 00:50:46.635 - 00:50:48.765

BER [xxxx]/ (a Porf. Calra, que passa per alla)  
TC 00:50:47.442 - 00:51:01.792

DAN [phototrophs]/  
TC 00:50:50.103 - 00:50:50.973

LEY [and you really can xxx from light and carbon\ from carbon dioxide]/ (to Dani)  
TC 00:50:50.595 - 00:50:56.025  
(5.11)

CLA: l'energia l'obtenen de la llum i\_  
TC 00:51:01.135 - 00:51:02.955  
(0.14)

CLA: i del carbo\ el carbonic\  
TC 00:51:03.095 - 00:51:05.505  
(0.22)

BER i son els dos xx/  
TC 00:51:05.733 - 00:51:06.703  
(0.39)

CLA: jo no t'ho dire\  
TC 00:51:07.093 - 00:51:08.403  
(11.56)

DAN xxx  
TC 00:51:19.968 - 00:51:20.878  
(0.04)

LEY autotrophic and phototropic\ (very self-assured, patiently)  
TC 00:51:20.918 - 00:51:23.258  
(0.21)

DAN yes\  
TC 00:51:23.468 - 00:51:24.258  
(0.38)

BER has been writing and now opens hand expressing doubt)  
TC 00:51:24.638 - 00:51:25.368

DAN autotro and phototro  
TC 00:51:25.365 - 00:51:27.215  
(0.04)

DAN a: autotro [a:nd]  
TC 00:51:27.255 - 00:51:29.605

LEY autotrophic and phototropic\ (laughing)  
TC 00:51:28.995 - 00:51:30.255  
(0.04)

EST (Bernat, Leyla and Dani are laughing now)  
TC 00:51:30.295 - 00:51:32.965  
(0.02)

DAN hold on\  
TC 00:51:32.985 - 00:51:33.635  
(0.75)

BER no\ for xx only xxxxx\  
TC 00:51:34.390 - 00:51:37.390  
(0.03)

DAN que (to Bernat)  
TC 00:51:37.420 - 00:51:37.670  
(0.5)

BER solo dos cosas\ (i mira al text buscant, fa un 1 amb la ma)  
TC 00:51:38.170 - 00:51:39.310  
(0.57)

DAN no\  
TC 00:51:39.880 - 00:51:40.530  
(0.14)

DAN a ver\  
TC 00:51:40.670 - 00:51:41.280  
(0.11)

DAN pueden ser  
TC 00:51:41.390 - 00:51:42.500  
(0.19)

DAN (toca la ma al Bernat insistentment, com indicant nerviosisme, excitació pel que va a  
dir o també perquè li faci cas i deixi de llegir el text, cosa que fa somriure al LEyla, que  
l'observa)  
TC 00:51:42.696 - 00:51:44.476

BER escuece\  
TC 00:51:43.406 - 00:51:44.486  
(0.5)

DAN e- ellas primero no necesitan energia\  
TC 00:51:44.986 - 00:51:48.196  
(1.06)

DAN heterotrophs don't need a energy (to Leyla)  
TC 00:51:49.256 - 00:51:51.283  
(1.54)

LEY a: xx don't think eat\  
TC 00:51:52.826 - 00:51:55.196  
(0.21)

DAN and the:  
TC 00:51:55.406 - 00:51:56.486  
(0.08)

LEY a:nd the name of the or xxxx (don't?)  
TC 00:51:56.566 - 00:51:59.386

BER xxxin carbon\ /(assenyalant article)  
TC 00:51:57.506 - 00:51:58.976  
(0.52)

DAN photo[trophs]\  
TC 00:51:59.496 - 00:52:00.136

LEY [which] source of energy xxx in phototrophs/  
TC 00:51:59.836 - 00:52:02.416  
(0.07)

BER no\  
TC 00:52:02.486 - 00:52:02.916  
(0.17)

BER xxxxxxxxx\ (to Eylem, who approaches paper to see what Bernat is pointing at in the  
worksheet)  
TC 00:52:03.090 - 00:52:07.410  
(0.6)

LEY (reading form article to others, inaudible, nodding didactically) xxxxxxxx  
TC 00:52:08.010 - 00:52:13.420

DAN phototrophic\  
TC 00:52:09.406 - 00:52:10.276  
(3.14)

DAN yes\  
TC 00:52:13.420 - 00:52:13.870  
(1.38)

LEY to thexxxxxxxxxxxx[xxxxxxxx]xx\ (assenyalant una altra part del text, mirant a Dani)  
TC 00:52:15.256 - 00:52:18.426

DAN a:h\ [autotrophic\  
TC 00:52:16.086 - 00:52:17.636  
(1.01)

LEY xxxxxxx\  
TC 00:52:18.650 - 00:52:19.820  
(0.23)

DAN xxxxxxxxxxxxxxx autotrophic\  
TC 00:52:20.050 - 00:52:29.310  
(0.19)

LEY (nods)  
TC 00:52:29.500 - 00:52:29.730  
(0.87)

DAN o sea es un projecte xx\ no es un projecte xx\  
TC 00:52:30.600 - 00:52:34.840  
(0.06)

DAN I think\  
TC 00:52:34.908 - 00:52:35.478  
(0.08)

DAN PHOTOTROPH\ AUTOTROPHIC\  
TC 00:52:35.558 - 00:52:37.878  
(0.08)

LEY (somriu)  
TC 00:52:37.958 - 00:52:38.858

BER (somriu)  
TC 00:52:37.958 - 00:52:38.858

DAN los dos\ si\  
TC 00:52:38.778 - 00:52:40.358

DAN s'anomenen phototrophs i autotrophs\ (doctant a Bernat, que ja ho estpa escriint)  
TC 00:52:40.358 - 00:52:42.678  
(0.79)

LEY xxxx phototrophs and autotrophs\  
TC 00:52:43.468 - 00:52:45.238  
(0.24)

DAN me ha costado un poco entenderlo pero lo he entendido\  
TC 00:52:45.478 - 00:52:48.918  
(0.59)

LEY I don't understand yet\  
TC 00:52:49.508 - 00:52:50.768  
(0.07)

DAN Leyla (laughing, simulating signs of exhaustion, joking)  
TC 00:52:50.838 - 00:52:51.998  
(5.72)

BER phtotrophic autotrophic\ (fluix, somriuescribint, tots miren)  
TC 00:52:57.718 - 00:52:59.403  
(0.84)

LEY (somriu)  
TC 00:53:00.248 - 00:53:03.458

DAN yeah\ a:\ give\  
TC 00:53:02.820 - 00:53:04.575  
(0.1)

DAN give me more time to understand when you explain the: the:-  
TC 00:53:04.675 - 00:53:10.055  
(0.53)

LEY xxxx/  
TC 00:53:10.585 - 00:53:12.785  
(1.07)

DAN el mateix (to prof. Caterina)  
TC 00:53:13.855 - 00:53:14.655  
(0.75)

DAN the SAME\ to me\  
TC 00:53:15.405 - 00:53:17.185  
(0.34)

DAN and don't understand (with hand back and forth, meaning each other , LEyla somriu  
TC 00:53:17.525 - 00:53:18.755  
(0.78)

DAN A::ND\_ (Leyla riu)  
TC 00:53:19.535 - 00:53:21.515  
(0.32)

DAN (a Prof. Caterina) diga-li que estavem dient el mateix pero que no ens enteniem\  
TC 00:53:21.835 - 00:53:24.075  
(0.07)

CAT diga-li tu en anglès\  
TC 00:53:24.145 - 00:53:25.075  
(0.46)

DAN jo no puc\ ho estic intentant i m'esta mirant amb cara de dir que m'estas dient/  
(somrinet)  
TC 00:53:25.535 - 00:53:29.645  
(0.06)

CAT okay\ okay\ what is it you wanna say/  
TC 00:53:29.705 - 00:53:31.415  
(0.23)

DAN estavem dient el mateix pero no ens enteniem\  
TC 00:53:31.645 - 00:53:33.475  
(0.08)

CAT you were saying the same\the same thing\ but you did not understand each other\  
TC 00:53:33.561 - 00:53:38.431

LEY yes\  
TC 00:53:38.405 - 00:53:38.595

DAN xxx\  
TC 00:53:38.581 - 00:53:39.463  
(0.19)

BER ei aquí (donant-li el paper?)  
TC 00:53:39.662 - 00:53:41.052  
(0.9)

DAN mira tio en mayusculas\ (comença a revisar)  
TC 00:53:41.959 - 00:53:43.460  
(0.96)

BER vale\ val\ ponlo tio\ (li tira el boli)  
TC 00:53:44.422 - 00:53:45.742  
(0.29)

DAN xxxxx\  
TC 00:53:46.040 - 00:53:47.680  
(3.05)

DAN (arregla amb tipex que li ha tirat el Bernat)  
TC 00:53:50.733 - 00:53:54.543  
(6.51)

LEY your name/ (to Bernat)  
TC 00:54:01.060 - 00:54:01.760  
(0.85)

BER Bernat\  
TC 00:54:02.610 - 00:54:03.330  
(0.17)

CLA: bueno\ casi que (a Caterina)  
TC 00:54:03.503 - 00:54:05.093  
(0.11)

BER assenyala noma Leyla (com preguntant-lo)  
TC 00:54:05.203 - 00:54:05.613  
(0.08)

LEY Leyla\  
TC 00:54:05.693 - 00:54:06.703  
(0.31)

BER Leyla\ val\  
TC 00:54:07.013 - 00:54:08.163  
(0.41)

DAN va\ coje los xx\ (a Bernat)  
TC 00:54:08.573 - 00:54:11.463  
(17.37)

DAN you need a rock in Egypt\ (to LEyla)  
TC 00:54:28.833 - 00:54:33.373  
(0.29)

LEY (grimace, does not understand)  
TC 00:54:33.663 - 00:54:34.283

DAN and to:  
TC 00:54:34.283 - 00:54:35.423  
(0.14)

DAN egyptian\_ (pretends to be writing)  
TC 00:54:35.563 - 00:54:36.253  
(0.03)

LEY writing/  
TC 00:54:36.283 - 00:54:37.253  
(0.1)

DAN egyptian writing\  
TC 00:54:37.353 - 00:54:38.843  
(0.56)

DAN you said that\_  
TC 00:54:39.412 - 00:54:40.432  
(0.44)

DAN to transalte the: the: egyption jerogliphic to the: right english\_ (all laugh)  
TC 00:54:40.872 - 00:54:46.132  
(0.8)

DAN the greek/  
TC 00:54:46.932 - 00:54:47.612  
(0.12)

BER a mi em dona xx com escriguis\  
TC 00:54:47.732 - 00:54:49.382  
(0.27)

DAN (raises his hand in Bernat's direction) the: the:\_  
TC 00:54:49.652 - 00:54:51.802  
(0.04)

LEY I could write in here too\ (to Dani)  
TC 00:54:51.842 - 00:54:53.342  
(0.38)

DAN so: the:  
TC 00:54:53.722 - 00:54:55.002  
(0.17)

DAN the:  
TC 00:54:55.173 - 00:54:55.533  
(0.05)

BER xxx\  
TC 00:54:55.583 - 00:54:56.183

DAN the brotherhood\  
TC 00:54:56.183 - 00:54:57.093

LEY (laughs)  
TC 00:54:57.093 - 00:54:59.343

BER (laughs)  
TC 00:54:57.093 - 00:54:59.343  
(5.01)

DAN ja esta\  
TC 00:55:04.353 - 00:55:05.113

CLA: ja esteu/  
TC 00:55:05.123 - 00:55:06.038  
(0.04)

CLA: xxxx\  
TC 00:55:06.083 - 00:55:08.443  
(0.05)

DAN xx\  
TC 00:55:08.493 - 00:55:09.013

CLA: molt be\  
 TC 00:55:09.013 - 00:55:09.813  
 (0.42)

CLA: perfect\  
 TC 00:55:10.233 - 00:55:11.193  
 (0.7)

DAN si:\ espera a que lo leas\  
 TC 00:55:11.893 - 00:55:12.963  
 (0.07)

BER (laughing loudly)  
 TC 00:55:13.033 - 00:55:14.873  
 (0.36)

CLA: heu acabat/  
 TC 00:55:15.233 - 00:55:16.583  
 (170.44)

CLA: one moment please\  
 TC 00:58:07.026 - 00:58:08.276  
 (1.73)

CLA: a:h\  
 TC 00:58:10.006 - 00:58:10.993  
 (1.16)

CLA: xxx the group\  
 TC 00:58:12.156 - 00:58:13.786  
 (0.25)

CLA: (laughs)  
 TC 00:58:14.036 - 00:58:15.256  
 (0.7)

CLA: a veure\  
 TC 00:58:15.956 - 00:58:16.791  
 (0.27)

CLA: e: first of all  
 TC 00:58:17.066 - 00:58:18.541  
 (0.08)

CLA: thank you very much\  
 TC 00:58:18.626 - 00:58:19.576  
 (0.3)

CLA: the turkish\  
 TC 00:58:19.876 - 00:58:20.723  
 (0.45)

CLA: students\ (els mira i somriu, buscant-los desperdigats per la sala)  
 TC 00:58:21.176 - 00:58:21.706  
 (0.79)

CLA: which have helped us  
 TC 00:58:22.496 - 00:58:24.536  
 (0.64)

CLA: today\ (els va mirant i riu)  
 TC 00:58:25.176 - 00:58:26.936  
 (0.36)

CLA: i: felicita-se perque realment heu treballat tots molt en grup\_  
 TC 00:58:27.296 - 00:58:32.306  
 (0.68)

CLA: POTSER una COseta que hem vist una mica que no ha fet cap grup\_  
 TC 00:58:32.986 - 00:58:37.226  
 (0.29)

CLA: ES\  
 TC 00:58:37.516 - 00:58:37.886  
 (0.34)

CLA: el text que us tocava llegir\_  
 TC 00:58:38.226 - 00:58:40.419  
 (0.2)

CLA: dividir-lo en varies parts o repartir-lo\  
 TC 00:58:40.626 - 00:58:43.046

ENR xxx\  
 TC 00:58:42.346 - 00:58:43.046  
 (0.84)

CLA: pero clar  
TC 00:58:43.886 - 00:58:44.486  
(0.4)

CLA: en principi es va mes rapid llavors\  
TC 00:58:44.886 - 00:58:46.326  
(0.55)

CLA: reparteixes les parts\ una mica si: \_ jo que se \ si ereu sis\ a lo millor\_ tres\_ tres  
es reparteixen tres parts\ i cada dos fan la mateixa\ no se\  
TC 00:58:46.876 - 00:58:56.566  
(1.12)

CLA: d'alguna manera llavors amb menos temps s'arriba \_  
TC 00:58:57.686 - 00:59:00.306  
(0.15)

CLA: al final\ no/  
TC 00:59:00.456 - 00:59:01.546  
(0.51)

CLA: I was saying that (gira el cap de cop per mirar un grup de turcs)  
TC 00:59:02.056 - 00:59:03.736  
(0.33)

CLA: a:  
TC 00:59:04.066 - 00:59:04.686  
(1.64)

CLA: neither of the groups  
TC 00:59:06.334 - 00:59:07.614  
(0.35)

CLA: the groups\  
TC 00:59:07.964 - 00:59:08.684  
(0.4)

CLA: has divided the text\_ (gestures with hand, like cutting pieces)  
TC 00:59:09.084 - 00:59:11.204  
(0.37)

CLA: into parts\  
TC 00:59:11.574 - 00:59:12.694  
(0.27)

CLA: to try to  
TC 00:59:12.964 - 00:59:14.494  
(0.24)

CLA: be more quickly\  
TC 00:59:14.734 - 00:59:16.204  
(0.33)

CLA: at the: objective\ no/  
TC 00:59:16.534 - 00:59:18.094  
(1.01)

CLA: it's strange\ okay\ (Leyla nods)  
TC 00:59:19.112 - 00:59:21.492  
(0.58)

CLA: and a:  
TC 00:59:22.072 - 00:59:22.722  
(0.37)

CLA: we have  
TC 00:59:23.098 - 00:59:24.322  
(1.44)

CLA: registered  
TC 00:59:25.762 - 00:59:27.252  
(1.34)

CLA: the working of the groups\ and if you want  
TC 00:59:28.592 - 00:59:30.982  
(0.83)

CLA: to see\  
TC 00:59:31.812 - 00:59:32.512  
(0.49)

CLA: some day\  
TC 00:59:33.002 - 00:59:33.992  
(0.61)

CLA: the results  
TC 00:59:34.602 - 00:59:35.422



(0.95)

CLA: Caterina will show you\  
TC 00:59:36.372 - 00:59:38.942  
(1.78)

CLA: ningú veura les grabacions\  
TC 00:59:40.726 - 00:59:42.536  
(0.31)

CLA: només ho veurem la Caterina i jo per veure conclusions\  
TC 00:59:42.846 - 00:59:46.206  
(0.21)

CLA: doncs\ eh\ no us preocupeu\  
TC 00:59:46.416 - 00:59:47.460  
(0.48)

CLA: si voleu algun dia\_  
TC 00:59:47.947 - 00:59:49.157  
(0.48)

CLA: que us passem una mica  
TC 00:59:49.637 - 00:59:51.377  
(1.47)

CLA: un tros de grabació i:  
TC 00:59:52.847 - 00:59:54.381  
(0.17)

CLA: i us expliquem una mica les conclusions que n'hem tret d'aquest\_  
TC 00:59:54.557 - 00:59:57.767  
(0.52)

CLA: d'aquest treball\_  
TC 00:59:58.287 - 00:59:59.187

CLA: pues ho podem fer un dia\ vale/  
TC 00:59:59.187 - 01:00:01.257  
(1.53)

CLA: i en fi\  
TC 01:00:02.787 - 01:00:03.257  
(0.33)

CLA: a:mm  
TC 01:00:03.587 - 01:00:04.517  
(0.3)

CAT lo del resum (soto voce)  
TC 01:00:04.817 - 01:00:05.387  
(0.09)

CLA: si\  
TC 01:00:05.477 - 01:00:05.807  
(0.4)

CLA: lo del resum\  
TC 01:00:06.212 - 01:00:07.942  
(0.2)

CLA: com que el que hem fet es  
TC 01:00:08.142 - 01:00:10.022  
(1.06)

CLA: per exemple vosaltres si que\_ formeu part del mateix grup del projecte  
TC 01:00:11.086 - 01:00:14.906  
(0.3)

CLA: pero esteu com en dos grups diferents\_  
TC 01:00:15.206 - 01:00:17.576  
(0.57)

CLA: això estava fet expressament\ vosaltres al final com que us hem ajuntat tots\  
TC 01:00:18.152 - 01:00:21.578  
(0.54)

CLA: a:  
TC 01:00:22.122 - 01:00:22.642  
(0.37)

CLA: això estava fet expressament perquè al final en el projecte vostre hi entri tant la  
primera part com la segona\  
TC 01:00:23.012 - 01:00:28.272  
(0.39)

CLA: llavors el proper divendres\_

TC 01:00:28.662 - 01:00:30.422  
(0.42)

CLA: una mica a partir d'aquests resums  
TC 01:00:30.842 - 01:00:32.652  
(0.53)

CLA: ja sense els turcs\ nomes nosaltres\  
TC 01:00:33.188 - 01:00:36.598  
(0.73)

CLA: un grup explica el contingut del seu tros a l'altre grup\ l'altre en el primer\ us  
passare una pregunta\_  
TC 01:00:37.328 - 01:00:44.260  
(0.37)

CLA: que  
TC 01:00:44.638 - 01:00:45.188  
(0.38)

CLA: requereix per contestar-la informaci dels dos grups\  
TC 01:00:45.573 - 01:00:49.163

## APÈNDIX

### ii.6 Transcripció de CM6

Professor Pi I don't know in English or Turkish\_  
TC 00:05:29.382 - 00:05:31.552  
(0.49)

Professor Pi but this kind of colors\_  
TC 00:05:32.050 - 00:05:33.910  
(0.3)

Professor Pi we say in Spanish PASTEL colors\  
TC 00:05:34.210 - 00:05:37.620  
(1.49)

Professor Pi the same the same in Turkish\  
TC 00:05:39.110 - 00:05:42.270  
(0.65)

Professor Pi these products we can get only in high (partners?)\  
TC 00:05:42.920 - 00:05:46.860  
(0.2)

Professor Pi if they are protected with a cover\ with a pigment\  
TC 00:05:47.060 - 00:05:50.660  
(0.27)

unknown student mmm\  
TC 00:05:50.930 - 00:05:51.470  
(1.29)

Professor Pi if no:t t hey are very very low light fastness  
TC 00:05:52.760 - 00:05:56.810  
(0.54)

Professor Pi but we study that later\  
TC 00:05:57.350 - 00:05:59.466  
(0.42)

Professor Pi it's not here for problems of fastness sorry\ of light fastness\  
TC 00:05:59.890 - 00:06:05.670  
(363.88)

Professor Pi well today\_  
TC 00:12:09.557 - 00:12:11.437  
(0.78)

Professor Pi we have to talk about the pH\  
TC 00:12:12.217 - 00:12:14.157  
(0.17)

Professor Pi remember/  
TC 00:12:14.327 - 00:12:15.177  
(0.12)

Professor Pi I sent I sent you an email\_  
TC 00:12:15.297 - 00:12:19.927  
(0.97)

Professor Pi let me find  
TC 00:12:20.897 - 00:12:22.327  
(6.29)

Professor Pi what means\_  
TC 00:12:28.623 - 00:12:29.643  
(0.46)

Professor Pi think about this question\  
TC 00:12:30.103 - 00:12:31.103  
(0.04)

Professor Pi what means the pH of leather/  
TC 00:12:31.143 - 00:12:33.093  
(0.1)

Professor Pi xxx\  
TC 00:12:33.193 - 00:12:33.643  
(0.17)

Professor Pi what's the emaning of\_  
TC 00:12:33.813 - 00:12:35.333

(2.67)

Selma  
TC           xxxx  
00:12:38.003 - 00:12:39.103

Ahmet  
TC           xxx  
00:12:39.103 - 00:12:40.433  
(0.02)

Cem  
TC           xxx  
00:12:40.453 - 00:12:41.203  
(1.1)

Selma  
TC           a:nd the::  
00:12:42.303 - 00:12:44.173

Ahmet  
TC           (cocient?)  
00:12:44.173 - 00:12:44.863

Selma  
TC           pro:cess\  
00:12:44.863 - 00:12:46.193

Professor Pi  
TC           the process (about?) you know about the pH of the process\  
00:12:46.193 - 00:12:49.493

Professor Pi  
TC           bueno\ i:n  
00:12:49.493 - 00:12:51.034  
(0.31)

Professor Pi  
TC           can we talk about\_  
00:12:51.353 - 00:12:53.533  
(0.23)

Professor Pi  
TC           the pH of  
00:12:53.763 - 00:12:55.243  
(0.47)

Professor Pi  
TC           of the of the leather artifact/  
00:12:55.713 - 00:12:57.683  
(0.19)

Professor Pi  
TC           of [the: about] the solid  
00:12:57.873 - 00:12:59.253

Selma  
TC           pH\  
00:12:58.083 - 00:12:58.653  
(0.71)

Selma  
TC           [three and more\  
00:12:59.363 - 00:13:00.264

Professor Pi  
TC           [a solid sample] has a pH  
00:12:59.413 - 00:13:01.023

Selma  
TC           three and more/  
00:13:01.003 - 00:13:02.383  
(0.39)

Selma  
TC           e: (different xx)\  
00:13:02.773 - 00:13:03.653  
(0.2)

Professor Pi  
TC           a:h bueno you: are  
00:13:03.853 - 00:13:06.003  
(0.13)

Professor Pi  
TC           thinking about the: nu- the value\  
00:13:06.133 - 00:13:09.813

Professor Pi  
TC           [yes]\  
00:13:09.813 - 00:13:10.453

Selma  
TC           [yeah:]\  
00:13:09.828 - 00:13:10.388  
(0.17)

Professor Pi  
TC           no\ no\  
00:13:10.558 - 00:13:11.118

Fatma  
TC           [xxxxxxx\  
00:13:10.968 - 00:13:12.178

Professor Pi  
TC           [I:\ ]  
00:13:11.118 - 00:13:11.888  
(0.3)

Professor Pi           [I'm thinking about the: the notion\]

TC 00:13:12.188 - 00:13:14.388

Fatma [xxxx]\  
TC 00:13:12.188 - 00:13:13.418

Cem xxx\  
TC 00:13:13.408 - 00:13:14.388  
(0.11)

Professor Pi the notion of pH\  
TC 00:13:14.506 - 00:13:15.736

Fatma [xxx\  
TC 00:13:14.598 - 00:13:15.708  
(0.09)

Professor Pi pH is a notion relat ed to a\_  
TC 00:13:15.806 - 00:13:18.506 -  
(0.09)

Professor Pi a solution in water\  
TC 00:13:18.596 - 00:13:20.756  
(1.28)

Professor Pi a solid sample has not a pH\ this table has not a pH\  
TC 00:13:22.036 - 00:13:25.376  
(0.33)

Professor Pi this leather has not a pH\  
TC 00:13:25.706 - 00:13:27.386  
(0.15)

Professor Pi when we talk about the pH in a strict sense\_  
TC 00:13:27.536 - 00:13:31.946  
(0.39)

Selma mm\  
TC 00:13:32.336 - 00:13:32.746  
(0.09)

Professor Pi i:s  
TC 00:13:32.836 - 00:13:33.606  
(0.48)

Professor Pi if we take the acid\_  
TC 00:13:34.086 - 00:13:35.116  
(0.28)

Professor Pi the acids\  
TC 00:13:35.396 - 00:13:36.776  
(0.77)

Professor Pi that this leather may contain\  
TC 00:13:37.546 - 00:13:39.506  
(0.13)

Professor Pi in put into solution in water\  
TC 00:13:39.636 - 00:13:41.596  
(1.68)

Selma xxxx\  
TC 00:13:43.276 - 00:13:44.186  
(0.57)

Professor Pi maybe that thi:s leather has some xxx\  
TC 00:13:44.756 - 00:13:47.814  
(0.08)

Professor Pi bu:t a:h to make a test\_  
TC 00:13:47.896 - 00:13:50.656  
(0.33)

Professor Pi the first step\_  
TC 00:13:50.986 - 00:13:52.196  
(0.67)

Professor Pi will be a:n extraction\  
TC 00:13:52.866 - 00:13:54.896  
(0.37)

unknown student (els estudiants parlen fluix entre ells)  
TC 00:13:55.266 - 00:14:18.196

Professor Pi why\_  
TC 00:14:18.196 - 00:14:18.956  
(0.15)

Professor Pi TC I have  
00:14:19.106 - 00:14:19.926  
(1.16)

Professor Pi TC chosen this sample/  
00:14:21.086 - 00:14:22.566  
(0.11)

Professor Pi TC this\ have a look to this\ (assenyala part metàl.lica del bolso)  
00:14:22.676 - 00:14:24.866  
(0.33)

Professor Pi TC metallic\  
00:14:25.196 - 00:14:26.026  
(0.31)

Selma TC migration\  
00:14:26.336 - 00:14:27.036  
(1.2)

Professor Pi TC sorry/  
00:14:28.236 - 00:14:28.826  
(0.11)

Selma TC migration/  
00:14:28.937 - 00:14:29.647  
(1.5)

Professor Pi TC (but I doubt it?)\  
00:14:31.147 - 00:14:32.527

Professor Pi TC I I I don't understand\  
00:14:32.527 - 00:14:33.767

Selma TC xxxx\  
00:14:33.337 - 00:14:34.637  
(0.25)

Cem TC xxxx (looking at bag)  
00:14:34.887 - 00:14:35.767  
(0.6)

Cem TC xxxx xxxx\  
00:14:36.367 - 00:14:37.677  
(0.08)

Fatma TC xxx xxxx [xx]\  
00:14:37.757 - 00:14:39.197

Professor Pi TC a:h\ migration\ no no no\_it's not migration\  
00:14:38.517 - 00:14:41.467  
(0.02)

Professor Pi TC what is the problem/  
00:14:41.487 - 00:14:42.817  
(0.09)

Professor Pi TC of this metallic  
00:14:42.907 - 00:14:44.577  
(0.78)

Professor Pi TC devi[ces/  
00:14:45.361 - 00:14:46.561

unknown student TC [xxx]\  
00:14:45.801 - 00:14:47.341  
(0.5)

unknown student TC (all students stand up or move to be able to see the bag)  
00:14:47.841 - 00:14:51.461

Asha TC xxxxxx\  
00:14:51.281 - 00:14:53.131

Selma TC [xxxxxxxxxxx]  
00:14:51.451 - 00:14:52.881

Cem TC ]oxidation\ ]  
00:14:51.931 - 00:14:53.131

Professor Pi TC can you (say ?) that/  
00:14:53.091 - 00:14:54.321  
(0.41)

Professor Pi TC OXIDA[TION\ ]  
00:14:54.731 - 00:14:56.201

Selma [oxidation\  
TC 00:14:55.381 - 00:14:56.441

Professor Pi oxidation\  
TC 00:14:56.371 - 00:14:56.861

Professor Pi is in a proportion  
TC 00:14:56.861 - 00:14:58.951  
(0.04)

Cem [xxxxx\  
TC 00:14:58.991 - 00:15:00.415

Asha [xxxxx\  
TC 00:14:59.111 - 00:15:00.656  
(0.35)

Professor Pi produce  
TC 00:15:01.011 - 00:15:01.911  
(2.77)

Cem xxxxx  
TC 00:15:04.681 - 00:15:06.421  
(1.01)

Fatma xxxxxxxx\ (examining bag)  
TC 00:15:07.433 - 00:15:08.633  
(0.02)

Cem xxxxxxxxxxxx\  
TC 00:15:08.653 - 00:15:11.148  
(0.83)

Asha [xxxxxxxxxxx\  
TC 00:15:11.987 - 00:15:13.047

Professor Pi [corrosion from metallic\  
TC 00:15:13.057 - 00:15:16.047  
(1.62)

Professor Pi components  
TC 00:15:17.667 - 00:15:19.067

Asha xxxx\  
TC 00:15:18.897 - 00:15:19.967  
(0.42)

Asha xxxxx (passant a Selma el bolso)  
TC 00:15:20.387 - 00:15:22.637

Professor Pi in contact\  
TC 00:15:22.637 - 00:15:23.967  
(0.33)

Fatma xxxxx\  
TC 00:15:24.304 - 00:15:25.514

Cem xxxxxxx[xx] (to Fatma)  
TC 00:15:25.514 - 00:15:27.844

Professor Pi [with] xxx\  
TC 00:15:27.314 - 00:15:28.614  
(0.24)

Fatma mmm  
TC 00:15:28.854 - 00:15:29.234  
(0.04)

Cem mmmm\  
TC 00:15:29.274 - 00:15:29.984  
(0.85)

Professor Pi this is not a xxx problem  
TC 00:15:30.834 - 00:15:33.834  
(0.12)

Professor Pi but from time to time I get in my laboratory some\_  
TC 00:15:33.954 - 00:15:39.874  
(0.5)

Professor Pi reclamations from  
TC 00:15:40.374 - 00:15:42.414  
(0.5)

Researcher complaints\  
TC 00:15:42.914 - 00:15:43.594  
(0.12)

Professor Pi TC complaints\ yes okay\  
00:15:43.721 - 00:15:45.041  
(0.07)

Professor Pi TC thank you e:  
00:15:45.111 - 00:15:45.711  
(0.05)

Professor Pi TC complaints from customers\  
00:15:45.761 - 00:15:47.341  
(0.27)

Professor Pi TC because of a: new handbag or new shoes they\ show\  
00:15:47.611 - 00:15:53.318  
(0.16)

Professor Pi TC corrosion\  
00:15:53.481 - 00:15:54.191  
(0.23)

Professor Pi TC corrosion  
00:15:54.421 - 00:15:55.241  
(0.41)

Professor Pi TC comes from oxidation\  
00:15:55.651 - 00:15:57.961  
(2.47)

Professor Pi TC of the metallic components\  
00:16:00.431 - 00:16:02.751  
(0.42)

Professor Pi TC of ALL all those  
00:16:03.171 - 00:16:05.351  
(0.23)

Professor Pi TC in other cases  
00:16:05.581 - 00:16:06.671  
(0.1)

Professor Pi TC when we analyse the leather  
00:16:06.771 - 00:16:08.691  
(0.28)

Professor Pi TC we found that the pH  
00:16:08.971 - 00:16:10.981  
(0.61)

Professor Pi TC where is xx\  
00:16:11.591 - 00:16:13.641  
(1.52)

Professor Pi TC aixi  
00:16:15.161 - 00:16:16.181  
(0.29)

Professor Pi TC this is the answer  
00:16:16.471 - 00:16:18.390  
(0.06)

Professor Pi TC of this problem\  
00:16:18.453 - 00:16:19.323  
(0.58)

Professor Pi TC i:n most cases\  
00:16:19.903 - 00:16:21.403  
(0.09)

Professor Pi TC in th-in this particular case was the problem\  
00:16:21.493 - 00:16:24.223  
(3.41)

Professor Pi TC the acids  
00:16:27.633 - 00:16:29.563  
(0.36)

Professor Pi TC of leather  
00:16:29.923 - 00:16:30.903  
(0.26)

Professor Pi TC migrate  
00:16:31.163 - 00:16:32.043  
(0.87)

Professor Pi TC to the metallic xxx\  
00:16:32.913 - 00:16:34.957



(1.79)

Professor Pi TC bueno\  
00:16:36.753 - 00:16:37.763

Professor Pi TC so it's important\  
00:16:37.763 - 00:16:39.293  
(0.06)

Professor Pi TC to have a test\  
00:16:39.353 - 00:16:40.353  
(0.1)

Professor Pi TC to determine\_  
00:16:40.453 - 00:16:41.473  
(0.08)

Professor Pi TC the pH of the leather\  
00:16:41.553 - 00:16:42.383  
(1.45)

Professor Pi TC and not always for corrosion\  
00:16:43.833 - 00:16:45.583  
(0.17)

Professor Pi TC always for mmm comfort\  
00:16:45.753 - 00:16:47.963  
(1.08)

Professor Pi TC comfortability\  
00:16:49.043 - 00:16:50.272  
(3.36)

Professor Pi TC a:h let's think  
00:16:53.633 - 00:16:56.133  
(0.43)

Professor Pi TC o:n lining leather\  
00:16:56.563 - 00:16:58.123  
(2.76)

Professor Pi TC (writing) lining leather\  
00:17:00.883 - 00:17:02.113  
(0.66)

Professor Pi TC is in direct contact with this\_  
00:17:02.773 - 00:17:05.073  
(0.06)

Professor Pi TC the human skin\  
00:17:05.133 - 00:17:06.173  
(0.02)

Selma TC mmm\  
00:17:06.193 - 00:17:06.593

Professor Pi TC of the xxx\  
00:17:06.593 - 00:17:07.493  
(5.78)

Professor Pi TC if the pH is too acid\ (writes this)  
00:17:13.273 - 00:17:15.203  
(1.51)

Professor Pi TC it's uncomfortable\  
00:17:16.713 - 00:17:18.903  
(3.92)

Professor Pi TC may be the cause of allergies\  
00:17:22.823 - 00:17:27.783  
(1.15)

Professor Pi TC may be allergic\  
00:17:28.933 - 00:17:30.053  
(0.79)

Professor Pi TC well\  
00:17:30.843 - 00:17:31.563  
(8.15)

Professor Pi TC you: two weeks ago\  
00:17:39.713 - 00:17:47.643  
(0.05)

Professor Pi TC the number four\ eh\  
00:17:47.699 - 00:17:49.259

(1.1)

Fatma TC here/  
00:17:50.359 - 00:17:50.889  
(0.08)

Professor Pi TC [yes\ xxxx\  
00:17:50.969 - 00:17:52.449

Cem TC [xxxxxxx\  
00:17:51.109 - 00:17:52.519  
(0.63)

Professor Pi TC this is an abstract of the same sentences that you have i:n\_  
00:17:53.149 - 00:17:57.519  
(2.77)

Professor Pi TC the book of case determination\  
00:18:00.289 - 00:18:03.199  
(0.04)

Fatma TC xxxxxxxx /  
00:18:03.239 - 00:18:05.099  
(0.04)

Professor Pi TC yes\ yes \ yes \yeah \yes\ and later\ chromium determination\  
00:18:05.139 - 00:18:09.210  
(2.65)

Cem TC xxxx  
00:18:11.860 - 00:18:12.960  
(0.15)

Cem TC xxxxxxxxxxxx  
00:18:13.110 - 00:18:17.930  
(0.09)

Fatma TC xxxx  
00:18:18.020 - 00:18:18.560  
(2.3)

Professor Pi TC bueno we understand that we can\_  
00:18:20.860 - 00:18:23.580  
(0.11)

Professor Pi TC we cannot (miss you?) the pH xx of on the leather\  
00:18:23.690 - 00:18:28.360

Professor Pi TC we can a: make an extraction no/  
00:18:28.370 - 00:18:31.150  
(1.72)

Professor Pi TC a second step we need to carry out\_  
00:18:32.870 - 00:18:35.690  
(0.87)

Professor Pi TC an extraction\_  
00:18:36.560 - 00:18:38.230  
(284.46)

Professor Pi TC but we have\_  
00:23:22.692 - 00:23:24.122  
(0.19)

Professor Pi TC to demosntrate that\  
00:23:24.312 - 00:23:26.122  
(0.46)

Professor Pi TC we need testing methods\_  
00:23:26.582 - 00:23:28.522  
(0.62)

Professor Pi TC to demonstrate that  
00:23:29.142 - 00:23:30.652  
(0.27)

Professor Pi TC leather only contains trivalent chrome\  
00:23:30.922 - 00:23:33.214  
(0.66)

Professor Pi TC val\  
00:23:33.882 - 00:23:34.402  
(0.42)

Professor Pi TC the first stage is that the total chromium\_  
00:23:34.822 - 00:23:38.412  
(0.46)

Professor Pi TC is chromium three\  
00:23:38.872 - 00:23:40.392  
(0.35)

Professor Pi TC bueno\  
00:23:40.742 - 00:23:41.522  
(0.32)

Professor Pi TC mmmm\  
00:23:41.842 - 00:23:43.842  
(1.21)

Professor Pi TC remember the units you have studied\  
00:23:45.052 - 00:23:47.562  
(0.04)

Professor Pi TC before\  
00:23:47.602 - 00:23:48.382  
(0.08)

Professor Pi TC the meaning of xxx\  
00:23:48.462 - 00:23:50.232  
(0.02)

Selma TC yes\  
00:23:50.252 - 00:23:50.812

Professor Pi TC okay\  
00:23:50.782 - 00:23:51.072  
(0.16)

Professor Pi TC (in order?\  
00:23:51.232 - 00:23:52.032  
(0.39)

Professor Pi TC bueno we can determine chromium in ten xx\  
00:23:52.422 - 00:23:56.312  
(0.73)

Professor Pi TC in solid for example and xxx\  
00:23:57.042 - 00:23:59.232  
(0.12)

Professor Pi TC chromium salt contains  
00:23:59.352 - 00:24:01.482  
(0.66)

Cem TC xxxxx\  
00:24:02.142 - 00:24:03.782  
(0.31)

Professor Pi TC which percentage of/  
00:24:04.092 - 00:24:05.172  
(0.18)

Cem TC xxx\  
00:24:05.352 - 00:24:06.172  
(0.12)

unknown student TC xxxx\  
00:24:06.292 - 00:24:07.222  
(0.21)

Cem TC xxxx\  
00:24:07.432 - 00:24:08.404

Ahmet TC but you mean leather/  
00:24:08.404 - 00:24:09.764

Professor Pi TC no\ no\ in leather no\ a: a: salt a: a:\  
00:24:09.764 - 00:24:13.044

Professor Pi TC [in chromium salt in for example]  
00:24:13.044 - 00:24:15.144

Fatma TC [ in chromium\  
00:24:13.044 - 00:24:14.384

Ahmet TC [twenty twenty-five\  
00:24:14.344 - 00:24:15.704

Professor Pi TC [twenty-five okay\ ]twenty-five okay\  
00:24:15.144 - 00:24:17.384

Professor Pi TC but we have these  
00:24:17.394 - 00:24:19.383

(0.15)

Professor Pi data in the documentation\  
TC 00:24:19.539 - 00:24:21.019  
(0.24)

Professor Pi please\  
TC 00:24:21.259 - 00:24:22.659

Professor Pi the next page\ the next page\  
TC 00:24:22.659 - 00:24:24.369  
(40.32)

Professor Pi well we can guess what amount of chromium they have\  
TC 00:25:04.690 - 00:25:08.870  
(415.63)

Professor Pi let's introduce the technology of chromium determination\  
TC 00:32:04.504 - 00:32:08.594  
(0.6)

Professor Pi a:h\  
TC 00:32:09.194 - 00:32:09.934  
(1.06)

Professor Pi as well as in the case of the: pH\_ the first step\_  
TC 00:32:10.994 - 00:32:14.534  
(0.32)

Professor Pi is to extract\ (gesturing)  
TC 00:32:14.854 - 00:32:16.248  
(0.07)

Professor Pi the chromium xx\  
TC 00:32:16.324 - 00:32:17.324  
(0.9)

Professor Pi but the difference is that\_  
TC 00:32:18.224 - 00:32:19.744  
(0.26)

Professor Pi chromium is\_  
TC 00:32:20.004 - 00:32:20.754  
(0.19)

Professor Pi inorganic\  
TC 00:32:20.944 - 00:32:21.584  
(0.94)

Professor Pi it's not xxx so long\  
TC 00:32:22.524 - 00:32:24.204  
(0.6)

Professor Pi we have to make additions\  
TC 00:32:24.804 - 00:32:26.764  
(1.07)

Professor Pi nobody's xxx/  
TC 00:32:27.834 - 00:32:29.384  
(0.16)

Selma xxxx  
TC 00:32:29.544 - 00:32:30.824  
(0.29)

Professor Pi yes\  
TC 00:32:31.114 - 00:32:31.634  
(0.23)

Professor Pi és a dir total destruction\_  
TC 00:32:31.864 - 00:32:33.824  
(0.22)

Professor Pi of organic matter\  
TC 00:32:34.044 - 00:32:35.154  
(0.54)

unknown student xx  
TC 00:32:35.694 - 00:32:36.284  
(0.3)

Cem xxxxx [xxxx]\  
TC 00:32:36.584 - 00:32:38.294

Asha [xxx]  
TC 00:32:37.384 - 00:32:38.284  
(2.42)

Asha  
around)  
TC [xxxxxxx] xxxxxx (to Fatma and Cem, also Selma later when teacher turns  
00:32:40.704 - 00:32:45.414

Professor Pi  
TC which chemicals need/  
00:32:40.924 - 00:32:43.564  
(2.37)

Asha  
TC xxx \  
00:32:45.934 - 00:32:46.554  
(1.92)

Asha  
TC xxx (To Fatma and Cem)  
00:32:48.474 - 00:32:49.094  
(0.11)

Fatma  
TC xxx\  
00:32:49.204 - 00:32:49.944  
(0.02)

Asha  
TC (nods)  
00:32:49.964 - 00:32:50.144  
(0.64)

Fatma  
TC xxx  
00:32:50.786 - 00:32:51.306  
(1.0)

Professor Pi  
TC in a digestion  
00:32:52.306 - 00:32:54.216  
(2.32)

Professor Pi  
TC we put the leather  
00:32:56.541 - 00:32:57.981  
(0.66)

Professor Pi  
TC in contact with sulfuric  
00:32:58.641 - 00:33:01.251  
(1.76)

Professor Pi  
TC acid\  
00:33:03.011 - 00:33:03.811

Professor Pi  
TC perponic acid and nitric acid\  
00:33:03.811 - 00:33:09.091  
(0.37)

Professor Pi  
TC about this temperature\ two hundred degrees\  
00:33:09.461 - 00:33:12.551  
(3.0)

Professor Pi  
TC even more\ even you have two hundred and fifty degrees\  
00:33:15.551 - 00:33:18.769  
(126.73)

Professor Pi  
TC and what about dilovalmetallic components/ They are also here\  
00:35:25.504 - 00:35:29.794  
(0.16)

Professor Pi  
TC for example  
00:35:29.954 - 00:35:30.794  
(0.23)

Professor Pi  
TC the titanium of  
00:35:31.024 - 00:35:32.414  
(0.27)

Professor Pi  
TC this bag is inorganic\  
00:35:32.684 - 00:35:34.694  
(0.04)

Professor Pi  
TC always is here\_ and iron\ and\_  
00:35:34.739 - 00:35:38.235  
(0.34)

Professor Pi  
TC nickel and other metals are here\  
00:35:38.579 - 00:35:41.221  
(0.71)

Professor Pi  
TC not only chrome\  
00:35:41.939 - 00:35:42.899  
(1.29)

Professor Pi  
TC all right\  
00:35:44.189 - 00:35:45.029  
(0.63)

Professor Pi TC the next step  
00:35:45.659 - 00:35:46.859  
(0.96)

Professor Pi TC costa oi/ (to reseracher)  
00:35:47.819 - 00:35:48.849  
(271.02)

Professor Pi TC different samples from the yesterday work\  
00:40:19.869 - 00:40:22.699  
(0.25)

Professor Pi TC and com es diu refrigerar /  
00:40:22.949 - 00:40:25.915  
(0.13)

Researcher TC com/  
00:40:26.049 - 00:40:26.529

Professor Pi TC <refrigera>  
00:40:26.283 - 00:40:27.543

Researcher TC refrigeration\  
00:40:27.479 - 00:40:28.799

Professor Pi TC [right\ to refrigerate]  
00:40:28.223 - 00:40:30.023

Researcher TC cooling\  
00:40:28.889 - 00:40:29.929  
(0.23)

Professor Pi TC the high temperature we need\_  
00:40:30.163 - 00:40:31.683  
(0.06)

Professor Pi TC this device  
00:40:31.743 - 00:40:33.873  
(0.1)

Selma TC mmmm\  
00:40:33.973 - 00:40:34.733

Fatma TC mmmm\  
00:40:33.973 - 00:40:34.733  
(1.77)

Professor Pi TC the outlet  
00:40:36.503 - 00:40:37.693  
(0.62)

Professor Pi TC of cold water\  
00:40:38.314 - 00:40:39.784  
(0.03)

Asha TC mmm\  
00:40:39.814 - 00:40:40.214

Professor Pi TC hot water  
00:40:40.114 - 00:40:41.144  
(0.16)

Professor Pi TC comes here\  
00:40:41.304 - 00:40:42.074  
(0.09)

Professor Pi TC they refrigerate (gesture with hands)  
00:40:42.164 - 00:40:43.234  
(0.42)

Professor Pi TC and again hot water to xx\  
00:40:43.654 - 00:40:45.224  
(2.39)

Professor Pi TC we need also a:  
00:40:47.621 - 00:40:49.571  
(0.51)

Professor Pi TC compresive air\  
00:40:50.081 - 00:40:51.011  
(0.72)

Professor Pi TC in the: in the:  
00:40:51.731 - 00:40:53.761  
(0.11)

Professor Pi        xxxx\  
TC                    00:40:53.871 - 00:40:55.261  
                      (0.63)

Professor Pi        this air  
TC                    00:40:55.891 - 00:40:56.781  
                      (0.29)

Professor Pi        mmmmm\  
TC                    00:40:57.079 - 00:40:58.889  
                      (0.1)

Professor Pi        from  
TC                    00:40:58.989 - 00:40:59.529  
                      (0.45)

Professor Pi        no\ from here\ this xxx\  
TC                    00:40:59.979 - 00:41:02.609  
                      (2.88)

Professor Pi        air\  
TC                    00:41:05.489 - 00:41:06.179  
                      (0.18)

Professor Pi        argon\  
TC                    00:41:06.359 - 00:41:07.019  
                      (0.15)

Professor Pi        electricity\  
TC                    00:41:07.169 - 00:41:08.159  
                      (0.2)

Professor Pi        the refrigerator is  
TC                    00:41:08.359 - 00:41:09.439  
                      (0.13)

Professor Pi        very complicated\  
TC                    00:41:09.569 - 00:41:10.389  
                      (0.36)

Professor Pi        but it's a very xxx\  
TC                    00:41:10.749 - 00:41:13.299  
                      (0.22)

Fatma  
TC                    that's right\  
                      00:41:13.519 - 00:41:14.029  
                      (0.3)

Cem  
TC                    xxx\  
                      00:41:14.330 - 00:41:15.000

Professor Pi        we are very very happy with  
TC                    00:41:14.720 - 00:41:16.360  
                      (1.3)

Professor Pi        yeah\ in two years  
TC                    00:41:17.660 - 00:41:18.370  
                      (0.11)

Professor Pi        we have also atomic absorption\  
TC                    00:41:18.480 - 00:41:20.330  
                      (0.5)

Professor Pi        but this is very very xx\  
TC                    00:41:20.830 - 00:41:22.163  
                      (13.1)

Professor Pi        Sara can you explain the pH determination/  
TC                    00:41:35.272 - 00:41:37.582

Raquel  
TC                    JO/  
                      00:41:37.522 - 00:41:38.082  
                      (0.04)

Raquel  
TC                    (laughs)  
                      00:41:38.122 - 00:41:39.812

Professor Pi        the shaker\ remember the shaker/  
TC                    00:41:39.822 - 00:41:42.172

Raquel  
TC                    [jo tinc xx]  
                      00:41:42.012 - 00:41:43.162

Professor Pi        a:hh\  
TC                    00:41:42.172 - 00:41:43.202

Professor Pi        in this moment two more samples are\_

TC 00:41:43.202 - 00:41:46.292  
(0.22)

Professor Pi ones\  
TC these samples are working but these are not our samples\ our samples are these  
00:41:46.512 - 00:41:51.242

Professor Pi (treu tapa i ensenya mostra)  
TC 00:41:51.242 - 00:41:53.972

Professor Pi it's a leather froma gloves\  
TC 00:41:53.972 - 00:41:57.402  
(0.03)

Professor Pi I'll show you xx\  
TC 00:41:57.432 - 00:41:59.322  
(0.06)

Professor Pi the extract\  
TC 00:41:59.382 - 00:42:00.452  
(0.23)

Professor Pi one hundred mililiters of water\ five grams of leather\ and the pH of three  
right/  
TC 00:42:00.682 - 00:42:07.082  
(0.1)

Raquel YES YES\  
TC 00:42:07.182 - 00:42:08.062

unknown student [xxxxxxxxx ]  
TC 00:42:07.942 - 00:42:10.562

Professor Pi [yes\ yes\  
TC 00:42:08.099 - 00:42:08.799

Carla [yes yes\] (laughing)  
TC 00:42:08.789 - 00:42:09.649  
(1.41)

Cem [xxxxxxxxx]  
TC 00:42:11.062 - 00:42:13.172  
(1.16)

Cem xxxx\  
TC 00:42:14.332 - 00:42:15.502

Professor Pi let's go\  
TC 00:42:14.849 - 00:42:15.819  
(0.28)

Professor Pi xxxxxx (comentis?)  
TC 00:42:16.099 - 00:42:17.829  
(0.04)

Raquel ah jo\  
TC 00:42:17.869 - 00:42:18.399

Professor Pi sí\ tu\  
TC 00:42:18.409 - 00:42:18.989  
(0.27)

Raquel (riu sorollosament)  
TC 00:42:19.259 - 00:42:21.037  
(0.06)

Raquel clar\ ara mateix com es diu decantar/  
TC 00:42:21.099 - 00:42:23.889  
(0.3)

Carla decantation\  
TC 00:42:24.189 - 00:42:25.369

Professor Pi decantation\ està bé\  
TC 00:42:25.369 - 00:42:26.709

Raquel decantation\ (riu una mica) bueno\_  
TC 00:42:26.699 - 00:42:28.819

Carla [veus/ es que alucines xx\  
TC 00:42:26.699 - 00:42:28.799  
(0.47)

Raquel here we have to:  
TC 00:42:29.269 - 00:42:32.069  
(0.05)



Raquel TC a: do the calibration\  
00:42:32.119 - 00:42:34.169  
(0.09)

Professor Pi TC yes\  
00:42:34.259 - 00:42:35.569  
(0.65)

Professor Pi TC (procyclical ?) calibration\  
00:42:36.223 - 00:42:37.543  
(1.01)

Professor Pi TC this is the sample\  
00:42:38.553 - 00:42:39.853  
(0.11)

Professor Pi TC it comes from  
00:42:39.963 - 00:42:40.973  
(0.85)

Professor Pi TC from a:n a gloves that HAS a problem\  
00:42:41.823 - 00:42:46.633  
(0.19)

Professor Pi TC an evident problem\  
00:42:46.828 - 00:42:48.448  
(2.68)

Professor Pi TC they went mold\  
00:42:51.128 - 00:42:53.048  
(0.78)

Professor Pi TC a: attacked by fungi\  
00:42:53.830 - 00:42:56.160  
(0.16)

Researcher TC mmm\  
00:42:56.320 - 00:42:57.100  
(0.89)

Professor Pi TC and we have  
00:42:57.990 - 00:42:59.480  
(0.08)

Professor Pi TC to do a lot of investigation about htis problem\  
00:42:59.560 - 00:43:02.210  
(0.09)

Professor Pi TC and the first one is  
00:43:02.300 - 00:43:04.960  
(0.27)

Professor Pi TC which is hte pH\  
00:43:05.230 - 00:43:06.110  
(0.81)

Professor Pi TC because the pH is ver important for the metabolismof fungi\  
00:43:06.920 - 00:43:10.180  
(2.34)

Professor Pi TC remember that the first stage\_  
00:43:12.526 - 00:43:14.656  
(0.18)

Professor Pi TC is to gai leather  
00:43:14.836 - 00:43:16.416

Professor Pi TC to here from here \  
00:43:16.416 - 00:43:18.456  
(0.21)

Professor Pi TC inthe mill\ (assenyala)  
00:43:18.666 - 00:43:19.406  
(0.15)

Professor Pi TC (to students) you remember\ no/  
00:43:19.556 - 00:43:21.646  
(1.05)

Professor Pi TC let's go\ thank you\  
00:43:22.700 - 00:43:23.920

Raquel TC (laughs) the decantation  
00:43:23.930 - 00:43:25.739  
(0.13)

Raquel we have only\_

TC 00:43:25.870 - 00:43:27.360  
(0.12)

Raquel run the instructions intructions (looking at Pr. Pi for some guidance on  
pronunciation)  
TC 00:43:27.480 - 00:43:31.130

## APÈNDIX

### ii.7 Transcripció de CM11

Prof. avui farem un aactivitat una mica especial\  
TC 00:00:10.480 - 00:00:12.380  
(1.92)

Prof. us donare un article en angles  
TC 00:00:14.300 - 00:00:15.870  
(0.68)

Prof. un parell d'articles\ us separarem en dos grups\  
TC 00:00:16.550 - 00:00:18.210  
(1.29)

Prof. i es tracta de llegir\  
TC 00:00:19.500 - 00:00:20.880  
(1.2)

Prof. ho posareu en comu  
TC 00:00:22.080 - 00:00:23.440  
(0.18)

Prof. o sigui cadascu llegira una part\  
TC 00:00:23.620 - 00:00:24.510  
(0.49)

Prof. la poseu en comu  
TC 00:00:25.000 - 00:00:25.660  
(0.78)

Prof. feu una miqueta d'esquema resum\  
TC 00:00:26.440 - 00:00:27.540  
(0.77)

Prof. i despres intentareu explicar-ho  
TC 00:00:28.310 - 00:00:29.430  
(0.74)

Prof. això de cara al proper dia\  
TC 00:00:30.179 - 00:00:31.899  
(12.92)

Prof. bueno\ comencem\ qui es que en sap mes d'angles en aqui/  
TC 00:00:44.819 - 00:00:46.369  
(0.56)

David la marta\  
TC 00:00:46.929 - 00:00:47.479  
(0.4)

David i els altres com aneu d'angles/  
TC 00:00:47.879 - 00:00:49.619  
(2.5)

Prof. tots peixos per igual o que/  
TC 00:00:52.119 - 00:00:53.349  
(1.64)

David si (es miren els uns als altres mig rient)  
TC 00:00:54.990 - 00:00:56.020  
(0.85)

Prof. si/ mes o menys/  
TC 00:00:56.870 - 00:00:57.490  
(1.52)

Prof. doncs  
TC 00:00:59.010 - 00:00:59.370  
(0.84)

Prof. aqui hi ha un article (passant-lo)  
TC 00:01:00.210 - 00:01:00.970  
(5.5)

Prof. el que hi ha en el grupde la marta és més llarg d'article val/ (riu)  
TC 00:01:06.470 - 00:01:08.560  
(2.07)

Prof. aprofitant que en sap mes d'angles (somrient)  
TC 00:01:10.630 - 00:01:12.340

(2.01)

Prof. a veure° aqui teniu una miqueta de vocabulari (passa handout), que els estudiants  
agafen)  
TC 00:01:14.350 - 00:01:17.770  
(4.14)

Prof. sobretto les parts tjechniques i alguna experessio que potser no coneixeu\  
TC 00:01:21.910 - 00:01:25.914  
(20.72)

Prof. mireu que això  
TC 00:01:46.640 - 00:01:47.520  
(0.4)

Prof. es materia  
TC 00:01:47.920 - 00:01:48.870  
(0.44)

Prof. del que estem fent ara  
TC 00:01:49.310 - 00:01:50.510  
(0.3)

Prof. un tracta d'aigues blanques  
TC 00:01:50.810 - 00:01:52.160  
(0.35)

Prof. i l'altre tracta de pulsacions a  
TC 00:01:52.516 - 00:01:55.076  
(1.44)

Prof. a la tela  
TC 00:01:56.520 - 00:01:57.420  
(0.28)

Prof. bueno a la tela\ en el flux\  
TC 00:01:57.704 - 00:01:59.134  
(0.84)

Prof. del la polpa\  
TC 00:01:59.977 - 00:02:01.577  
(0.36)

Prof. això ja ho veureu vosaltres\  
TC 00:02:01.937 - 00:02:03.427  
(0.9)

Prof. val/  
TC 00:02:04.327 - 00:02:04.787  
(1.28)

Prof. es una cosa que hem vist així una miqueta de reull i aquí entrem mes en detall\  
TC 00:02:06.072 - 00:02:08.392  
(0.32)

Prof. entrem en nivell mes de detall  
TC 00:02:08.712 - 00:02:10.102  
(189.77)

Prof. si per cas que faci tambe el quatre punt u dues pagines mes\  
TC 00:05:19.873 - 00:05:22.023  
(5.84)

Prof. es l'aplicacio de\_  
TC 00:05:27.872 - 00:05:29.072  
(0.07)

David pero es que has de llegir molt mes  
TC 00:05:29.142 - 00:05:30.402  
(0.46)

David  
TC 00:05:30.862 - 00:05:32.822

Prof. home l'angles si no que el llegeixes\  
TC 00:05:30.862 - 00:05:32.822  
(0.42)

David que/  
TC 00:05:33.242 - 00:05:33.522  
(0.07)

Prof. que llegir-lo si que el llegeixes l'angles\  
TC 00:05:33.592 - 00:05:35.002  
(0.03)

David si si\_

TC 00:05:35.032 - 00:05:35.732  
(0.52)

David tota l'estona que vulguis puc estar llegint-lo\ (somriu mentre la companya del costat  
també ho f)

TC 00:05:36.261 - 00:05:38.241  
(0.36)

Prof. no però vull dir entenenent-ho (somrient)  
TC 00:05:38.601 - 00:05:40.291  
(1.45)

David suposo\  
TC 00:05:41.741 - 00:05:42.411  
(0.06)

Prof. si/ mes o menys/  
TC 00:05:42.471 - 00:05:43.371  
(0.86)

David deu minuts un quart d'hora sí que puc\  
TC 00:05:44.231 - 00:05:45.251  
(1.32)

Prof. bueno va llegeix\ si no ho entens ho pregunteu\  
TC 00:05:46.579 - 00:05:48.799  
(0.03)

Prof. això a veure\  
TC 00:05:48.829 - 00:05:49.279  
(0.83)

Prof. sense compromís he\ (estudiants ja s'han posat a llegir)  
TC 00:05:50.109 - 00:05:51.329  
(1.22)

Prof. si no pregunteu no  
TC 00:05:52.553 - 00:05:53.663  
(0.47)

Prof. no avançarem\  
TC 00:05:54.133 - 00:05:55.253  
(43.25)

Dani yo en diez minutos no me leo todo esto en ingles y lo entiendo eh\  
TC 00:06:38.504 - 00:06:40.924

TOTS (rient)  
TC 00:06:40.924 - 00:06:44.419  
(0.27)

Dani estais flipando no/ ahí mira\ siete\\ ocho\ ya tardaré un cuarto de hora en catalan  
para poder entenderlo todo y me lo dan en ingles\ (to mig seriós mig jocós)  
TC 00:06:44.689 - 00:06:53.182  
(1.77)

Dani en diez minutos\ (quite serious tone)  
TC 00:06:54.952 - 00:06:55.682  
(3.77)

Prof. heu d'agafar les idees [més importants]  
TC 00:06:59.452 - 00:07:02.712

Dani (laughing defyingly)  
TC 00:07:00.462 - 00:07:02.582  
(5.73)

Dani això que es tan aborrit fer una cervesa al bar tranquil.lament\ (fa soroll de  
"barullo") aquí l'article\ aquesta gent que no tenen res a fer\ aquest article en anglès\ he he  
he\  
TC 00:07:08.312 - 00:07:15.192  
(0.44)

Dani deu minuts\ res\ deu minuts\  
TC 00:07:15.638 - 00:07:17.898  
(0.84)

Prof. l'anglès ja sabieu que us cauria algun dia d'aquests no/  
TC 00:07:18.738 - 00:07:20.908  
(0.09)

David que vol dir això/  
TC 00:07:20.998 - 00:07:22.058  
(0.61)

Prof. smooth/  
TC 00:07:22.668 - 00:07:23.108

(0.11)

Prof. és suau\  
TC 00:07:23.219 - 00:07:23.679  
(0.49)

David suau\  
TC 00:07:24.169 - 00:07:24.399  
(0.8)

Prof. suau\  
TC 00:07:25.199 - 00:07:26.669  
(0.89)

Prof. xxx  
TC 00:07:27.559 - 00:07:28.059  
(2.09)

Marta a la tercera de\_  
TC 00:07:30.155 - 00:07:31.145  
(0.08)

Dani ya me perdíó  
TC 00:07:31.225 - 00:07:31.725  
(0.11)

Dani xxx (Bernat, que riu)  
TC 00:07:31.835 - 00:07:33.145  
(0.43)

Prof. xxxx (to Marta and David)  
TC 00:07:33.575 - 00:07:41.635

Dani moving audio recorder further from him) cuidado que esto se va a caer aquí  
TC 00:07:37.652 - 00:07:39.452  
(0.4)

Bernat (laughing at Dani's action)  
TC 00:07:39.852 - 00:07:41.572  
(1.72)

Prof. (to Marta and David) smooth quina surface\_  
TC 00:07:43.298 - 00:07:45.168  
(0.09)

Prof. es una superficie interior llisa\  
TC 00:07:45.258 - 00:07:46.718  
(0.08)

Prof. que no s'hi enganxi res\  
TC 00:07:46.798 - 00:07:47.498  
(0.05)

Dani ya me perdíó\ he empezao a leer sin entender lo que leia\_ (to Bernat)  
TC 00:07:47.549 - 00:07:50.079

TOTS (students read with attention)  
TC 00:07:50.079 - 00:09:07.659  
(1.97)

Marta xxx (to David)  
TC 00:09:09.629 - 00:09:10.439  
(1.37)

Prof. s'enten o no marta/  
TC 00:09:11.809 - 00:09:12.339  
(2.79)

Marta si\  
TC 00:09:15.129 - 00:09:15.409  
(0.54)

Prof. si pero que/  
TC 00:09:15.949 - 00:09:16.969  
(0.05)

Prof. es dificil/  
TC 00:09:17.019 - 00:09:17.349  
(1.03)

Marta bueno\  
TC 00:09:18.379 - 00:09:18.889  
(1.2)

Prof. no no\ digueu<sup>a</sup>  
TC 00:09:20.089 - 00:09:20.549  
(0.11)

Marta  
TC si en catala m'ho hauria de llegur dos cops doncs\_  
00:09:20.659 - 00:09:22.019  
(2.0)

Marta  
TC (riures)  
00:09:24.021 - 00:09:24.631  
(0.38)

Prof.  
TC pero ho entens de maravella/  
00:09:25.011 - 00:09:26.361  
(4.64)

Dani  
TC (to Bernat, who smiles back) xx  
00:09:31.005 - 00:09:32.355  
(3.47)

Prof.  
TC no tenim pressa\ no us preocupeu\  
00:09:35.825 - 00:09:36.995  
(0.76)

Prof.  
TC per això jo estic aqui dues hores eh\  
00:09:37.755 - 00:09:38.595  
(0.88)

Prof.  
TC a mes teniu aquella memoria que us deia a doble cara\  
00:09:39.476 - 00:09:42.116  
(0.28)

Caterina  
TC i pregunteu-nos\ estem aqui per alguna cosa eh\  
00:09:42.396 - 00:09:44.856  
(10.13)

David  
TC xxx (a Gregori Manchon)  
00:09:54.992 - 00:09:56.372  
(0.12)

Prof.  
TC xxx  
00:09:56.492 - 00:09:57.432  
(0.49)

Prof.  
TC la bomba de xx es feedpump es la bomba de alimentacio\  
00:09:57.930 - 00:10:00.840  
(1.92)

Prof.  
TC que alimenta alguna cosa\ en aquest cas\_  
00:10:02.760 - 00:10:04.980  
(1.82)

Prof.  
TC alimenta la caixa de xx a mes a mes  
00:10:06.800 - 00:10:07.900  
(11.73)

David  
TC xx (to Marta)  
00:10:19.630 - 00:10:20.980  
(0.12)

Marta  
TC xxx (to David)  
00:10:21.105 - 00:10:21.575  
(22.79)

Bernat  
TC (to Prof.) això/  
00:10:44.374 - 00:10:44.724  
(2.47)

Prof.  
TC showe/  
00:10:47.201 - 00:10:47.761  
(0.08)

Prof.  
TC dutxa  
00:10:47.844 - 00:10:48.184  
(0.1)

David  
TC dutxa\  
00:10:48.284 - 00:10:48.824  
(0.97)

David  
TC com que aqui semblava que no\_  
00:10:49.794 - 00:10:50.954  
(3.07)

Prof.  
TC son uns ruixadors que ataquen a la tela per dutxar-se\  
00:10:54.031 - 00:10:56.511  
(13.74)

Marta  
TC (softly to David) es que no se de que va  
00:11:10.251 - 00:11:11.111

(2.87)

David va d'aixo\ (assenyalant) això es la conclusio\  
 TC 00:11:13.981 - 00:11:16.701  
 (2.22)

Marta on es la conclusio/  
 TC 00:11:18.926 - 00:11:20.476  
 (3.26)

David aqui\ això (assenyalant-li)  
 TC 00:11:23.736 - 00:11:25.286  
 (4.54)

Marta xxx(to David)  
 TC 00:11:29.826 - 00:11:31.706  
 (0.16)

David això\  
 TC 00:11:31.866 - 00:11:32.406  
 (75.6)

Prof. digueu eh\ sense por\  
 TC 00:12:48.008 - 00:12:49.418  
 (1.29)

Prof. per això hi som eh\ sino us ho hagues donat per cas\  
 TC 00:12:50.708 - 00:12:52.378  
 (3.02)

David dampered/ ah mira esta aquí\ (smiles) ja esta\  
 TC 00:12:55.398 - 00:12:57.298

Prof.  
 TC 00:12:55.398 - 00:12:57.298  
 (11.21)

Prof. el vocabulari el vaig fer amb ordre eh\  
 TC 00:13:08.508 - 00:13:09.928  
 (0.33)

Prof. quan hi hagi alguna paraula rara mireu-ho perquè  
 TC 00:13:10.258 - 00:13:12.248  
 (145.73)

David aquí tota l'estona esta parlant de pressure pulsation (pronunciat a la catalana)  
 TC 00:15:37.978 - 00:15:39.808  
 (0.83)

David això/  
 TC 00:15:40.638 - 00:15:41.068  
 (0.99)

Prof. flexions de pulsacio\  
 TC 00:15:42.058 - 00:15:42.708  
 (0.07)

David i això que es+  
 TC 00:15:42.778 - 00:15:43.358  
 (1.43)

Prof. acceleracio i cremada de flux\  
 TC 00:15:44.788 - 00:15:46.088  
 (0.04)

David ah\  
 TC 00:15:46.128 - 00:15:46.268  
 (1.28)

Prof. una pulsacio\  
 TC 00:15:47.549 - 00:15:48.379  
 (2.74)

Prof. que van a batzegades doncs\  
 TC 00:15:51.119 - 00:15:52.669  
 (29.38)

Dani xx y hay cosas que no entiendes\ te las saltas y sigues leyendo y dices ya\_  
 TC 00:16:22.055 - 00:16:26.285  
 (0.68)

Prof. d'això es tracta\ si ho haguessiu d'entendre tot seria molt\_  
 TC 00:16:26.972 - 00:16:29.432  
 (0.21)

Prof. seria molt complicat\  
 TC 00:16:29.646 - 00:16:30.336



(1.37)

Prof. si no ho entens llavors ja xx  
TC 00:16:31.706 - 00:16:33.126  
(1.01)

Prof. i sino les paraules mes dificils tambe us les podem dir\  
TC 00:16:34.136 - 00:16:35.776  
(0.4)

Prof. xxx  
TC 00:16:36.184 - 00:16:37.704  
(16.36)

David several ways/  
TC 00:16:54.064 - 00:16:55.214  
(1.91)

Prof. moltes maneres\  
TC 00:16:57.124 - 00:16:57.704  
(0.47)

Prof. several factors\ several ways\  
TC 00:16:58.174 - 00:16:59.464  
(0.92)

Prof. several és que n'hi ha molts\  
TC 00:17:00.384 - 00:17:00.874  
(2.11)

Prof. es una cosa que com es diu/  
TC 00:17:02.985 - 00:17:04.095  
(1.05)

Prof. com es diu  
TC 00:17:05.145 - 00:17:05.965  
(6.91)

Prof. coses que son importants\  
TC 00:17:12.875 - 00:17:14.195  
(2.2)

Prof. no se si te el sentit aquest\  
TC 00:17:16.395 - 00:17:17.805  
(174.74)

Marta que vol dir sesgar/ (a David)  
TC 00:20:12.550 - 00:20:13.660  
(2.19)

David sesgar/  
TC 00:20:15.850 - 00:20:16.600  
(3.45)

Marta Gregori que vol dir sesgar en catala/  
TC 00:20:20.055 - 00:20:21.795  
(0.07)

Prof. eh/  
TC 00:20:21.865 - 00:20:22.065  
(0.19)

Marta que vol dir sesgar en catala/  
TC 00:20:22.255 - 00:20:23.515  
(0.53)

Prof. sesgar/ tallar\  
TC 00:20:24.048 - 00:20:25.458  
(0.17)

Prof. si dius un numero sol llavors talles la ultima part\  
TC 00:20:25.628 - 00:20:28.358  
(1.93)

Prof. sesgar és treure-li una part\  
TC 00:20:30.293 - 00:20:31.763  
(1.52)

Prof. com si diguessim lo que sobra ho treus\  
TC 00:20:33.283 - 00:20:34.063  
(4.45)

David no ho utilitzem nosaltres\  
TC 00:20:38.513 - 00:20:39.393  
(0.16)

Marta no\

TC 00:20:39.553 - 00:20:39.623  
(0.06)

Prof. jo tampoc normalment eh pero\  
TC 00:20:39.683 - 00:20:41.633  
(36.58)

Marta  
TC 00:21:18.216 - 00:21:22.676  
(48.4)

David  
TC screen es pantalla no/  
00:22:11.081 - 00:22:12.871  
(0.22)

Prof. xx pressure screen  
TC 00:22:13.091 - 00:22:16.371  
(0.63)

David  
TC ah val\  
00:22:17.007 - 00:22:17.647  
(5.95)

Prof. es una panatlla foradada en aquest cas\  
TC 00:22:23.597 - 00:22:24.867  
(4.13)

David  
TC xx es criba/  
00:22:28.997 - 00:22:30.507  
(0.25)

David  
TC xxx  
00:22:30.764 - 00:22:31.884  
(0.07)

Prof. es a die el netejador de la caixa de xx  
TC 00:22:31.954 - 00:22:35.634  
(0.34)

David  
TC vale\  
00:22:35.974 - 00:22:36.914  
(0.9)

Prof. xxx  
TC 00:22:37.814 - 00:22:39.604  
(2.1)

Prof. els screens estan molt mes endarrera (buscant en apunts de David)  
TC 00:22:41.704 - 00:22:43.444  
(2.6)

Prof. xxx  
TC 00:22:46.044 - 00:22:47.204  
(0.44)

Prof. (buscquen screen en apunts)  
TC 00:22:47.644 - 00:22:53.984  
(0.04)

Prof. mira pressure scrren\  
TC 00:22:54.024 - 00:22:55.284  
(2.58)

Prof. mira això d'aquí\  
TC 00:22:57.864 - 00:22:58.724  
(2.14)

David  
TC temporadors (llegint)\  
00:23:00.864 - 00:23:01.564  
(2.93)

Prof. xxx convencional\  
TC 00:23:04.497 - 00:23:05.817  
(1.49)

Prof. screen es la part que te a dins que es la que deixa passar o no deixa passar\  
TC 00:23:07.311 - 00:23:11.261  
(0.05)

David  
TC mm\  
00:23:11.311 - 00:23:11.451  
(87.26)

Marta  
TC que vol dir spl split/  
00:24:38.715 - 00:24:39.965  
(0.87)

Prof. en prinicpi es partir  
TC 00:24:40.835 - 00:24:42.325  
(0.26)

Prof. pero no se on estas\  
TC 00:24:42.585 - 00:24:43.425  
(0.07)

Marta bueno vale\  
TC 00:24:43.495 - 00:24:44.425  
(2.32)

Prof. un tros sense partir\ sense dividir\  
TC 00:24:46.745 - 00:24:50.345  
(1.14)

Prof. molt be\  
TC 00:24:51.485 - 00:24:51.925  
(0.42)

Prof. veus/  
TC 00:24:52.345 - 00:24:52.885  
(265.79)

Prof. digues\  
TC 00:29:18.675 - 00:29:18.935  
(2.64)

David això ben be que es/  
TC 00:29:21.575 - 00:29:22.555  
(0.84)

Prof. si\  
TC 00:29:23.395 - 00:29:23.865  
(0.47)

Prof. pulsacions de pressió\ el grup de pressió normalment va cap endins\ (fent gestos)  
TC 00:29:24.335 - 00:29:27.495  
(1.01)

Prof. en una pulsació hi ha una entrada i una baixada\ per què/  
TC 00:29:28.505 - 00:29:31.275  
(0.26)

Prof. perquè xx  
TC 00:29:31.535 - 00:29:33.225  
(0.2)

Prof. vull dir para de cops\  
TC 00:29:33.425 - 00:29:34.505  
(0.61)

David val\  
TC 00:29:35.115 - 00:29:35.535  
(3.13)

Prof. si tu estas al terra i vols fer un xx uniforme  
TC 00:29:38.668 - 00:29:41.848  
(0.51)

Prof. xxx l'aigua corre per totes les fibres\_  
TC 00:29:42.360 - 00:29:46.412  
(0.48)

Prof. de xx de paper maco d'aquell paper no en trobaras pas\  
TC 00:29:46.900 - 00:29:51.580  
(1.21)

Prof. es a dir les xx  
TC 00:29:52.790 - 00:29:54.070

Marta xx  
TC 00:29:54.070 - 00:29:54.970  
(0.63)

Prof. la idea es que xx  
TC 00:29:55.600 - 00:29:56.970  
(0.32)

Prof. bueno aquí t'explica que la genera, quines causes tenen i després t'explica com com  
evitar-ho\  
TC 00:29:57.290 - 00:30:01.560  
(1.27)

Prof. jo crec que es perillós tenir això\  
TC 00:30:02.830 - 00:30:03.900  
(0.89)

Prof. de quan les bombes de xx\  
TC 00:30:04.790 - 00:30:06.660  
(0.28)

Prof. centrifugues en generen\  
TC 00:30:06.944 - 00:30:08.584  
(1.23)

Prof. ja ho diem n'hi ha de dos tipus\  
TC 00:30:09.814 - 00:30:11.764  
(0.29)

Prof. poden arribar a ser terribles\  
TC 00:30:12.054 - 00:30:12.904  
(1.59)

Prof. tenen la seva rotacio xxx  
TC 00:30:14.494 - 00:30:17.154  
(71.43)

Marta això d'aquí  
TC 00:31:28.584 - 00:31:29.854  
(3.82)

Marta si diu que es pot trobar en diversos\_  
TC 00:31:33.674 - 00:31:37.364  
(0.33)

Caterina diversos múltiples\  
TC 00:31:37.694 - 00:31:39.884  
(1.32)

Caterina pot ser trobada  
TC 00:31:41.206 - 00:31:42.766  
(0.06)

Caterina pulsations initiated by a xx pump \ (reading from handout)  
TC 00:31:42.826 - 00:31:46.316  
(0.45)

Caterina les pulsacions de pressió iniciades per una bomba centrífuga  
TC 00:31:46.768 - 00:31:50.528  
(0.3)

Caterina poden ser trobades en several en diversos múltiples  
TC 00:31:50.834 - 00:31:55.194  
(0.47)

Caterina  
TC 00:31:55.664 - 00:31:57.534  
(0.73)

Caterina de: la velocitat rotacional\  
TC 00:31:58.265 - 00:32:00.604  
(1.45)

Caterina que lliga això/  
TC 00:32:02.054 - 00:32:03.034  
(0.16)

Marta que vol dir per diversos múltiples/  
TC 00:32:03.194 - 00:32:04.464  
(1.84)

Caterina can be found AT  
TC 00:32:06.304 - 00:32:07.274  
(0.36)

Caterina EN diversos múltiples\  
TC 00:32:07.634 - 00:32:10.474  
(0.08)

Caterina u per tantes vegades\  
TC 00:32:10.554 - 00:32:11.780

Caterina tants es refereix a vegades o sigui dues vegades\ tres vegades\  
TC 00:32:11.780 - 00:32:16.424  
(0.11)

Marta val\ bueno bueno\  
TC 00:32:16.536 - 00:32:17.106  
(0.06)

Caterina de la de la velocitat rotacional\  
TC 00:32:17.166 - 00:32:19.776  
(0.71)

Caterina vale/  
TC 00:32:20.486 - 00:32:21.006  
(0.96)

Caterina si/  
TC 00:32:21.966 - 00:32:22.286  
(0.51)

Marta xxx  
TC 00:32:22.796 - 00:32:25.906  
(24.63)

Marta xx però no entenc això  
TC 00:32:50.539 - 00:32:51.549  
(0.41)

Prof. mes que pels entropics  
TC 00:32:51.959 - 00:32:53.899  
(0.26)

Prof. bueno per l'entropia\  
TC 00:32:54.159 - 00:32:54.929  
(0.06)

Prof. bueno que es genera\  
TC 00:32:54.989 - 00:32:55.989  
(1.04)

Marta pero no li deixen nomes una columna\  
TC 00:32:57.034 - 00:32:58.014  
(3.67)

Prof. es que  
TC 00:33:01.684 - 00:33:02.134  
(0.39)

Prof. varies muntures  
TC 00:33:02.524 - 00:33:03.894  
(0.11)

Prof. de la de la velocitat de rotacio\  
TC 00:33:04.004 - 00:33:05.984  
(1.59)

Prof. es dir no la  
TC 00:33:07.574 - 00:33:08.424  
(0.18)

Prof. sabeu el que es un armonic/  
TC 00:33:08.604 - 00:33:09.544  
(0.09)

Prof. un armonic d'una un armonic electric com si diguessim/  
TC 00:33:09.634 - 00:33:13.301  
(0.95)

David xx  
TC 00:33:14.260 - 00:33:14.830  
(0.27)

Prof. un armonic\  
TC 00:33:15.100 - 00:33:15.570  
(0.1)

Prof. el primer harmonic l' harmonic fonamental quin es de l'electricitat/  
TC 00:33:15.670 - 00:33:17.780  
(0.8)

Prof. l'electricitat corre molt\  
TC 00:33:18.580 - 00:33:20.310  
(1.01)

Prof. cinquanta herzos\ si/  
TC 00:33:21.320 - 00:33:21.900  
(1.76)

Prof. això es un valor fonamental\  
TC 00:33:23.660 - 00:33:24.740  
(1.9)

Prof. un valor harmonic es si quan xxx  
TC 00:33:26.640 - 00:33:30.360  
(0.4)

Prof. aquest harmonic en principi no porta informacio  
TC 00:33:30.760 - 00:33:32.470

(0.09)

Prof. o exclusivament perjudicial\  
TC 00:33:32.560 - 00:33:33.990  
(0.1)

Prof. TC 00:33:34.090 - 00:33:34.300

Prof. els que son perjudicials son entre el tercer i el cinque\  
TC 00:33:34.300 - 00:33:36.270  
(0.85)

Prof. val/ el tercer que es/  
TC 00:33:37.120 - 00:33:38.100  
(0.1)

Prof. el tercer que es quin valor te/ cent cinquanta herzos\  
TC 00:33:38.200 - 00:33:39.880  
(1.63)

Prof. val/ i el cinquè quin es/  
TC 00:33:41.510 - 00:33:42.370  
(1.0)

Prof. cinc pels cent cinquanta herzos\_  
TC 00:33:43.379 - 00:33:45.639  
(0.74)

David [això es com]  
TC 00:33:46.379 - 00:33:47.139

Prof. [de vegades]  
TC 00:33:46.379 - 00:33:47.139  
(0.31)

David com la musica\  
TC 00:33:47.449 - 00:33:48.609  
(0.4)

David amb una nota\ del sol\  
TC 00:33:49.009 - 00:33:49.819  
(0.14)

Prof. no\  
TC 00:33:49.960 - 00:33:50.440  
(0.11)

Prof. harmonic quan arribes en musica normalment es que stigui harmonic que vagi quadrat\  
TC 00:33:50.550 - 00:33:54.670  
(0.67)

Prof. haromic es es a dir  
TC 00:33:55.340 - 00:33:57.292  
(0.79)

Prof. tu agafes un xx de cinquanta herzos\_  
TC 00:33:58.090 - 00:34:01.060  
(1.26)

Prof. un haromic es produeix\_  
TC 00:34:02.320 - 00:34:04.240  
(0.28)

Prof. quan això es converteix  
TC 00:34:04.520 - 00:34:05.640  
(1.8)

Prof. es a dir això es partit per xx ai per xx (dibuixant elipsis pissarra)  
TC 00:34:07.440 - 00:34:10.370  
(1.95)

Prof. quan son multiples de que  
TC 00:34:12.320 - 00:34:13.490  
(0.73)

Prof. es a dir que es poden duplicar\_  
TC 00:34:14.227 - 00:34:15.427  
(0.38)

Prof. i triplicar\  
TC 00:34:15.807 - 00:34:16.597  
(0.51)

Prof. d'acord/  
TC 00:34:17.107 - 00:34:17.617  
(0.11)

Prof. els harmonics son perillosos porque es poden enganxar l'un amb l'altre\ mireu això  
d'aquí\  
TC 00:34:17.727 - 00:34:22.490  
(0.59)

Prof. si una passa per aquí per exemple\_  
TC 00:34:23.087 - 00:34:24.607  
(0.46)

Prof. això suma\  
TC 00:34:25.067 - 00:34:25.657  
(0.13)

Prof. l'un amb l'altre val/  
TC 00:34:25.787 - 00:34:26.337  
(1.37)

Prof. doncs aquestes com que no es creuen  
TC 00:34:27.712 - 00:34:29.692  
(0.13)

Prof. aquí n'hi ha una tercera (dibuixa)  
TC 00:34:29.822 - 00:34:30.242  
(0.75)

Prof. seria una cosa així  
TC 00:34:30.992 - 00:34:32.772  
(0.21)

Prof. durant una pulsació normal en tres doncs això es perjudicial\  
TC 00:34:32.982 - 00:34:35.392  
(0.18)

Prof. perjudicial per tota la maquinària\  
TC 00:34:35.576 - 00:34:36.846  
(0.93)

Prof. en el cas de la màquina de paper el que te es que  
TC 00:34:37.776 - 00:34:40.576  
(0.58)

Prof. proporcionalment amb la pulsació aquesta  
TC 00:34:41.156 - 00:34:43.216  
(0.19)

Prof. poden produir-se harmonics\  
TC 00:34:43.406 - 00:34:44.506  
(1.22)

Prof. val/  
TC 00:34:45.726 - 00:34:46.016  
(1.08)

Prof. són pulsacions en aquest cas\  
TC 00:34:47.096 - 00:34:48.666  
(0.53)

Prof. són pulsacions que es provoquen  
TC 00:34:49.202 - 00:34:50.142  
(0.16)

Prof. que es provoquen  
TC 00:34:50.308 - 00:34:51.008  
(0.26)

Prof. si dona voltes  
TC 00:34:51.268 - 00:34:52.528  
(0.09)

Prof. a mil revolucions per minut\_  
TC 00:34:52.621 - 00:34:53.811  
(0.76)

Prof. doncs es produiran  
TC 00:34:54.571 - 00:34:55.721  
(0.29)

Prof. cada dos mil revolucions\  
TC 00:34:56.011 - 00:34:56.991  
(0.95)

Prof. val/ es a dir el doble\el triple\ o el que sigui\ són múltiples sempre\  
TC 00:34:57.941 - 00:35:01.641  
(1.65)

Prof. això normalment es produeix perquè hi ha un rebot per exemple\

TC 00:35:03.291 - 00:35:06.171  
(0.5)

Prof. si teniu una porta tancada la obriu i llavors la tanqueu\_  
TC 00:35:06.671 - 00:35:09.031  
(1.02)

Prof. pot haver-hi un cop de diet no/  
TC 00:35:10.057 - 00:35:11.697  
(1.85)

Marta que/ com/  
TC 00:35:13.547 - 00:35:14.337  
(0.07)

Prof. el cop de diet\ no sabeu el que es/  
TC 00:35:14.407 - 00:35:15.337  
(0.04)

David una dieta/  
TC 00:35:15.377 - 00:35:15.917  
(0.07)

TOTS [tots riuen]  
TC 00:35:15.987 - 00:35:19.187

Dani [xxx para ir a la playa]  
TC 00:35:17.547 - 00:35:19.137  
(0.74)

Prof. es igual\ imagineu que esteu a casa\  
TC 00:35:19.884 - 00:35:22.044  
(0.95)

Prof. us han vingut a reparar la instal.lacio o qualsevol cosa\  
TC 00:35:22.998 - 00:35:25.658  
(0.35)

Prof. ha quedat aigua a: dins de:  
TC 00:35:26.008 - 00:35:27.668  
(0.38)

Prof. la instal.lacio\ quan tu obres l'aixeta que passa/  
TC 00:35:28.050 - 00:35:29.750  
(0.25)

Prof. xxx i despres surt l'aigua\ sino que comença a rotar tot\  
TC 00:35:30.000 - 00:35:33.940  
(0.08)

David si\  
TC 00:35:34.020 - 00:35:34.250  
(0.06)

Prof. i això es perquè es produeix pressió depressió pressió \ es a dir l'aigua es  
comprimit xxxxxxxx depressió\  
TC 00:35:34.310 - 00:35:41.200  
(0.29)

Prof. i aquí passa el mateix tan sols amb el xx \ queda molt amortit però també es  
produeix\  
TC 00:35:41.495 - 00:35:45.865  
(0.71)

Prof. es a dir el fet de fer anar tu una bomba rotacional i te unes pales\  
TC 00:35:46.575 - 00:35:50.705  
(0.29)

Prof. les pales no són contínues\ no es continu tota l'estona\ per tant tu vas donant cops\  
TC 00:35:50.996 - 00:35:54.506  
(1.16)

Prof. val/ doncs el fet de donar aquests cops  
TC 00:35:55.666 - 00:35:57.136  
(0.24)

Prof. l'aigua que estas impulsant va rebotant i es produeixen múltiples d'aquesta velocitat  
que et va donar\  
TC 00:35:57.385 - 00:36:02.420  
(0.73)

Prof. perquè rebota i torna i el fet que reboti i torni pot ser que piqui just en el moment  
que estava retornant i en canvi estas produint el doble de pressió\ (gestos endavant i  
endarrera amb braç)  
TC 00:36:03.155 - 00:36:11.885  
(0.36)



David a: ja ja\  
TC 00:36:12.250 - 00:36:12.770  
(0.5)

Prof. aquests multiples serveixen per això\  
TC 00:36:13.270 - 00:36:15.740  
(0.37)

Prof. porque l'un contra l'altre es van\_  
TC 00:36:16.110 - 00:36:18.080  
(0.66)

Prof. es van barrejant i llavors es quan es creen els harmonics\ que s'ajunten els uns amb  
els altres i es crea una corva mes grossa\  
TC 00:36:18.741 - 00:36:24.361  
(0.4)

Prof. val/  
TC 00:36:24.766 - 00:36:25.116  
(0.46)

Prof. simplement això es porque les pulsacions aquestes que es produeixen sapiguen que amb  
els pals cada cop que toca al pal\ I els multiples d' aquestes pales porque es quan es pot  
produir l'harmonic\ quan es pot produir la unio de diferents corves\ (fent gestos amb braços)  
TC 00:36:25.576 - 00:36:38.436  
(2.09)

Prof. com ho representariem/ aixi\ val/ (dibuix pissarra)  
TC 00:36:40.526 - 00:36:44.606  
(0.34)

Prof. que passa/ aquestes ones de pressio xx(dibuixa pissarra)  
TC 00:36:44.953 - 00:36:48.283  
(0.76)

Prof. si que se'm van xx per aqui (marca pissarra)  
TC 00:36:49.049 - 00:36:50.279  
(0.68)

Prof. pero xx  
TC 00:36:50.966 - 00:36:51.956  
(2.0)

Prof. aquesta xx esta en la mateixa xx que l'altre porque xx\ val/  
TC 00:36:53.964 - 00:36:59.404  
(1.07)

Prof. per tant pot ser que tinguis pulsacions\_  
TC 00:37:00.483 - 00:37:02.483  
(0.1)

Prof. a la frecuencia fonamental que xxx aquesta\  
TC 00:37:02.583 - 00:37:05.183  
(0.22)

Prof. ni es aquesta\ (assenylant tota l'hora gràfic pissarra)  
TC 00:37:05.403 - 00:37:06.253  
(0.29)

Prof. xxx inicial\  
TC 00:37:06.543 - 00:37:08.723  
(0.46)

Prof. i que passa\ que surt aquesta i xx de la pulsacio mes grossa\  
TC 00:37:09.187 - 00:37:12.707  
(0.88)

Prof. o que es barregi amb la del mig\  
TC 00:37:13.596 - 00:37:15.226  
(0.48)

Prof. quan es barreja amb la del mig son aquestes que pot ser el doble\ el triple\  
TC 00:37:15.706 - 00:37:19.436  
(0.85)

Prof. es barregen unes amb les altres i xxxx\  
TC 00:37:20.286 - 00:37:22.866  
(1.38)

Prof. es com quan botes una pilota de basquet\ agafes una pilota de basquet i poses una per  
sobre i que passa/  
TC 00:37:24.246 - 00:37:28.636  
(0.64)

Prof. al primer no passa res pero\_  
TC 00:37:29.276 - 00:37:30.096  
(0.49)

Prof. si ho fas dues vegades\ al cap de dues vegades surten disparades\  
TC 00:37:30.586 - 00:37:33.432  
(0.32)

Prof. doncs es el mateix\  
TC 00:37:33.752 - 00:37:34.542  
(1.88)

Prof. doncs es produeix en multiples d'aquests que tenen una pulsacio\ (s'acosta a Marta i  
mira els apunts)  
TC 00:37:36.428 - 00:37:39.038  
(0.37)

Prof. aquesta que te de rotacio\  
TC 00:37:39.408 - 00:37:40.718  
(0.69)

Prof. val\  
TC 00:37:41.408 - 00:37:42.278  
(1.9)

Prof. si/  
TC 00:37:44.185 - 00:37:44.465  
(0.1)

Marta mm\  
TC 00:37:44.565 - 00:37:44.755  
(0.24)

Prof. esta clar el comcepte/  
TC 00:37:44.995 - 00:37:45.755  
(1.87)

Marta si si si\  
TC 00:37:47.625 - 00:37:48.025  
(0.1)

Prof. xxx\  
TC 00:37:48.125 - 00:37:50.605  
(0.2)

David pero en musica/  
TC 00:37:50.813 - 00:37:51.903  
(0.29)

Prof. els harmonics/  
TC 00:37:52.193 - 00:37:53.043  
(0.23)

Prof. porque xx a lo bestia\  
TC 00:37:53.273 - 00:37:54.958  
(0.18)

Prof. quan s'acoplen un dallonsis es un xx d'aquests dolents\  
TC 00:37:55.138 - 00:37:57.478  
(0.82)

David no\ pero vull dir\  
TC 00:37:58.303 - 00:37:59.043  
(0.43)

David quan escoltes una nota\  
TC 00:37:59.473 - 00:38:00.713  
(0.36)

David la nota te\  
TC 00:38:01.073 - 00:38:01.893  
(0.8)

David no es nomes una nota\ son diferents harmonics que sonen junts i fan una nota\  
TC 00:38:02.693 - 00:38:05.843  
(0.59)

Prof. val\  
TC 00:38:06.442 - 00:38:06.842  
(0.14)

Prof. xxx la barreja\  
TC 00:38:06.982 - 00:38:08.702  
(0.44)

Prof. porque se't barregen dues\  
TC 00:38:09.142 - 00:38:10.502  
(0.31)

Prof. es a dir tu ho fas porque la nota soni be\

TC 00:38:10.821 - 00:38:12.271  
(0.39)

Prof. i els harmonics sonen junts al principi i es potencia mes la nota aquesta\  
TC 00:38:12.661 - 00:38:15.951  
(0.4)

David no [no\xxx\  
TC 00:38:16.351 - 00:38:16.891

Prof. [o es xx ]  
TC 00:38:16.621 - 00:38:17.821  
(0.45)

David ja es aixi la nota\  
TC 00:38:18.272 - 00:38:19.102  
(0.16)

Prof. ah la nota es a dir\  
TC 00:38:19.262 - 00:38:20.642  
(0.12)

Prof. forma part  
TC 00:38:20.762 - 00:38:21.512  
(0.67)

Prof. dels diferents harmonics [aquests]  
TC 00:38:22.182 - 00:38:23.792

David [si si\  
TC 00:38:23.412 - 00:38:23.842

Prof. fan que sigui bona\  
TC 00:38:23.832 - 00:38:24.822  
(0.05)

David si si\  
TC 00:38:24.872 - 00:38:25.162  
(0.07)

Prof. val\  
TC 00:38:25.234 - 00:38:25.414  
(0.67)

Prof. llavors un harmonic en qualsevol terme\_ com si diguessim enginyeria\_  
TC 00:38:26.084 - 00:38:36.164  
(0.54)

Prof. normalment s'entenen com a perillosos\  
TC 00:38:36.704 - 00:38:38.344  
(0.28)

Prof. quan tu dius harmonic es perillos\  
TC 00:38:38.624 - 00:38:39.674  
(0.72)

Prof. no se si coneixeu la historia d'un\_  
TC 00:38:40.394 - 00:38:41.914  
(0.19)

Prof. hi va haver un pont\_  
TC 00:38:42.104 - 00:38:43.334  
(0.06)

Prof. no se si era el milt nou cents quaranta o cinquanta\  
TC 00:38:43.400 - 00:38:45.470  
(0.05)

Prof. potser heu vist les imatges alguna vegada/  
TC 00:38:45.520 - 00:38:46.947  
(0.35)

Prof. que van crear resonancia per culpa del vent\  
TC 00:38:47.300 - 00:38:49.110  
(2.15)

Prof. era un pont que era de formigo\ era un pont que era estable\ tenia uns pilars\ i  
resulta que el vent va provocar que entres en resonancia (gestos amb mans i braços)\  
TC 00:38:51.260 - 00:38:57.680  
(0.75)

Prof. es va produir un-  
TC 00:38:58.430 - 00:38:58.890  
(0.37)

Prof. es a dir van\_  
TC 00:38:59.260 - 00:38:59.950

(0.2)

Prof. el vent bufava amb la freqüència de resonància que tenia el pont i per tant va començar a atinar-lo fins que el va paraitzar

TC 00:39:00.157 - 00:39:05.587  
(0.39)

Marta ah\  
TC 00:39:05.977 - 00:39:06.477  
(1.37)

Prof. ja us portare un video\  
TC 00:39:07.847 - 00:39:09.527  
(0.63)

Prof. ja el buscare\  
TC 00:39:10.157 - 00:39:11.807  
(2.02)

Prof. per això que els harmonics  
TC 00:39:13.827 - 00:39:15.307  
(0.3)

Prof. quan es parla en enginyeria d'un harmonic normalment es perillós\  
TC 00:39:15.607 - 00:39:17.687  
(0.18)

Prof. perquè es poden ajuntar\_  
TC 00:39:17.867 - 00:39:18.917  
(0.36)

Prof. varies freqüències  
TC 00:39:19.277 - 00:39:20.327  
(0.21)

Prof. i el creen\  
TC 00:39:20.537 - 00:39:22.187  
(0.5)

Prof. sobre el mateix harmonic es una freqüència que s potencia molt\  
TC 00:39:22.687 - 00:39:24.717  
(0.88)

Prof. i això per les màquines es perillós\  
TC 00:39:25.597 - 00:39:26.567  
(0.43)

Prof. en quan a la musica\_  
TC 00:39:27.001 - 00:39:27.971  
(0.85)

Prof. no se si es que també s'ajunten i per això es potencia i d'això se'n diu la nota  
aquesta\_  
TC 00:39:28.821 - 00:39:33.591  
(0.6)

Prof. o per una altra raó\  
TC 00:39:34.191 - 00:39:35.271  
(1.4)

Prof. xxx\  
TC 00:39:36.671 - 00:39:37.381  
(3.34)

Prof. delignment/ un desaliniament\  
paraula) (mirant handout de Marta, on ella havia assenyalat una  
TC 00:39:40.721 - 00:39:42.011  
(20.32)

Marta shaft/  
TC 00:40:02.337 - 00:40:02.997  
(0.63)

Prof. shaft/ es l'eix\  
TC 00:40:03.634 - 00:40:05.184  
(0.87)

Prof. xxx (acostant-se a Marta)  
TC 00:40:06.054 - 00:40:07.064  
(0.24)

Marta ah\  
TC 00:40:07.306 - 00:40:07.716  
(0.92)

Prof. xxxxxxxx\  
TC 00:40:08.636 - 00:40:11.296

(1.78)

Prof. xxx  
TC 00:40:13.076 - 00:40:14.116  
(3.48)

Prof. que/ (a la'ltre grup)  
TC 00:40:17.596 - 00:40:17.996  
(93.65)

Marta xxxx  
TC 00:41:51.647 - 00:41:53.617  
(0.88)

Prof. que hi ha/  
TC 00:41:54.503 - 00:41:55.703  
(2.07)

Marta això d'aquí\ xxx\  
TC 00:41:57.773 - 00:42:00.503  
(0.17)

Prof. xxx (traduïnt)  
TC 00:42:00.675 - 00:42:02.305  
(0.09)

Marta o sigui entenc traduïnt-ho al castellà ai vull dir al català no ho entenc \  
TC 00:42:02.395 - 00:42:07.555  
(0.11)

Prof. (riu)  
TC 00:42:07.670 - 00:42:11.260  
(0.03)

Prof. es a dir el nivell de pulsacions\ es a dir la cosa dolenta que es produeix\_ està  
influenciada  
TC 00:42:11.290 - 00:42:16.440  
(0.72)

Prof. per la posició\_  
TC 00:42:17.160 - 00:42:18.530  
(0.7)

Prof. del del punt de treball\  
TC 00:42:19.230 - 00:42:20.960  
(1.4)

Prof. es a dir del punt de treball que xx\  
TC 00:42:22.360 - 00:42:24.810  
(0.31)

Marta quin punt de treball/  
TC 00:42:25.120 - 00:42:25.760  
(0.49)

Prof. el de rendiment\ es a dir aquesta banda d'aquí veus que posa xxx es el punt de treball  
actiu\  
TC 00:42:26.255 - 00:42:30.325  
(2.62)

Prof. això es LA caiguda de precipitació oi/ molt be si\  
TC 00:42:32.946 - 00:42:35.486  
(0.36)

Prof. doncs depen d'es d'on treballis tu respecte aquest punt  
TC 00:42:35.846 - 00:42:39.126  
(0.63)

Prof. se'n produiran més o se'n produiran menys de pulsacions\  
TC 00:42:39.763 - 00:42:41.263  
(0.74)

Prof. em sembla que vol dir això\  
TC 00:42:42.003 - 00:42:43.443  
(2.14)

Prof. the lowest pulsations is reached if the duty point is near nine\ (flux, llegint del  
text)  
TC 00:42:45.588 - 00:42:49.638  
(0.33)

Prof. es a dir\ duty point\ duty point\ es el punt es el punt de treball \ des d'on estas  
treballant\  
TC 00:42:49.968 - 00:42:55.108  
(0.25)

Prof. si tu treballes en aquest punt d'aquí-\_  
TC

TC 00:42:55.358 - 00:42:57.408  
(0.24)

Prof. tindras le sminimes pulsacions\  
TC 00:42:57.648 - 00:42:58.968  
(0.02)

Marta val\  
TC 00:42:58.989 - 00:42:59.099

Prof. si treballes una miqueta mes cap aqui et pujaran una miqueta\  
TC 00:42:59.099 - 00:43:01.799  
(0.32)

Marta xxxx\  
TC 00:43:02.119 - 00:43:03.159  
(0.24)

Prof. ho determina la maquina\  
TC 00:43:03.399 - 00:43:04.809  
(0.08)

Marta val\  
TC 00:43:04.889 - 00:43:05.109  
(0.15)

Prof. es dir el que et ven l'equip\ el que et ven la bomba et diu aquesta bomba ha de  
treballar [x]x  
TC 00:43:05.259 - 00:43:09.713

Marta [xx]  
TC 00:43:09.233 - 00:43:09.683  
(0.46)

Marta vale\  
TC 00:43:10.143 - 00:43:10.413

Prof. ha de tenir aquesta perdua de camera de darrera\_  
TC 00:43:10.268 - 00:43:12.418  
(0.11)

Prof. i per tant treballarà a trenta (?) revolucions amb aquest consum i tota la pesca\  
TC 00:43:12.528 - 00:43:15.658  
(0.72)

Prof. xxx d'aquesta manera pots treballar-hi\  
TC 00:43:16.378 - 00:43:22.127

## APÈNDIX

### ii.8 Transcripció de TG1

Caterina okay\ a:: good morning/ today we are going to be working in groups: a:nd\_  
TC 00:00:13.430 - 00:00:18.310  
(0.28)

Caterina I distributed the groups so that\_  
TC 00:00:18.590 - 00:00:20.927  
(0.3)

Caterina we ha:ve a:: three (.) people and three people\_  
TC 00:00:21.230 - 00:00:24.563  
(0.2)

Caterina the first group is going to be Fatma\_  
TC 00:00:24.770 - 00:00:27.063  
(0.41)

Caterina Ahmet/ and Laia/ you are gonna work together\  
TC 00:00:27.480 - 00:00:30.629  
(0.17)

Caterina and Loli Cem and Selma work together\  
TC 00:00:30.800 - 00:00:33.605  
(0.23)

Caterina so maybe:/ you could split\_  
TC 00:00:33.840 - 00:00:35.984  
(0.18)

Caterina and\_  
TC 00:00:36.170 - 00:00:36.692  
(0.98)

Caterina one group seats there and one group seats here\  
TC 00:00:37.680 - 00:00:40.013  
(0.36)

Caterina okay/  
TC 00:00:40.380 - 00:00:40.687  
(3.55)

Caterina xx/ for example Ahmet/ you can seat here\  
TC 00:00:44.240 - 00:00:47.356  
(6.72)

Caterina a: Laia you work with them\  
TC 00:00:54.080 - 00:00:55.660  
(4.89)

Caterina over- over there\  
TC 00:01:00.550 - 00:01:01.857  
(0.56)

Caterina you work xxx and xxx\  
TC 00:01:02.420 - 00:01:04.526  
(4.15)

Caterina okay  
TC 00:01:08.680 - 00:01:09.118  
(0.08)

Caterina the thing is\_  
TC 00:01:09.200 - 00:01:10.029  
(17.55)

Caterina okay\ so: a::  
TC 00:01:27.586 - 00:01:29.769  
(9.53)

Caterina I'm going to give you\_  
TC 00:01:39.302 - 00:01:40.527  
(0.41)

Caterina a work sheet\_  
TC 00:01:40.942 - 00:01:41.846  
(0.62)

Fatma xxx  
TC 00:01:42.472 - 00:01:43.279

(0.12)

Caterina a work sheet  
TC 00:01:43.399 - 00:01:44.354  
(1.23)

Caterina each for the groups  
TC 00:01:45.592 - 00:01:46.852  
(0.34)

Caterina okay/  
TC 00:01:47.201 - 00:01:47.814  
(0.62)

Caterina a::m  
TC 00:01:48.441 - 00:01:49.401  
(0.08)

Caterina what you need to do is  
TC 00:01:49.482 - 00:01:50.837  
(0.09)

Caterina you need to do the following\  
TC 00:01:50.932 - 00:01:52.338  
(0.61)

Caterina you need to/ m::  
TC 00:01:52.948 - 00:01:54.593  
(0.14)

Caterina fill in the blanks/  
TC 00:01:54.733 - 00:01:55.867  
(0.12)

Caterina in the table/  
TC 00:01:55.988 - 00:01:57.028  
(0.55)

Caterina that Im going to give you\  
TC 00:01:57.580 - 00:01:59.220  
(1.86)

Caterina a:  
TC 00:02:01.080 - 00:02:01.573  
(0.12)

Caterina try not to look at this now\  
TC 00:02:01.693 - 00:02:03.596  
(0.09)

Caterina okay/ put this away  
TC 00:02:03.690 - 00:02:05.700  
(0.18)

Caterina put the tables away  
TC 00:02:05.880 - 00:02:07.349  
(0.23)

Caterina ya/ yeah\ put those tables away\  
TC 00:02:07.580 - 00:02:09.775  
(1.5)

Caterina put it away\  
TC 00:02:11.279 - 00:02:11.999  
(0.23)

Caterina yeah\  
TC 00:02:12.230 - 00:02:12.563  
(0.42)

Caterina and then I'm gonna give you this\_  
TC 00:02:12.990 - 00:02:14.922  
(0.45)

Caterina and you need to  
TC 00:02:15.376 - 00:02:16.874  
(2.93)

Caterina fill this in together\  
TC 00:02:19.805 - 00:02:21.474  
(0.32)

Caterina okay/  
TC 00:02:21.800 - 00:02:22.303  
(0.4)

Caterina so try to solve this mystery\  
TC



TC 00:02:22.703 - 00:02:25.332  
(0.28)

Caterina okay/  
TC 00:02:25.612 - 00:02:26.043  
(0.11)

Caterina try to solve the blanks\ okay/  
TC 00:02:26.160 - 00:02:29.229  
(0.28)

Caterina without looking/ at the solutions\  
TC 00:02:29.509 - 00:02:31.861  
(0.38)

Caterina lets see if together you can come out with the answer\  
TC 00:02:32.248 - 00:02:34.766  
(0.2)

Caterina okay/  
TC 00:02:34.966 - 00:02:35.484  
(0.18)

Caterina so this is the first/  
TC 00:02:35.672 - 00:02:36.791  
(0.67)

Caterina the first exercise\  
TC 00:02:37.465 - 00:02:38.470  
(0.36)

Caterina you need to fill in the blanks  
TC 00:02:38.839 - 00:02:40.312  
(0.32)

Caterina okay/  
TC 00:02:40.637 - 00:02:41.132  
(0.43)

Caterina the second is\_  
TC 00:02:41.567 - 00:02:42.448  
(0.12)

Caterina what/ is leather\  
TC 00:02:42.568 - 00:02:43.908  
(0.64)

Caterina describe the main characteristics/ you need to write\_  
TC 00:02:44.557 - 00:02:47.842  
(0.41)

Caterina four five characteristics together\  
TC 00:02:48.256 - 00:02:50.138  
(0.42)

Caterina okay/  
TC 00:02:50.559 - 00:02:50.949  
(0.52)

Caterina all of you must participate\  
TC 00:02:51.470 - 00:02:52.874  
(0.36)

Caterina and then (.) group a/  
TC 00:02:53.234 - 00:02:55.184  
(0.18)

Caterina group  
TC 00:02:55.365 - 00:02:55.765  
(0.2)

Caterina b\  
TC 00:02:55.965 - 00:02:56.362  
(0.36)

Caterina okay/  
TC 00:02:56.722 - 00:02:57.166  
(0.44)

Caterina group a  
TC 00:02:57.606 - 00:02:58.631  
(0.16)

Caterina will write a piece/ together\  
TC 00:02:58.791 - 00:03:00.861  
(0.18)

Caterina explaining what chromium tanning is\  
TC 00:03:01.041 - 00:03:03.912  
(0.78)

Caterina and a::  
TC 00:03:04.701 - 00:03:06.115  
(0.16)

Caterina group b  
TC 00:03:06.275 - 00:03:07.075  
(0.08)

Caterina will write  
TC 00:03:07.155 - 00:03:07.849  
(0.17)

Caterina a brief peace explaining  
TC 00:03:08.024 - 00:03:09.681  
(0.16)

Caterina what vegetable tanning is\  
TC 00:03:09.841 - 00:03:11.748  
(0.1)

Caterina okay/  
TC 00:03:11.857 - 00:03:12.404  
(0.15)

Caterina and then  
TC 00:03:12.561 - 00:03:13.317  
(0.46)

Caterina you/ will explain  
TC 00:03:13.786 - 00:03:15.374  
(0.12)

Caterina to them  
TC 00:03:15.494 - 00:03:16.215  
(0.57)

Caterina and you will explain  
TC 00:03:16.792 - 00:03:18.294  
(0.32)

Caterina the other group\  
TC 00:03:18.614 - 00:03:19.272  
(0.21)

Caterina okay/  
TC 00:03:19.488 - 00:03:19.941  
(0.16)

Caterina to do this/ I'm gonna give you some\_  
TC 00:03:20.101 - 00:03:22.164  
(0.16)

Caterina documentation\  
TC 00:03:22.324 - 00:03:23.375  
(0.17)

Caterina in case you need more information  
TC 00:03:23.551 - 00:03:25.212  
(0.28)

Caterina okay/  
TC 00:03:25.492 - 00:03:25.918  
(0.24)

Caterina so now  
TC 00:03:26.158 - 00:03:26.915  
(0.08)

Caterina what you need to do is  
TC 00:03:26.995 - 00:03:27.984  
(0.18)

Caterina work toguether  
TC 00:03:28.171 - 00:03:29.184  
(0.34)

Caterina and  
TC 00:03:29.527 - 00:03:29.927  
(0.32)

Caterina a: you need to\_  
TC 00:03:30.247 - 00:03:31.556  
(0.24)

Caterina write this is going to be your common paper\  
TC 00:03:31.796 - 00:03:34.650  
(0.44)

Caterina yeah/  
TC 00:03:35.090 - 00:03:35.510  
(0.16)

Caterina you need to write your names\_  
TC 00:03:35.670 - 00:03:36.964  
(0.06)

Caterina and this is going to be\_  
TC 00:03:37.031 - 00:03:38.179  
(0.68)

Caterina for me to evaluate\ and also/  
TC 00:03:38.859 - 00:03:41.169  
(0.08)

Caterina I'm recording you\_  
TC 00:03:41.249 - 00:03:42.421  
(0.56)

Caterina to see how  
TC 00:03:42.981 - 00:03:43.867  
(0.46)

Caterina the group dynamics is\  
TC 00:03:44.331 - 00:03:45.833  
(0.31)

Caterina okay/  
TC 00:03:46.151 - 00:03:46.838

Fatma okay\  
TC 00:03:46.751 - 00:03:47.330

Ahmet okay\  
TC 00:03:46.751 - 00:03:47.210

Caterina do you have questions/ whatever/  
TC 00:03:47.170 - 00:03:49.542  
(0.4)

Laia aha/ I don't understand\_  
TC 00:03:49.942 - 00:03:51.405  
(0.86)

Laia the- ask\_  
TC 00:03:52.270 - 00:03:53.030  
(0.37)

Laia a\_  
TC 00:03:53.400 - 00:03:53.803  
(0.21)

Caterina yeah\ group a\  
TC 00:03:54.020 - 00:03:55.155  
(0.19)

Laia si/  
TC 00:03:55.350 - 00:03:55.879  
(0.28)

Caterina e you need to write\_ to:ther\_  
TC 00:03:56.160 - 00:03:58.637

Laia mh/  
TC 00:03:58.340 - 00:03:58.887

Ahmet mh/  
TC 00:03:58.340 - 00:03:58.887  
(0.23)

Caterina a::  
TC 00:03:59.121 - 00:04:00.081  
(0.56)

Caterina some lines explaining what is chromium tanning\  
TC 00:04:00.641 - 00:04:03.501  
(0.48)

Fatma want just four:/ sentences\_  
TC 00:04:03.981 - 00:04:06.661  
(0.46)

Caterina yeah\ [four or five sentence-] yeah\ characteristi:cs:\_  
TC 00:04:07.121 - 00:04:10.617

Fatma [xxx]  
TC 00:04:07.630 - 00:04:08.601  
(2.66)

Caterina and also: what is it used for/  
TC 00:04:11.267 - 00:04:14.308  
(0.16)

Caterina what articles are made of this/  
TC 00:04:14.468 - 00:04:17.011  
(0.24)

Caterina yeah/ so for example if you wa:nt\_  
TC 00:04:17.251 - 00:04:19.562

Laia mh\  
TC 00:04:17.751 - 00:04:18.245

Fatma mh\  
TC 00:04:17.751 - 00:04:18.245  
(1.7)

Caterina a:::  
TC 00:04:19.951 - 00:04:20.964

Fatma xxx\  
TC 00:04:20.251 - 00:04:20.784  
(0.47)

Caterina a bag\_  
TC 00:04:21.261 - 00:04:22.058  
(0.1)

Caterina are you going to use vegetable tanning/ or chromium tanning\  
TC 00:04:22.160 - 00:04:25.655

Fatma mh\  
TC 00:04:24.890 - 00:04:25.521  
(0.43)

Caterina yeah/  
TC 00:04:25.960 - 00:04:26.423

Ahmet yeah mh\  
TC 00:04:25.971 - 00:04:26.780  
(0.16)

Caterina general things that you know\ m/  
TC 00:04:26.943 - 00:04:29.044  
(0.15)

Caterina Laia  
TC 00:04:29.197 - 00:04:30.034  
(0.24)

Caterina a: is also  
TC 00:04:30.274 - 00:04:31.471  
(0.32)

Caterina a: studying leather technology so its going to be\_  
TC 00:04:31.791 - 00:04:34.389

Ahmet yes  
TC 00:04:32.771 - 00:04:33.495

Fatma yes  
TC 00:04:32.881 - 00:04:33.607  
(0.9)

Caterina °helpful° okay\  
TC 00:04:34.507 - 00:04:35.263  
(0.18)

Laia but: I don't understand english\ [laughs]  
TC 00:04:35.447 - 00:04:39.451

Fatma [laughs ] I have to understand  
TC 00:04:37.747 - 00:04:40.172

Ahmet [laughs]  
TC 00:04:38.237 - 00:04:39.298  
(0.89)

Caterina this hopefully is going to be a collaborative project  
TC 00:04:40.197 - 00:04:42.884

Fatma yeah\  
TC 00:04:42.317 - 00:04:42.795  
(0.19)

Ahmet yes\  
TC 00:04:42.987 - 00:04:43.439

Caterina okay/  
TC 00:04:43.197 - 00:04:43.730  
(1.44)

Laia vale  
TC 00:04:45.177 - 00:04:45.814  
(0.31)

Fatma let's fill the blanks (.) first  
TC 00:04:46.130 - 00:04:48.201  
(0.22)

Laia the blanks/ blancs/ what is that/  
TC 00:04:48.430 - 00:04:50.024

Fatma =these=  
TC 00:04:49.550 - 00:04:49.906  
(0.08)

Fatma yes  
TC 00:04:49.990 - 00:04:50.500

Ahmet xxx  
TC 00:04:50.310 - 00:04:51.452

Fatma we will write here whatever  
TC 00:04:50.570 - 00:04:52.598

Laia mh/  
TC 00:04:51.670 - 00:04:52.151  
(0.72)

Laia what's that\ what is/-  
TC 00:04:52.880 - 00:04:53.818

Fatma blank one (.) blank two (.) blank three\_  
TC 00:04:53.698 - 00:04:56.357

Ahmet this is blank xxx  
TC 00:04:53.804 - 00:04:56.167  
(0.76)

Ahmet this  
TC 00:04:56.930 - 00:04:57.394

Fatma no blank it's name for e:: xxx places\ for example this is a blank\  
TC 00:04:57.120 - 00:05:02.287

Ahmet =here (.) here\_  
TC 00:05:01.110 - 00:05:02.592  
(0.2)

Fatma we have to write\_  
TC 00:05:02.800 - 00:05:03.928

Laia yes\  
TC 00:05:03.930 - 00:05:04.392  
(0.16)

Fatma the blank in line\_  
TC 00:05:04.560 - 00:05:05.889

Ahmet aha\  
TC 00:05:05.690 - 00:05:06.160  
(1.1)

Ahmet you complete this\  
TC 00:05:07.260 - 00:05:08.602  
(0.28)

Laia ah/ okay\ vale\ complete\  
TC 00:05:08.882 - 00:05:10.401

Fatma yes  
TC 00:05:10.401 - 00:05:10.860  
(0.16)

Laia vale\  
TC 00:05:11.020 - 00:05:11.562  
(1.13)

Fatma xxx  
TC 00:05:12.700 - 00:05:13.980

Ahmet xxx (reads first question)  
TC 00:05:13.500 - 00:05:15.662  
(0.91)

Ahmet for strong (.) oil  
TC 00:05:16.580 - 00:05:17.914  
(2.21)

Ahmet vegetable  
TC 00:05:20.130 - 00:05:21.415

Laia hm/  
TC 00:05:20.935 - 00:05:21.578

Fatma vegetable (.) from oil  
TC 00:05:21.123 - 00:05:22.940

Ahmet and  
TC 00:05:21.751 - 00:05:22.273  
(0.9)

Fatma the synthetic tanning  
TC 00:05:23.181 - 00:05:24.604  
(0.2)

Fatma xxx tanning  
TC 00:05:24.810 - 00:05:25.938

Ahmet and (.) aldehyde° yeah if you- if you xxx (.) this is synthetic\_ ((writing on the  
blanks of the paper))  
TC 00:05:25.390 - 00:05:30.108

Laia mm/  
TC 00:05:27.060 - 00:05:27.565  
(13.37)

Laia what/  
TC 00:05:40.940 - 00:05:41.429  
(1.11)

Fatma syntheti- e:m  
TC 00:05:42.540 - 00:05:43.696

Ahmet synthetic  
TC 00:05:43.160 - 00:05:43.775

Laia ah sintetic\  
TC 00:05:43.780 - 00:05:44.660

Ahmet synthetic  
TC 00:05:44.660 - 00:05:45.250  
(0.05)

Fatma tanning yes-  
TC 00:05:45.300 - 00:05:46.040

Laia =vale sintetic val\  
TC 00:05:45.930 - 00:05:47.283  
(0.02)

Ahmet mh (.) and you see there e:: (.) aldehide\  
TC 00:05:47.310 - 00:05:50.117  
(0.86)

Ahmet aldehide\  
TC 00:05:50.980 - 00:05:51.690  
(2.12)

Laia but it could  
TC 00:05:53.810 - 00:05:55.246  
(0.58)

Ahmet chromium/  
TC 00:05:55.829 - 00:05:56.347  
(0.05)

Laia aha/ am:: (.) =recurtient  
TC 00:05:56.400 - 00:05:58.455

Fatma =because the-

TC 00:05:57.200 - 00:05:58.323  
(0.47)

Ahmet yes  
TC 00:05:58.801 - 00:05:59.294

Laia recurtient/ remolding/  
TC 00:05:59.070 - 00:06:00.589

Fatma recurt-  
TC 00:06:00.440 - 00:06:01.292

Ahmet yes-  
TC 00:06:00.751 - 00:06:01.181  
(0.23)

Laia recurts  
TC 00:06:01.420 - 00:06:02.034

Fatma yeah/  
TC 00:06:02.040 - 00:06:02.422

Ahmet no (.) no-  
TC 00:06:02.380 - 00:06:03.423

Laia recurtion/  
TC 00:06:02.450 - 00:06:03.432  
(0.08)

Fatma the te- for xxx  
TC 00:06:03.520 - 00:06:04.799

Ahmet no/ recurs- xxx-  
TC 00:06:03.530 - 00:06:05.357

Laia o curtein/ curtein\  
TC 00:06:04.710 - 00:06:06.207

Fatma curtein\ curtein\ yes\  
TC 00:06:05.360 - 00:06:07.030

Ahmet curtein\ yes\ yes°  
TC 00:06:05.490 - 00:06:06.885  
(1.21)

Fatma we can understand this because here is xxx from xx wood or something so/ (.) this  
vegetable tanning suited the chemical xxxxx and the tanning chrome xxxxxx yeah\  
TC 00:06:08.100 - 00:06:18.907

Ahmet yes\  
TC 00:06:12.300 - 00:06:12.811  
(6.55)

Laia mh\  
TC 00:06:19.370 - 00:06:19.868

Ahmet °tanning xxx°-  
TC 00:06:19.800 - 00:06:21.156

Fatma and formaldelyde so they are using aldehyde tanning\  
TC 00:06:20.640 - 00:06:23.541  
(0.16)

Laia aha/  
TC 00:06:23.710 - 00:06:24.403  
(0.32)

Ahmet xxxxx/=   
TC 00:06:24.730 - 00:06:25.922

Caterina do you understand Laia  
TC 00:06:25.610 - 00:06:26.690

Laia si més o menys\ so so (laughs)  
TC 00:06:26.690 - 00:06:30.071

Fatma xxx (laughs)  
TC 00:06:28.200 - 00:06:29.984  
(0.55)

Ahmet xxxx/ [repite lo mismo que antes]  
TC 00:06:30.540 - 00:06:31.554  
(2.05)

Caterina so this is a table/ yeah\ could you explain a little bit/  
TC 00:06:33.610 - 00:06:36.830

Fatma mh  
TC 00:06:36.530 - 00:06:36.988  
(0.37)

Fatma a: this- a table about tannage a:nd mh: you know vegetable tanning/  
TC 00:06:37.360 - 00:06:41.860  
(0.12)

Fatma I'm- I'm sure you know but\  
TC 00:06:41.980 - 00:06:43.360  
(0.12)

Fatma you know English/  
TC 00:06:43.480 - 00:06:44.360  
(0.14)

Fatma vegetable tanning\ =  
TC 00:06:44.500 - 00:06:45.310

Laia =sí\ sí\  
TC 00:06:45.192 - 00:06:45.920

Fatma =sí yeah o[kay\ (then to] think?) chrome\_  
TC 00:06:45.880 - 00:06:47.746

Laia [hm hm/]  
TC 00:06:46.592 - 00:06:47.211  
(0.53)

Laia =hm\  
TC 00:06:47.746 - 00:06:48.282

Fatma [oil\  
TC 00:06:48.282 - 00:06:49.092

Laia [ sí:\ sí] [sí/:]  
TC 00:06:48.312 - 00:06:49.340

Ahmet [xx]  
TC 00:06:49.064 - 00:06:49.696

Laia [aldehyd\ ok\  
TC 00:06:49.490 - 00:06:50.620

Fatma [okay a:ha:\]  
TC 00:06:49.510 - 00:06:50.655  
(0.26)

Fatma and we're making all e:h this\_  
TC 00:06:50.920 - 00:06:53.100  
(0.4)

Fatma how to kind e:h differences between the tannages\  
TC 00:06:53.500 - 00:06:56.400

Laia =okay\  
TC 00:06:56.400 - 00:06:57.030  
(0.15)

Laia vale\  
TC 00:06:57.180 - 00:06:57.620  
(0.2)

Fatma eh for example-  
TC 00:06:57.820 - 00:06:58.700

Laia differences de: process\  
TC 00:06:58.640 - 00:07:00.440

Ahmet [yes\ ]  
TC 00:07:00.340 - 00:07:00.578

Fatma [pro]cess/ yes\  
TC 00:07:00.490 - 00:07:01.370

Laia =okay\  
TC 00:07:01.380 - 00:07:01.760

Fatma =for example with vegetable tannage\  
TC 00:07:01.760 - 00:07:03.510

Laia =a:ha/  
TC 00:07:03.510 - 00:07:04.050  
(0.03)

Laia what are TIme and produce/=  
TC 00:07:04.080 - 00:07:06.217



Fatma =yes\  
TC 00:07:06.234 - 00:07:06.700  
(0.1)

Laia [a:nd ]  
TC 00:07:06.804 - 00:07:07.500

Fatma [produce\  
TC 00:07:06.804 - 00:07:07.500  
(0.25)

Fatma and [this is more xx] xx\  
TC 00:07:07.754 - 00:07:10.344

Laia [different temperature\  
TC 00:07:08.614 - 00:07:09.913  
(0.51)

Laia okay\ vale\  
TC 00:07:10.423 - 00:07:11.410  
(0.45)

Fatma a:nd\  
TC 00:07:11.860 - 00:07:12.450  
(0.43)

Fatma what's asking you what part is good: leather\  
TC 00:07:12.880 - 00:07:15.130  
(0.18)

Laia [hm:\  
TC 00:07:15.317 - 00:07:15.990

Ahmet [brown\  
TC 00:07:15.317 - 00:07:15.990  
(0.42)

Ahmet i: n vegetable tannage/ [bro:wn]\ yellow\  
TC 00:07:16.410 - 00:07:19.467

Fatma [which means xx\  
TC 00:07:17.320 - 00:07:18.537

Laia (vale/brown\?)  
TC 00:07:17.782 - 00:07:18.435  
(1.26)

Laia yeaha:/  
TC 00:07:19.700 - 00:07:20.310  
(0.06)

Laia vale\  
TC 00:07:20.377 - 00:07:20.710  
(0.1)

Laia yellow/ no:\  
TC 00:07:20.817 - 00:07:21.447  
(0.04)

Laia no:/  
TC 00:07:21.490 - 00:07:21.870  
(0.06)

Ahmet vegetable\  
TC 00:07:21.930 - 00:07:22.607  
(0.15)

Laia vegetal/  
TC 00:07:22.757 - 00:07:23.708  
(0.11)

Laia [yellow/  
TC 00:07:23.820 - 00:07:24.560

Fatma [xx/  
TC 00:07:23.820 - 00:07:24.530  
(0.18)

Laia no:\  
TC 00:07:24.718 - 00:07:25.130  
(0.12)

Laia marron/  
TC 00:07:25.258 - 00:07:25.940

Ahmet [xx]

TC 00:07:25.258 - 00:07:25.930  
(0.07)

Laia my: tsk  
TC 00:07:26.000 - 00:07:26.938  
(0.21)

Fatma [it's a:h changing with\_]  
TC 00:07:27.148 - 00:07:29.028

Ahmet [it's not quite brown\  
TC 00:07:27.148 - 00:07:29.028

Laia [brown/ brown\  
TC 00:07:29.028 - 00:07:30.330

Fatma [brown\ brown\  
TC 00:07:29.028 - 00:07:30.330

Ahmet [brown\ brown\  
TC 00:07:29.028 - 00:07:30.340  
(0.04)

Fatma [yes\  
TC 00:07:30.388 - 00:07:30.880

Laia [ però] bro:wn/ not [brown]\ hm:\_ =  
TC 00:07:30.398 - 00:07:32.878

Fatma [brown/ ] ((moving fingers))  
TC 00:07:31.718 - 00:07:32.298  
(0.57)

Ahmet =brown\  
TC 00:07:32.876 - 00:07:33.170

Laia ((to teacher)) =color cre- color crema/ com és color crema/  
TC 00:07:33.170 - 00:07:35.648  
(0.09)

Laia o color clar/  
TC 00:07:35.740 - 00:07:36.800  
(0.09)

Caterina a::h\  
TC 00:07:36.890 - 00:07:37.620  
(0.13)

Caterina [on t'és/  
TC 00:07:37.750 - 00:07:38.321

Laia [it ] depends de: the extract \  
TC 00:07:37.760 - 00:07:39.420  
(0.36)

Laia color [depend de extract\  
TC 00:07:39.780 - 00:07:41.240

Fatma [it depends of the plant\  
TC 00:07:40.100 - 00:07:41.240  
(0.07)

Fatma on the [extract\ yes\  
TC 00:07:41.310 - 00:07:42.770

Ahmet [exactly\  
TC 00:07:41.863 - 00:07:42.770  
(0.16)

Laia for example i:f if the extract is sintetic the colour is\_  
TC 00:07:42.930 - 00:07:46.400  
(0.56)

Laia m:ore intensive\  
TC 00:07:46.960 - 00:07:48.185  
(0.2)

Laia ((to teacher)) more/ no\ [more és més intensive no/]  
TC 00:07:48.390 - 00:07:50.551

Fatma [bu:t when it comes to vegetable\  
chestnut they are different colours \ [but a:l]most brown/=  
TC 00:07:49.000 - 00:07:57.220

Laia [(right\?)]  
TC 00:07:53.349 - 00:07:53.803  
(2.21)

Laia [hm hm\  
TC 00:07:56.016 - 00:07:56.443  
(0.76)

Ahmet =brown yeah\  
TC 00:07:57.210 - 00:07:57.940

Fatma =yeah\  
TC 00:07:57.950 - 00:07:58.392  
(0.51)

Fatma [dark] brown\ [light brown/  
TC 00:07:58.910 - 00:08:00.680

Ahmet [xx]  
TC 00:07:58.910 - 00:07:59.339  
(0.45)

Laia a:h okey\ sí/ sí/  
TC 00:07:59.793 - 00:07:59.803

Laia [a:nd ]  
TC 00:07:59.803 - 00:08:00.660

Ahmet [xxxx]  
TC 00:07:59.803 - 00:08:00.660  
(0.22)

Laia [ah okay\ ye:s\ ye:s\  
TC 00:08:00.888 - 00:08:02.313

Ahmet [hm: ok he:h]  
TC 00:08:00.888 - 00:08:02.313  
(0.94)

Ahmet e:h sometimes white\  
TC 00:08:03.260 - 00:08:04.681  
(0.23)

Ahmet e:h\ only product\  
TC 00:08:04.919 - 00:08:05.987  
(0.08)

Laia hm: hm\  
TC 00:08:06.072 - 00:08:06.460  
(0.21)

Ahmet [(in Turkish) xx[xxxx] ]  
TC 00:08:06.670 - 00:08:08.174

Fatma [XX [what\]]  
TC 00:08:06.690 - 00:08:08.170

Laia [a:h only a product\  
TC 00:08:07.010 - 00:08:08.180  
(0.05)

Ahmet [one\  
TC 00:08:08.230 - 00:08:08.690

Fatma [white\  
TC 00:08:08.240 - 00:08:08.795  
(0.21)

Fatma [which one/  
TC 00:08:09.010 - 00:08:09.840

Ahmet [ahm:\]  
TC 00:08:09.010 - 00:08:09.840  
(0.51)

Ahmet (in Turkish) °xxxx/°  
TC 00:08:10.350 - 00:08:11.990  
(0.81)

Fatma m: I don't know\  
TC 00:08:12.807 - 00:08:13.890  
(0.08)

Fatma I can't remember this\  
TC 00:08:13.973 - 00:08:15.580  
(0.54)

Ahmet some[times then] am- gen- in general/ brown\  
TC 00:08:16.123 - 00:08:18.570

Fatma [ok\  
TC 00:08:16.397 - 00:08:16.773  
(1.88)

Fatma mh  
TC 00:08:18.660 - 00:08:19.200  
(0.07)

Laia vale\  
TC 00:08:19.273 - 00:08:19.800

Ahmet usually brown  
TC 00:08:19.344 - 00:08:20.397

Laia br[own\  
TC 00:08:20.003 - 00:08:20.570  
(0.15)

Laia va[le\  
TC 00:08:20.723 - 00:08:21.373

Ahmet [yes\  
TC 00:08:20.873 - 00:08:21.483  
(0.32)

Laia okay\  
TC 00:08:21.803 - 00:08:22.320  
(0.53)

Laia e:hh\  
TC 00:08:22.853 - 00:08:23.343

Ahmet what is the leather used for/  
TC 00:08:23.343 - 00:08:25.333  
(0.18)

Ahmet for shoes\  
TC 00:08:25.513 - 00:08:26.393

Fatma for shoes [and down\  
TC 00:08:26.393 - 00:08:28.295

Ahmet down down shoes\  
TC 00:08:27.040 - 00:08:28.329  
(0.28)

Laia [okay\ si\  
TC 00:08:28.610 - 00:08:29.170

Fatma [(to teacher) [ah:m] [what can we say for shoes [this\  
TC 00:08:28.610 - 00:08:31.730

Laia [a:hm\ sola\ [[this\  
TC 00:08:29.270 - 00:08:31.660  
(touching her shoe sole)

Caterina [sole\  
TC 00:08:31.300 - 00:08:32.861  
sole\  
Fatma 00:08:32.861 - 00:08:33.230  
TC

Laia sole\  
TC 00:08:33.220 - 00:08:33.641

Ahmet [beg\  
TC 00:08:33.660 - 00:08:34.600

Fatma [sole\  
TC 00:08:33.681 - 00:08:34.681  
yes\  
Fatma

Laia a:[nd\  
TC 00:08:34.681 - 00:08:35.300

Ahmet [bag\ ((+beg+))]  
TC 00:08:34.891 - 00:08:35.340  
(0.4)

Laia ba:g/ ba:g/ ((+beg+))  
TC 00:08:35.741 - 00:08:37.241  
(0.12)

Ahmet Çanta sapi\  
TC 00:08:37.370 - 00:08:38.400  
(bag holder)  
(0.13)

Laia marroquine- a:h/ bag\  
TC 00:08:38.531 - 00:08:39.471

Fatma b[ag\  
TC 00:08:39.471 - 00:08:39.818

Ahmet [bag\  
TC 00:08:39.591 - 00:08:39.831

Laia the [bag\ vale\  
TC 00:08:39.721 - 00:08:41.268

Fatma [holder\  
TC 00:08:39.930 - 00:08:40.620  
(0.22)

Ahmet [XX]  
TC 00:08:40.848 - 00:08:41.280  
(0.05)

Fatma for [holding\  
TC 00:08:41.330 - 00:08:42.190

Laia [aha:/]  
TC 00:08:41.698 - 00:08:42.688  
(0.1)

Laia (to teacher) marroquineria/  
TC 00:08:42.790 - 00:08:44.150  
(0.09)

Laia amb ang[lès/  
TC 00:08:44.240 - 00:08:44.940

Caterina fancy goods\  
TC 00:08:44.785 - 00:08:45.565  
(0.14)

Laia fancy goods\  
TC 00:08:45.705 - 00:08:46.720  
(0.44)

Laia fancy goods/  
TC 00:08:47.165 - 00:08:48.040  
(0.13)

Laia [in general\  
TC 00:08:48.175 - 00:08:49.045

Fatma [°fancy goods°\  
TC 00:08:48.175 - 00:08:49.045

Caterina fancy goods\  
TC 00:08:49.045 - 00:08:49.820  
(0.02)

Fatma a:h\  
TC 00:08:49.844 - 00:08:50.114  
(0.06)

Ahmet °fancy [goods°\  
TC 00:08:50.180 - 00:08:50.840

Laia [fancy] goods a:nd  
TC 00:08:50.560 - 00:08:51.680  
(0.42)

Laia and sola de sabata o: [(laughs)]  
TC 00:08:52.100 - 00:08:54.344

Caterina [soles\ ] soles\  
TC 00:08:53.544 - 00:08:54.724

Fatma °s[oles°\  
TC 00:08:54.454 - 00:08:55.084

Laia [soles] és [ah\  
TC 00:08:54.724 - 00:08:55.515

Ahmet [sola\  
TC 00:08:55.084 - 00:08:55.734  
(0.52)

Ahmet (in Turkish) xxxxxx/  
TC 00:08:56.260 - 00:08:57.370  
(0.26)

Fatma hm:/  
TC 00:08:57.630 - 00:08:58.140

(0.31)

Ahmet TC fancy/  
00:08:58.450 - 00:08:59.100  
(0.34)

Fatma TC yes\  
00:08:59.440 - 00:09:00.080  
(0.85)

Ahmet TC (writing) fancy:/ goods\  
00:09:00.930 - 00:09:02.140

Laia TC =hm hm\  
00:09:02.130 - 00:09:02.700

Fatma TC =goods\ (nodding)  
00:09:02.700 - 00:09:03.400  
(0.18)

Fatma TC (in Turkish) xxxx  
00:09:03.584 - 00:09:05.174  
(1.9)

Laia TC vale\  
00:09:07.074 - 00:09:07.434  
(0.1)

Laia TC time\ no/  
00:09:07.540 - 00:09:08.540  
(0.21)

Laia TC o:rr/  
00:09:08.757 - 00:09:09.164

Ahmet TC sí\  
00:09:09.164 - 00:09:09.684  
(0.53)

Ahmet TC e:h\ yes\  
00:09:10.214 - 00:09:11.360

Laia TC [is time/]  
00:09:11.360 - 00:09:11.951

Ahmet TC [some\] time\ [xxx]  
00:09:11.360 - 00:09:13.370

Laia TC [sí]  
00:09:12.280 - 00:09:12.745  
(1.0)

Ahmet TC time xxx  
00:09:13.745 - 00:09:14.415

Laia TC is:: more time\ m::  
00:09:13.860 - 00:09:15.860

Ahmet TC six- sixty hours-  
00:09:15.865 - 00:09:17.902

Fatma TC [I think] it's per cent \  
00:09:16.475 - 00:09:18.260  
(0.2)

Laia TC o:h/ a:h\ per cent  
00:09:18.465 - 00:09:19.860  
(0.16)

Laia TC a:[h\  
00:09:20.025 - 00:09:21.045

Fatma TC [one] or three:/=  
00:09:20.280 - 00:09:21.630

Laia TC =sí:\ sí\  
00:09:21.630 - 00:09:22.500

Fatma TC for example\ (pointing with finger)  
00:09:22.500 - 00:09:23.520  
(0.05)

Laia TC sí\  
00:09:23.570 - 00:09:23.990

Ahmet TC [for example/  
00:09:23.870 - 00:09:24.390

Laia [is mo:re] percent/  
TC 00:09:24.360 - 00:09:25.480  
(0.29)

Fatma yes\  
TC 00:09:25.770 - 00:09:26.650

Laia also\  
TC 00:09:26.600 - 00:09:27.310  
(0.41)

Fatma burda/ bir buçuk koyuyoruz burda altı koyuyoruz/ burda kaçlık koyuyoruz\  
TC 00:09:27.720 - 00:09:33.190

Laia [a:hm\  
TC 00:09:27.730 - 00:09:28.630  
(4.56)

Ahmet Bir buçuk altı\_ altı oniki\_ XXX\  
TC 00:09:33.190 - 00:09:38.170  
(1.0)

Laia hm://  
TC 00:09:39.170 - 00:09:39.304  
(1.23)

Fatma a: sei- he is saying that  
TC 00:09:40.540 - 00:09:42.028  
(0.65)

Fatma maybe\_  
TC 00:09:42.680 - 00:09:43.127  
(0.28)

Fatma e:: it's hour and day\_  
TC 00:09:43.410 - 00:09:45.946

Ahmet [writing\_  
TC 00:09:43.950 - 00:09:44.655  
(1.66)

Fatma but I'm not sure it`s the percent\  
TC 00:09:46.320 - 00:09:48.890

Laia [I think is the://  
TC 00:09:46.990 - 00:09:48.750

Ahmet what you think/  
TC 00:09:48.760 - 00:09:49.430

Laia no:/ this is more\ no: tant per cent\  
TC 00:09:49.430 - 00:09:52.400  
(0.21)

Laia is more\ no/  
TC 00:09:52.610 - 00:09:53.520  
(0.18)

Ahmet this is twenty\  
TC 00:09:53.700 - 00:09:55.070

Laia twenty a:nd/  
TC 00:09:54.060 - 00:09:55.060  
(0.65)

Ahmet xxxx means time\  
TC 00:09:55.710 - 00:09:57.260

Laia time no\  
TC 00:09:57.260 - 00:09:57.920  
(0.16)

Laia [no\ no\  
TC 00:09:58.080 - 00:09:59.410

Fatma time [no]  
TC 00:09:58.090 - 00:09:58.832  
(0.67)

Fatma co- can-  
TC 00:09:59.510 - 00:10:00.139  
(0.36)

Laia twenty hours/  
TC 00:10:00.500 - 00:10:01.490  
(0.14)

Laia no:/ no\ no\ no\  
TC 00:10:01.630 - 00:10:02.830

Fatma [is impossible/ yes\  
TC 00:10:02.160 - 00:10:03.713

Laia yes\  
TC 00:10:03.360 - 00:10:03.850  
(0.1)

Laia is impossible\  
TC 00:10:03.950 - 00:10:04.700  
(0.1)

Laia a::hm\  
TC 00:10:04.800 - 00:10:05.690  
(1.32)

Laia tant per cent \ (laughs)  
TC 00:10:07.010 - 00:10:07.770  
(0.66)

Fatma [ten per cent\  
TC 00:10:08.430 - 00:10:09.124

Laia ten per cent\  
TC 00:10:09.050 - 00:10:09.730  
(0.18)

Laia sí\  
TC 00:10:09.910 - 00:10:10.300

Ahmet [ten per cent\  
TC 00:10:10.150 - 00:10:10.840  
(1.8)

Laia a::/  
TC 00:10:12.645 - 00:10:13.313  
(1.25)

Laia ten/  
TC 00:10:14.570 - 00:10:15.045  
(1.1)

Laia these/  
TC 00:10:16.150 - 00:10:16.882  
(0.26)

Laia m: po- am::/  
TC 00:10:17.150 - 00:10:18.889  
(1.17)

Fatma twen[ty] per cent/  
TC 00:10:20.060 - 00:10:21.592

Ahmet [twenty]  
TC 00:10:20.360 - 00:10:20.985  
(0.22)

Laia [twe-]  
TC 00:10:21.210 - 00:10:21.515  
(0.17)

Ahmet twenty/  
TC 00:10:21.690 - 00:10:22.271  
(0.83)

Ahmet twenty/ for  
TC 00:10:23.110 - 00:10:24.040  
(0.64)

Laia this aroun::d  
TC 00:10:24.680 - 00:10:25.775  
(0.32)

Laia ten\ and this (.) twenty a- a::\_  
TC 00:10:26.100 - 00:10:29.218  
(1.25)

Laia °m:/ fifty°  
TC 00:10:30.470 - 00:10:32.044  
(0.44)

Laia is more\ no/ in comparison with this/  
TC 00:10:32.490 - 00:10:34.159  
(0.97)



Ahmet °vegetable°  
TC 00:10:35.129 - 00:10:35.997  
(0.78)

Ahmet (en turc) xxxx xxx/  
TC 00:10:36.780 - 00:10:38.206  
(0.54)

Fatma what/  
TC 00:10:38.753 - 00:10:39.300  
(0.88)

Ahmet this is (.) ten per cent for vegetable\_  
TC 00:10:40.180 - 00:10:42.090

Fatma =yes  
TC 00:10:42.100 - 00:10:42.561

Ahmet and twenty per cent something/  
TC 00:10:42.481 - 00:10:44.554

Laia xxx/  
TC 00:10:44.040 - 00:10:44.480  
(0.32)

Laia there  
TC 00:10:44.801 - 00:10:45.230  
(0.11)

Ahmet is normal/  
TC 00:10:45.340 - 00:10:45.868  
(1.06)

Laia this is synthetic\ no/  
TC 00:10:46.930 - 00:10:48.470

Ahmet =synthetic yes\  
TC 00:10:48.010 - 00:10:49.178

Fatma si\  
TC 00:10:48.530 - 00:10:49.008  
(1.1)

Laia synthetic/ vegetable\  
TC 00:10:50.110 - 00:10:51.450  
(0.37)

Fatma no\ just synthetic (.) here\  
TC 00:10:51.822 - 00:10:53.931

Ahmet [ synthetic xx] tann  
TC 00:10:52.682 - 00:10:53.910  
(0.05)

Laia synthetic tanning\  
TC 00:10:53.960 - 00:10:54.933

Ahmet [chemical]  
TC 00:10:54.350 - 00:10:54.905

Fatma [tanning]  
TC 00:10:54.360 - 00:10:54.915  
(0.53)

Ahmet tanning  
TC 00:10:55.450 - 00:10:55.882

Laia sysnthetic chemical is t- (.) m:::/  
TC 00:10:55.880 - 00:10:58.170

Fatma yeah (.) e: is (.) just synthetic tannage\  
TC 00:10:57.620 - 00:11:00.345  
(0.19)

Laia yeah\  
TC 00:11:00.540 - 00:11:00.965  
(0.7)

Fatma but I think  
TC 00:11:01.672 - 00:11:02.569  
(0.16)

Fatma is not  
TC 00:11:02.729 - 00:11:03.407  
(0.04)

Ahmet from: /  
TC 00:11:03.450 - 00:11:04.126  
(3.66)

Fatma °xxx° ((corregint el que escriu Laia))  
TC 00:11:07.790 - 00:11:08.744  
(1.05)

Fatma aide of tannage\  
TC 00:11:09.800 - 00:11:10.876  
(0.69)

Laia Caterina tu saps quin és aquest d'aqui/  
TC 00:11:11.570 - 00:11:13.471  
(1.6)

Laia aquest d'aqui esta/- que es aixó\ °aquest d'aqui/  
TC 00:11:15.080 - 00:11:17.299

Caterina synthetic tannage\  
TC 00:11:17.299 - 00:11:18.458  
(0.99)

Caterina synthetic\  
TC 00:11:19.450 - 00:11:20.079  
(0.3)

Laia synthetic/  
TC 00:11:20.380 - 00:11:21.144  
(0.02)

Caterina yes\  
TC 00:11:21.170 - 00:11:21.625  
(0.07)

Laia amb product si- m: sintetic/ vols dir:\_  
TC 00:11:21.700 - 00:11:24.559  
(0.3)

Laia es refereix a:\_  
TC 00:11:24.860 - 00:11:26.088  
(2.19)

Laia ai\  
TC 00:11:28.280 - 00:11:28.749  
(0.48)

Caterina synthetic\  
TC 00:11:29.230 - 00:11:29.873  
(0.41)

Caterina synthetic chemicals\  
TC 00:11:30.290 - 00:11:31.287  
(0.06)

Caterina productes quimics sintetics\  
TC 00:11:31.350 - 00:11:32.579  
(0.37)

Laia si\  
TC 00:11:32.950 - 00:11:33.392  
(0.59)

Caterina yeah/  
TC 00:11:33.990 - 00:11:34.411  
(0.55)

Laia m::-  
TC 00:11:34.970 - 00:11:35.560

Caterina and this is for specialized\ is to get\_  
TC 00:11:35.540 - 00:11:37.933  
(0.96)

Caterina white leathers\  
TC 00:11:38.900 - 00:11:39.594  
(0.31)

Laia =ya\  
TC 00:11:39.910 - 00:11:40.388

Caterina usually\  
TC 00:11:39.920 - 00:11:40.844  
(0.16)

Caterina very specialized\  
TC 00:11:41.004 - 00:11:42.311

Laia =ja\  
TC 00:11:41.910 - 00:11:42.505  
(0.37)

Caterina okay/  
TC 00:11:42.880 - 00:11:43.592

Laia a- m- but I don't understand that\_  
TC 00:11:43.320 - 00:11:45.328  
(0.68)

Laia a:m:  
TC 00:11:46.010 - 00:11:46.547  
(1.94)

Laia m:::  
TC 00:11:48.490 - 00:11:49.066  
(0.4)

Laia per què- why/ (.) these are twenty (.) a::\_  
TC 00:11:49.466 - 00:11:52.832

Fatma why  
TC 00:11:50.680 - 00:11:51.470  
(1.53)

Caterina from twenty to forty\  
TC 00:11:53.009 - 00:11:54.349  
(0.25)

Laia is MOre per cent\  
TC 00:11:54.600 - 00:11:55.700  
(0.22)

Fatma =yes for more  
TC 00:11:55.928 - 00:11:57.171

Caterina this is a percentage/  
TC 00:11:55.931 - 00:11:57.469  
(0.57)

Fatma a- we though that but we ca- we couldn't be sure that\  
TC 00:11:58.041 - 00:12:01.321

Ahmet [I think it`s (.) time/]  
TC 00:11:58.293 - 00:12:00.678  
(1.12)

Caterina okay\ this is the percentage/\_  
TC 00:12:01.801 - 00:12:03.781  
(0.64)

Caterina of/  
TC 00:12:04.421 - 00:12:04.812

Laia =és que- considero que (.) hi ha- aqui hi ha un tant per cent molt elevat de- de  
producte xxx-  
TC 00:12:04.820 - 00:12:08.553

Caterina product\ yeah\_  
TC 00:12:08.040 - 00:12:09.339

Laia en canvi\_  
TC 00:12:08.733 - 00:12:09.466  
(0.3)

Laia saps i que un deu/ jo que sé vull dir que aqui un deu\_  
TC 00:12:09.773 - 00:12:12.232  
(0.41)

Laia per cent\_  
TC 00:12:12.643 - 00:12:13.202  
(0.61)

Laia ho considero poc en comparació amb aquest saps es- [es- es- es- xxxx]  
TC 00:12:13.813 - 00:12:18.306

Caterina its not possible\ yeah [xxx] is not much\ let me check from the original/\_  
TC 00:12:15.260 - 00:12:20.314

Fatma [yes xxxxx]  
TC 00:12:16.280 - 00:12:19.573  
(2.48)

Caterina okay yeah\ this is  
TC 00:12:22.060 - 00:12:23.177

(0.38)

Caterina what/ what were you saying that this was/  
TC 00:12:23.560 - 00:12:25.590  
(0.15)

Laia a/ more\ more\  
TC 00:12:25.743 - 00:12:27.000

Caterina you think this is more\  
TC 00:12:27.000 - 00:12:28.230  
(0.28)

Caterina you are right\  
TC 00:12:28.510 - 00:12:29.119  
(0.1)

Laia °si°  
TC 00:12:29.220 - 00:12:29.460

Caterina yeah: this should be more-  
TC 00:12:29.460 - 00:12:30.600

Fatma [ist- should-] it should be near/  
TC 00:12:30.020 - 00:12:32.111  
(0.13)

Fatma like this/  
TC 00:12:32.250 - 00:12:32.945  
(0.24)

Caterina this is/  
TC 00:12:33.185 - 00:12:33.662  
(0.2)

Caterina Im gonna tell you what this is\  
TC 00:12:33.870 - 00:12:35.147  
(0.36)

Caterina how much is added/  
TC 00:12:35.507 - 00:12:37.168  
(0.28)

Caterina to the leather/ as a percentage\  
TC 00:12:37.450 - 00:12:39.224  
(0.36)

Caterina and- yeah\ and this is  
TC 00:12:39.584 - 00:12:41.170

Fatma [percentage]  
TC 00:12:39.719 - 00:12:40.390  
(1.38)

Caterina twenty fifty\  
TC 00:12:41.779 - 00:12:42.597

Fatma =twenty to fifty\  
TC 00:12:42.600 - 00:12:43.721

Caterina °twenty fifty° in vegetable tannage\  
TC 00:12:43.721 - 00:12:45.521  
(0.54)

Caterina okay/  
TC 00:12:46.069 - 00:12:46.498  
(0.44)

Caterina and chromium tannage will be six twelve  
TC 00:12:46.939 - 00:12:49.170

Fatma yeah  
TC 00:12:48.420 - 00:12:48.677  
(0.54)

Caterina yeah/ what about oil tannage/  
TC 00:12:49.220 - 00:12:50.916  
(0.33)

Laia [a little-] little bit  
TC 00:12:51.253 - 00:12:52.648

Caterina [any ideas/  
TC 00:12:51.257 - 00:12:52.117  
(0.55)

Fatma =a little/

TC 00:12:52.667 - 00:12:53.366  
(0.08)

Fatma [xxxx]  
TC 00:12:53.447 - 00:12:54.762

Caterina little/ are you sure/  
TC 00:12:53.447 - 00:12:54.762  
(0.06)

Laia a little: thi- em::  
TC 00:12:54.823 - 00:12:56.761  
(0.58)

Laia toguether\ ai toguether no: no: n::\_  
TC 00:12:57.343 - 00:12:59.500

Caterina similar/  
TC 00:12:59.380 - 00:12:59.959  
(0.19)

Laia similar\_ com [es diu entre mig/] in the middle\((fa picar de dits/makes noise with  
her fingers))  
TC 00:13:00.153 - 00:13:02.946

Ahmet (en turc) [xxxxx]  
TC 00:13:00.542 - 00:13:01.945  
(0.68)

Caterina in between  
TC 00:13:02.630 - 00:13:03.468  
(0.12)

Laia between\  
TC 00:13:03.593 - 00:13:04.103  
(0.15)

Laia this two°  
TC 00:13:04.253 - 00:13:04.988  
(0.63)

Ahmet thirty/  
TC 00:13:05.625 - 00:13:06.157  
(0.81)

Ahmet °maybe°  
TC 00:13:06.970 - 00:13:07.440  
(0.39)

Fatma because we ar- [normally] [we aren't using] this percentage [of this] [xxx] but is  
so much\  
TC 00:13:07.835 - 00:13:13.858

Caterina think so/  
TC 00:13:08.468 - 00:13:08.980  
(0.19)

Ahmet [thirty]  
TC 00:13:09.175 - 00:13:10.045  
(0.95)

Caterina m::  
TC 00:13:10.995 - 00:13:11.582  
(0.33)

Caterina m::  
TC 00:13:11.915 - 00:13:12.347  
(1.66)

Caterina m::  
TC 00:13:14.015 - 00:13:14.445  
(0.25)

Fatma and  
TC 00:13:14.695 - 00:13:15.034  
(0.24)

Fatma [the oil]  
TC 00:13:15.274 - 00:13:15.946

Ahmet [xxx]  
TC 00:13:15.274 - 00:13:15.946

Caterina [maybe this is\_  
TC 00:13:15.280 - 00:13:16.180  
(1.7)

Ahmet twenty for xxx/  
TC 00:13:17.880 - 00:13:19.038  
(0.7)

Caterina Im going to tell you what  
TC 00:13:19.740 - 00:13:21.199  
(0.27)

Caterina a:::  
TC 00:13:21.474 - 00:13:22.204  
(0.24)

Caterina the expert people say\  
TC 00:13:22.444 - 00:13:23.656  
(0.08)

Caterina they say its forty fifty\  
TC 00:13:23.736 - 00:13:25.417  
(0.23)

Caterina so its quite a lot  
TC 00:13:25.654 - 00:13:26.765

Fatma [x]xxx ((apparently in turkish, to Ahmet))  
TC 00:13:25.894 - 00:13:28.187

Laia and [the middle\  
TC 00:13:27.423 - 00:13:28.524

Ahmet [xxxx]  
TC 00:13:27.435 - 00:13:28.307

Caterina maybe assert [xxxxx] to know\_  
TC 00:13:27.765 - 00:13:30.351

Laia [fourty fifty/  
TC 00:13:28.973 - 00:13:30.004  
(0.17)

Fatma [xxx/  
TC 00:13:30.175 - 00:13:30.952

Ahmet [yeah\  
TC 00:13:30.175 - 00:13:30.639  
(0.31)

Caterina yeah\  
TC 00:13:30.952 - 00:13:31.340

Fatma =oil\  
TC 00:13:31.320 - 00:13:31.680  
(0.66)

Laia is more\  
TC 00:13:32.343 - 00:13:33.192  
(0.02)

Fatma yeah is: is some[thing else]  
TC 00:13:33.220 - 00:13:34.840

Laia [I think\  
TC 00:13:34.250 - 00:13:34.992  
(0.12)

Caterina maybe we can be critical with this\ ah/ maybe we have to be critical with this\  
TC 00:13:35.121 - 00:13:39.743

Fatma =I think the same\  
TC 00:13:35.141 - 00:13:36.376  
(0.83)

Laia [okay\  
TC 00:13:37.211 - 00:13:37.671  
(0.41)

Laia [si\  
TC 00:13:38.081 - 00:13:38.615  
(1.21)

Laia =°xxxxxx\  
TC 00:13:39.833 - 00:13:41.396

Caterina okay/ yeah\ write it someho:w but\_  
TC 00:13:39.833 - 00:13:42.001

Laia =okay\  
TC 00:13:42.011 - 00:13:42.683

(1.08)

Ahmet °xxxxxxx\° (in turkish)  
TC 00:13:43.771 - 00:13:45.237

Fatma =xxxx/ in turkish)  
TC 00:13:45.231 - 00:13:46.400  
(0.22)

Laia what/ other\  
TC 00:13:46.620 - 00:13:47.810  
(9.56)

Ahmet °xxx/ xxxxx\°  
TC 00:13:57.371 - 00:13:59.463  
(1.22)

Fatma =a/  
TC 00:14:00.691 - 00:14:01.121

Ahmet =°xxxxx/ increase xxxx°  
TC 00:14:00.691 - 00:14:06.970  
(0.52)

Fatma tsk ((noise with her mouth))  
TC 00:14:07.491 - 00:14:08.018  
(0.98)

Fatma °xxxx xxx\° ((in turkish))  
TC 00:14:09.001 - 00:14:10.331  
(1.79)

Laia nedemek/  
TC 00:14:12.130 - 00:14:12.869  
(0.41)

Fatma is: o::  
TC 00:14:13.281 - 00:14:14.522

Laia =nedemek is/\_  
TC 00:14:14.510 - 00:14:15.699  
(0.07)

Laia ((laughs))  
TC 00:14:15.771 - 00:14:16.809

Fatma what d- how did you learn that\_  
TC 00:14:16.271 - 00:14:19.121

Laia ((laughs))  
TC 00:14:17.041 - 00:14:18.197  
(0.26)

Laia oi que és similar a (..) I don't understand o (..) what\ no/  
TC 00:14:18.460 - 00:14:22.386  
(0.09)

Laia nedemek is what/ a:\  
TC 00:14:22.480 - 00:14:24.090

Ahmet yeah xx\  
TC 00:14:22.920 - 00:14:23.667

Fatma [yes\  
TC 00:14:23.670 - 00:14:24.313  
(0.2)

Laia =that ((laughs))  
TC 00:14:24.520 - 00:14:26.229

Fatma =oa: go:od  
TC 00:14:24.520 - 00:14:25.821  
(0.73)

Fatma e:: Caterina/ uptake means/  
TC 00:14:26.560 - 00:14:28.805  
(0.33)

Caterina absorption\  
TC 00:14:29.140 - 00:14:29.930  
(0.02)

Fatma =absortion\  
TC 00:14:29.956 - 00:14:30.888  
(0.03)

Laia up-

TC 00:14:30.920 - 00:14:31.354

Caterina yeah/  
TC 00:14:31.304 - 00:14:31.741  
(0.36)

Caterina what is absorbed\  
TC 00:14:32.109 - 00:14:33.306  
(0.06)

Caterina in percentage\_  
TC 00:14:33.370 - 00:14:34.660

Laia [this/]  
TC 00:14:33.700 - 00:14:34.182  
(0.46)

Ahmet =increase\  
TC 00:14:34.650 - 00:14:35.410

Laia increase/  
TC 00:14:35.330 - 00:14:35.847

Caterina that is absorbed\ increase means\_  
TC 00:14:35.460 - 00:14:37.540

Laia [nedemek] ((laughs))  
TC 00:14:36.500 - 00:14:38.626

Ahmet xxxxxxx ((laughing))  
TC 00:14:38.120 - 00:14:39.571

Fatma increase/ is meaning\_(makes a 'growing' gesture with hands)  
TC 00:14:39.180 - 00:14:40.631

Ahmet ((make a "growing" gesture with hands))  
TC 00:14:39.610 - 00:14:40.570  
(0.06)

Laia =augment/ val\ okay\  
TC 00:14:40.630 - 00:14:42.348

Fatma [is going up\  
TC 00:14:41.320 - 00:14:42.309  
(0.79)

Fatma is higher  
TC 00:14:43.100 - 00:14:43.844  
(0.24)

Fatma growth\  
TC 00:14:44.090 - 00:14:44.707  
(1.15)

Laia vale\  
TC 00:14:45.860 - 00:14:46.283  
(0.39)

Ahmet °xxxx/° ((reading next question))  
TC 00:14:46.680 - 00:14:47.719  
(0.26)

Fatma °more as increasing uptake\ more as increasing uptake/  
TC 00:14:47.984 - 00:14:51.694

Laia aha  
TC 00:14:48.214 - 00:14:48.746  
(0.18)

Ahmet [xxx]  
TC 00:14:48.934 - 00:14:49.558  
(2.11)

Ahmet °okay°  
TC 00:14:51.676 - 00:14:52.494  
(0.36)

Ahmet °xxxxxxxxx° (reading from the worksheet for the group)  
TC 00:14:52.854 - 00:14:58.916  
(0.54)

Caterina yeah\_  
TC 00:14:59.460 - 00:15:00.111  
(0.38)

Caterina do you understand the question/ whats the effect of the acidity of the skins on the  
Uptake of the tanning material/



TC 00:15:00.494 - 00:15:07.026

Ahmet yes\  
TC 00:15:02.844 - 00:15:03.190  
(3.83)

Fatma mh\  
TC 00:15:07.024 - 00:15:07.440

Caterina with vegetable tannage more acidity/ more uptake\  
TC 00:15:07.444 - 00:15:10.569

Ahmet [xxx]  
TC 00:15:10.034 - 00:15:10.581  
(0.13)

Laia mh/  
TC 00:15:10.714 - 00:15:11.154

Fatma mh/  
TC 00:15:10.714 - 00:15:11.154

Caterina synthetic the same\  
TC 00:15:11.154 - 00:15:12.300  
(0.38)

Ahmet °xxx°  
TC 00:15:12.680 - 00:15:13.190

Caterina but with chrome/  
TC 00:15:13.026 - 00:15:14.143  
(1.61)

Caterina what happens with chrome\  
TC 00:15:15.754 - 00:15:17.035

Laia [am/] flexible\  
TC 00:15:16.390 - 00:15:17.704  
(0.09)

Ahmet [flexible] this is xxx\  
TC 00:15:17.800 - 00:15:19.445

Fatma [flexible/]  
TC 00:15:17.810 - 00:15:18.606  
(0.84)

Laia =no/  
TC 00:15:19.450 - 00:15:19.793

Ahmet not more asi- (.) [flexible\  
TC 00:15:19.800 - 00:15:21.869

Fatma [more flexible/] more flexible/  
TC 00:15:20.900 - 00:15:22.583

Laia flexible and:\_  
TC 00:15:22.580 - 00:15:23.894  
(0.57)

Caterina you want acidity/ or not\ with chromium/  
TC 00:15:24.470 - 00:15:27.095  
(0.08)

Laia more temperature [more contraccion/]  
TC 00:15:27.175 - 00:15:29.052

Fatma [normal\ not acidity\_]   
TC 00:15:28.061 - 00:15:29.675  
(0.03)

Laia [yeah\  
TC 00:15:29.710 - 00:15:30.294

Caterina because- less-  
TC 00:15:29.720 - 00:15:30.693

Fatma =less\  
TC 00:15:30.702 - 00:15:31.094

Caterina less acidity  
TC 00:15:31.105 - 00:15:32.223

Fatma less acidity yes\ because ph have to be\_  
TC 00:15:32.050 - 00:15:34.650  
(0.4)

Fatma five\  
TC 00:15:35.050 - 00:15:35.500  
(0.52)

Caterina n: na::  
TC 00:15:36.020 - 00:15:36.775

Fatma than less acidity  
TC 00:15:36.081 - 00:15:37.468  
(0.34)

Laia less/  
TC 00:15:37.811 - 00:15:38.202  
(0.56)

Fatma yes  
TC 00:15:38.771 - 00:15:39.091

Laia less  
TC 00:15:39.091 - 00:15:39.487  
(0.81)

Fatma in chrome tannage have [to xxx- ]  
TC 00:15:40.301 - 00:15:42.605

Caterina [you dont want a lot of] acidity/ in chromium tannage/ right/  
TC 00:15:41.701 - 00:15:45.145  
(0.02)

Fatma not so much\  
TC 00:15:45.165 - 00:15:46.345

Caterina Laia/  
TC 00:15:45.650 - 00:15:46.143  
(0.59)

Laia nedemek/ (laughs)  
TC 00:15:46.741 - 00:15:48.394

Fatma nedemek it means in turkish what does it mean\ nedemek\_  
TC 00:15:48.394 - 00:15:51.774

Laia (laughs)  
TC 00:15:50.850 - 00:15:53.950

Caterina nedemek/ [laughs] I love that [xxx\  
TC 00:15:51.630 - 00:15:54.156

Fatma yeah [it's- she's] learning turkish\ good\ (laughs)  
TC 00:15:52.420 - 00:15:55.583

Laia (laughs)  
TC 00:15:55.440 - 00:15:59.348

Caterina nedemek/  
TC 00:15:56.360 - 00:15:57.878  
(1.61)

Laia (laughs)  
TC 00:15:59.490 - 00:16:01.432

Fatma (laughs)  
TC 00:15:59.490 - 00:16:01.432

Caterina so expl- can you explain her/ Fatma/  
TC 00:16:01.190 - 00:16:04.146  
(0.18)

Fatma which one em:  
TC 00:16:04.330 - 00:16:05.139  
(0.03)

Ahmet =the xxx absor- ofs absortion\  
TC 00:16:05.170 - 00:16:07.565  
(0.53)

Ahmet xx/  
TC 00:16:08.100 - 00:16:08.584  
(0.21)

Ahmet xxxxxxxx  
TC 00:16:08.800 - 00:16:10.921  
(0.62)

Ahmet e::/  
TC 00:16:11.550 - 00:16:12.099  
(0.72)

Ahmet TC xxxx\ only absortion\_ absortion\  
00:16:12.820 - 00:16:16.007  
(0.98)

Fatma TC and I think in the chrome tannage\_  
00:16:16.990 - 00:16:18.860  
(0.53)

Fatma TC [e::h] ph had to be four or five\_  
00:16:19.390 - 00:16:23.120

Ahmet TC [we use more acid]  
00:16:19.780 - 00:16:21.047  
(2.18)

Laia TC hm: /  
00:16:23.228 - 00:16:23.650  
(0.13)

Fatma TC so\  
00:16:23.780 - 00:16:24.160  
(0.82)

Fatma TC you need to- e: get less acidity\ not so much acidity\  
00:16:24.980 - 00:16:28.500  
(0.64)

Laia TC ((laughs)) acidi/  
00:16:29.140 - 00:16:30.270  
(0.53)

Fatma TC less- less acidity\ not-  
00:16:30.800 - 00:16:32.219  
(0.46)

Laia TC vale\ a little effect\ am: a- cidity\_  
00:16:32.680 - 00:16:35.880  
(0.28)

Laia TC °increase-°  
00:16:36.160 - 00:16:36.660

Ahmet TC =°uptake\  
00:16:36.660 - 00:16:37.531  
(3.0)

Laia TC obse- [uptake is si- similar absorvation/]  
00:16:40.531 - 00:16:43.300

Ahmet TC [absor-absorvation\  
00:16:41.331 - 00:16:42.840

Fatma TC [absorvation\ yes something you\_] ((makes gestures with hands))  
00:16:42.720 - 00:16:44.440

Ahmet TC [yes\  
00:16:43.120 - 00:16:43.641  
(0.02)

Laia TC [a:h] okay\ val\  
00:16:43.670 - 00:16:45.190

Ahmet TC [yes yes\  
00:16:43.711 - 00:16:44.621  
(0.73)

Fatma TC xxxxxx [observation\] ((making lots of gestures))  
00:16:45.351 - 00:16:48.201

Laia TC ((laughs))  
00:16:45.900 - 00:16:47.399  
(0.05)

Laia TC [vale\  
00:16:47.451 - 00:16:48.201  
(0.33)

Laia TC a:m: [chrome tanning]/  
00:16:48.540 - 00:16:50.645

Fatma TC [xxx xxx\  
00:16:49.440 - 00:16:50.640  
(0.07)

Laia TC hm:  
00:16:50.719 - 00:16:51.319

Ahmet TC less acidit-  
00:16:50.970 - 00:16:51.810  
(0.28)

Ahmet TC acity/  
00:16:52.090 - 00:16:52.790  
(0.87)

Laia TC less/  
00:16:53.660 - 00:16:54.180  
(0.08)

Ahmet TC [less\ yes\  
00:16:54.269 - 00:16:55.230

Fatma TC [less\] (nodding)  
00:16:54.499 - 00:16:55.319  
(0.06)

Ahmet TC because the [chrome/  
00:16:55.380 - 00:16:56.770

Laia TC [more] absorvence\ no/ ((checking with Fatma))  
00:16:56.149 - 00:16:57.740  
(0.13)

Fatma TC yes\  
00:16:57.870 - 00:16:58.267  
(0.23)

Laia TC is more ab[sorvence/  
00:16:58.500 - 00:16:59.492

Fatma TC [yes\  
00:16:59.142 - 00:16:59.679  
(0.36)

Fatma TC if less acidity/  
00:17:00.039 - 00:17:01.429

Laia TC =hm hm\  
00:17:01.429 - 00:17:01.929

Fatma TC =it's good absorvati[on\  
00:17:01.929 - 00:17:03.469

Laia TC [o:]okay\ val\  
00:17:03.239 - 00:17:04.240

Ahmet TC [because at f- [four]  
00:17:03.990 - 00:17:05.770

Laia TC [vale\  
00:17:04.870 - 00:17:05.510  
(0.47)

Laia TC hm  
00:17:05.980 - 00:17:06.440  
(0.29)

Ahmet TC m: chrome tan[nage\  
00:17:06.730 - 00:17:08.110

Laia TC [a/] aha\ tant per cent\  
00:17:08.020 - 00:17:09.484  
(0.52)

Fatma TC no- not per cent\  
00:17:10.010 - 00:17:11.200

Ahmet TC [pH\  
00:17:11.203 - 00:17:11.579

Fatma TC [pH\  
00:17:11.419 - 00:17:11.850

Fatma TC [pH\  
00:17:11.860 - 00:17:12.600

Laia TC [a::h\  
00:17:12.060 - 00:17:12.790  
(0.02)

Laia TC [si\ si\ vale\  
00:17:12.810 - 00:17:13.640

Ahmet [chrome tannage\ xxx]  
TC 00:17:12.830 - 00:17:14.160

Laia si/  
TC 00:17:13.900 - 00:17:14.315  
(0.08)

Ahmet less\ less acidity\  
TC 00:17:14.400 - 00:17:15.660  
(1.44)

Laia [va\ xxx/ put\ put\ ]  
TC 00:17:17.100 - 00:17:18.680

Fatma (so/ leather\  
TC 00:17:17.330 - 00:17:18.360  
(0.32)

Laia (laughs)  
TC 00:17:18.680 - 00:17:20.900

Fatma ( laughs)  
TC 00:17:18.680 - 00:17:20.900

Ahmet (laughs)  
TC 00:17:18.680 - 00:17:20.900  
(2.71)

Fatma Ahmet anlayabilecegiz degil mi yazdiklarini/  
TC 00:17:23.618 - 00:17:25.618

Ahmet Isallah\  
TC 00:17:25.608 - 00:17:26.568  
(6.53)

Fatma °okay\  
TC 00:17:33.098 - 00:17:33.948

Laia well\  
TC 00:17:33.948 - 00:17:34.948  
(2.08)

Fatma °xxxxxxxxxxxxx° (reading in the worksheet for the group)  
TC 00:17:37.030 - 00:17:40.281  
(1.01)

Fatma °xxxxxxxxxxxxx° (reading)  
TC 00:17:41.300 - 00:17:44.594  
(0.85)

Caterina so what is this referring to/ what do you think/  
TC 00:17:45.452 - 00:17:48.375  
(0.06)

Fatma how make effects/  
TC 00:17:48.440 - 00:17:49.957  
(0.87)

Fatma a- about effects/  
TC 00:17:50.830 - 00:17:51.865

Caterina yeah\ what kind of leather/\_  
TC 00:17:51.865 - 00:17:53.892

Fatma [leather xxx effect]  
TC 00:17:52.550 - 00:17:54.204  
(0.02)

Caterina do you get\  
TC 00:17:54.228 - 00:17:55.000  
(0.13)

Fatma use\_ what kind of effect use\_  
TC 00:17:55.130 - 00:17:57.405

Caterina m\  
TC 00:17:55.400 - 00:17:55.934  
(1.49)

Caterina yeah\  
TC 00:17:57.430 - 00:17:58.199

Laia m\  
TC 00:17:57.650 - 00:17:58.086

Ahmet yes  
TC 00:17:57.770 - 00:17:58.273

(0.03)

Caterina what kind of leather  
TC 00:17:58.310 - 00:17:59.709  
(0.4)

Caterina does it produce/  
TC 00:18:00.109 - 00:18:01.235  
(0.18)

Caterina what kind of leather do we get\  
TC 00:18:01.420 - 00:18:03.075  
(1.6)

Laia vale\  
TC 00:18:04.680 - 00:18:05.196  
(5.57)

Ahmet xxxx (in turkish)  
TC 00:18:10.770 - 00:18:13.998

Fatma what/ kind of leather/ PROduced\  
TC 00:18:12.680 - 00:18:15.277  
(0.63)

Fatma e:::  
TC 00:18:15.910 - 00:18:17.122  
(15.11)

Laia mh\  
TC 00:18:32.240 - 00:18:33.259  
(0.28)

Laia si\ the structure similar aha\ (reading)  
TC 00:18:33.540 - 00:18:36.518

Fatma soft and aldehyde xxx-  
TC 00:18:36.330 - 00:18:38.495

Laia aldehydee is more soft\ more soft\  
TC 00:18:37.890 - 00:18:40.641

Fatma yeah\  
TC 00:18:40.641 - 00:18:41.214  
(6.9)

Laia what color is-/ vale\ color  
TC 00:18:48.120 - 00:18:50.006  
(0.12)

Laia and this- yellow and::  
TC 00:18:50.126 - 00:18:52.219  
(0.38)

Fatma dark [white/]  
TC 00:18:52.606 - 00:18:53.872

Laia but is depend on- (.) aldehyde\  
TC 00:18:53.192 - 00:18:55.479

Fatma is depend on a- [aldehyde but] normally white/  
TC 00:18:55.479 - 00:18:58.624

Laia [aldehyde]  
TC 00:18:56.726 - 00:18:57.509  
(1.72)

Laia for example glutraldehyde is: m::: (touches paper and pretends to write while  
looking at Fatma)  
TC 00:18:59.238 - 00:19:05.558  
(0.06)

Fatma white\  
TC 00:19:05.626 - 00:19:05.991  
(0.28)

Laia white no/  
TC 00:19:06.271 - 00:19:06.900  
(0.1)

Laia white\ white\  
TC 00:19:07.006 - 00:19:07.809

Fatma I remember white  
TC 00:19:07.809 - 00:19:08.786

Ahmet yes

TC 00:19:08.786 - 00:19:09.378

Laia with aldehyde is white\  
TC 00:19:09.378 - 00:19:10.437  
(0.94)

Laia an[d:]  
TC 00:19:11.380 - 00:19:12.164

Fatma [x]xx  
TC 00:19:11.924 - 00:19:12.658

Laia for examp- all of- all the- am::  
TC 00:19:12.658 - 00:19:14.801  
(0.43)

Laia aldehyde is  
TC 00:19:15.240 - 00:19:16.101  
(0.08)

Laia a little yellow\  
TC 00:19:16.181 - 00:19:17.070  
(0.56)

Fatma I- I think so white [and: si\ ]  
TC 00:19:17.630 - 00:19:20.586

Ahmet a little yellow\  
TC 00:19:19.430 - 00:19:20.510

Laia sí:  
TC 00:19:20.129 - 00:19:20.659  
(1.41)

Laia in the middle de yellow and: white\  
TC 00:19:22.070 - 00:19:24.060  
(2.08)

Laia color cru/  
TC 00:19:26.140 - 00:19:26.930  
(0.12)

Laia com m'has dit que es deia/  
TC 00:19:27.050 - 00:19:28.237  
(0.61)

Laia el color cru/  
TC 00:19:28.850 - 00:19:29.711  
(0.07)

Laia color de-  
TC 00:19:29.790 - 00:19:30.423

Caterina color cru seria:::/  
TC 00:19:30.230 - 00:19:31.578  
(0.16)

Laia com una- com un color crema/  
TC 00:19:31.738 - 00:19:33.545  
(1.09)

Fatma color crema/  
TC 00:19:34.640 - 00:19:35.500

Laia crema (laughs)  
TC 00:19:35.500 - 00:19:36.740  
(0.34)

Fatma crema (laughs)  
TC 00:19:37.080 - 00:19:37.829  
(0.33)

Fatma light [brown/]  
TC 00:19:38.160 - 00:19:39.141

Caterina [cream] colour\  
TC 00:19:38.701 - 00:19:39.849  
(0.1)

Fatma cream like brown\_  
TC 00:19:39.951 - 00:19:41.510

Laia °xxxx°  
TC 00:19:41.510 - 00:19:42.441  
(0.25)

Fatma maybe/

TC 00:19:42.691 - 00:19:43.122  
(0.16)

Caterina mh\  
TC 00:19:43.282 - 00:19:43.773

Fatma crema (pronounces 'harema')  
TC 00:19:43.773 - 00:19:44.200

Laia cream (pronounces 'prim')  
TC 00:19:44.201 - 00:19:44.518  
(0.94)

Caterina you can say crema colour\  
TC 00:19:45.461 - 00:19:47.136

Fatma yes  
TC 00:19:47.011 - 00:19:47.303

Caterina no problem\  
TC 00:19:47.191 - 00:19:47.869

Fatma °xxx colour°  
TC 00:19:47.371 - 00:19:48.208  
(0.03)

Fatma (laughs)  
TC 00:19:48.240 - 00:19:50.312

Caterina [laughs]  
TC 00:19:48.240 - 00:19:50.312  
(0.27)

Laia (reading another question) only its tanning\_  
TC 00:19:50.590 - 00:19:52.765  
(0.21)

Ahmet forty-  
TC 00:19:52.980 - 00:19:54.201

Fatma four xxx-  
TC 00:19:53.820 - 00:19:54.880

Ahmet glass  
TC 00:19:54.880 - 00:19:55.305  
(0.02)

Fatma glass  
TC 00:19:55.330 - 00:19:55.758  
(0.98)

Laia ah si okay clean the glass and clean the car\ clean the car\ yes\  
TC 00:19:56.740 - 00:20:01.240

Fatma [glass]  
TC 00:19:58.040 - 00:19:58.494  
(3.61)

Ahmet °xxxx° (asking in turc)  
TC 00:20:02.110 - 00:20:04.661  
(1.89)

Fatma glass and °xxx°  
TC 00:20:06.560 - 00:20:08.646

Laia yeah  
TC 00:20:07.020 - 00:20:07.520  
(0.56)

Laia and tant per cent  
TC 00:20:08.080 - 00:20:09.002  
(4.19)

Laia am::: do you know a: Hector/  
TC 00:20:13.201 - 00:20:15.767  
(0.31)

Ahmet Hec- [Hector/]  
TC 00:20:16.081 - 00:20:17.299

Laia [Hector/]  
TC 00:20:16.711 - 00:20:17.299  
(0.13)

Laia coneixen al Hector ells/  
TC 00:20:17.431 - 00:20:18.664



Ahmet n- no xxxxxxx (in turc)  
TC 00:20:17.431 - 00:20:21.124

Caterina °I don't think so\  
TC 00:20:18.900 - 00:20:19.831  
(0.22)

Laia a: no es- no xxxx a: okay\  
TC 00:20:20.051 - 00:20:23.271  
(0.18)

Laia a: is no important\  
TC 00:20:23.451 - 00:20:24.657  
(0.2)

Laia because the Hector a: make a project de:  
TC 00:20:24.861 - 00:20:28.479  
(0.69)

Laia oil tanning for a::  
TC 00:20:29.171 - 00:20:31.194  
(0.48)

Fatma glass/  
TC 00:20:31.683 - 00:20:32.140  
(0.2)

Laia for a am::\  
TC 00:20:32.340 - 00:20:33.586

Fatma xxx\  
TC 00:20:33.586 - 00:20:34.486  
(1.12)

Laia glass si bueno\  
TC 00:20:35.611 - 00:20:36.648  
(0.28)

Fatma clean\ (gestures with hands)  
TC 00:20:36.931 - 00:20:38.959

Laia [clean ja està]  
TC 00:20:37.451 - 00:20:38.989  
(0.35)

Laia (laughs)  
TC 00:20:39.341 - 00:20:41.653

Fatma (laughs)  
TC 00:20:39.341 - 00:20:41.653

Ahmet (laughs)  
TC 00:20:39.341 - 00:20:41.653

Caterina [laughs]  
TC 00:20:39.341 - 00:20:41.653  
(0.04)

Laia is no important\ olvidar\ oblidar/ (to teacher)  
TC 00:20:41.701 - 00:20:44.227  
(0.15)

Caterina I forgot\  
TC 00:20:44.380 - 00:20:45.154  
(0.04)

Laia I forgot (laughs)  
TC 00:20:45.194 - 00:20:47.334

Fatma ah okay  
TC 00:20:45.800 - 00:20:46.902  
(0.91)

Caterina okay\ one thing\ why dont you compare with the original/ lets see if we got it right  
there\ lets see  
TC 00:20:47.820 - 00:20:53.266  
(0.68)

Caterina lets find out\  
TC 00:20:53.950 - 00:20:55.034  
(0.16)

Caterina how you did\  
TC 00:20:55.200 - 00:20:56.598  
(4.25)

Laia tannage\_ xx-

TC 00:21:00.850 - 00:21:02.010  
(1.25)

Laia what is: xxx/  
TC 00:21:03.260 - 00:21:04.767  
(0.4)

Laia [yeah]  
TC 00:21:05.170 - 00:21:06.069

Fatma [smoke]  
TC 00:21:05.170 - 00:21:06.069  
(0.75)

Ahmet °xxxxx° (reading the worksheet)  
TC 00:21:06.820 - 00:21:08.689  
(0.18)

Caterina yeah you got this right/  
TC 00:21:08.870 - 00:21:10.047  
(0.12)

Ahmet °xxx° (keeps reading)  
TC 00:21:10.170 - 00:21:11.459  
(0.55)

Laia so:ft/ xxx soft/  
TC 00:21:12.010 - 00:21:13.161  
(0.82)

Laia I think it's more soft the xxx\_  
TC 00:21:13.990 - 00:21:16.365  
(0.63)

Fatma (laughs)  
TC 00:21:17.000 - 00:21:18.302

Ahmet is more soft\ soft\ xxx (laughs)  
TC 00:21:17.000 - 00:21:18.910

Fatma (laughs)  
TC 00:21:18.910 - 00:21:19.875

Ahmet brown yes\  
TC 00:21:19.875 - 00:21:20.652  
(0.33)

Ahmet yes brown\  
TC 00:21:20.990 - 00:21:21.598  
(0.53)

Laia red\  
TC 00:21:22.130 - 00:21:22.745  
(0.48)

Laia re:d/  
TC 00:21:23.225 - 00:21:23.803  
(0.28)

Ahmet yes yes some- some [xxx]  
TC 00:21:24.091 - 00:21:25.925

Fatma [red\ some\  
TC 00:21:24.873 - 00:21:26.733

Laia [si si vale si]  
TC 00:21:25.290 - 00:21:26.560  
(0.45)

Laia [si]  
TC 00:21:27.010 - 00:21:27.500  
(0.78)

Ahmet and: white\ (.) yes\  
TC 00:21:28.280 - 00:21:30.245  
(1.33)

Ahmet °xxx° (reading worksheet)  
TC 00:21:31.580 - 00:21:33.026  
(0.55)

Ahmet °fancy goods\ yes\  
TC 00:21:33.581 - 00:21:35.576  
(0.98)

Ahmet m: xxxx/ no\  
TC 00:21:36.559 - 00:21:39.407

(0.23)

Fatma wash  
TC 00:21:39.640 - 00:21:40.210

Ahmet wash  
TC 00:21:39.650 - 00:21:40.222  
(0.03)

Fatma leathers  
TC 00:21:40.260 - 00:21:40.770

Ahmet leathers  
TC 00:21:40.262 - 00:21:40.780  
(0.08)

Fatma gloves  
TC 00:21:40.860 - 00:21:41.360

Ahmet clothes  
TC 00:21:40.860 - 00:21:41.367  
(0.23)

Laia glo- si\  
TC 00:21:41.600 - 00:21:42.542

Fatma gloves\  
TC 00:21:42.060 - 00:21:42.557  
(1.13)

Laia gloves/  
TC 00:21:43.690 - 00:21:44.130  
(0.19)

Ahmet gloves (describing with mimcs)  
TC 00:21:44.320 - 00:21:45.174

Fatma gloves (describing with mimics)  
TC 00:21:44.760 - 00:21:45.646  
(0.89)

Fatma m:./ gloves\  
TC 00:21:46.540 - 00:21:47.881

Ahmet for  
TC 00:21:47.410 - 00:21:47.881  
(0.36)

Ahmet hand\  
TC 00:21:48.250 - 00:21:48.710  
(0.34)

Fatma for hand\  
TC 00:21:49.050 - 00:21:49.671  
(0.51)

Fatma gloves\  
TC 00:21:50.190 - 00:21:50.604  
(0.16)

Laia Ah vale\ guants\ okay\ m:  
TC 00:21:50.770 - 00:21:53.443  
(0.75)

Laia these (showing a pair of gloves)  
TC 00:21:54.201 - 00:21:54.613

Fatma =YES\  
TC 00:21:54.613 - 00:21:55.073

Ahmet yes\  
TC 00:21:54.613 - 00:21:55.073  
(0.16)

Ahmet gloves\ yeah\  
TC 00:21:55.240 - 00:21:56.327  
(0.31)

Laia vale\  
TC 00:21:56.641 - 00:21:57.113  
(3.34)

Laia vale\  
TC 00:22:00.461 - 00:22:00.883  
(0.12)

Laia other\  
TC

TC 00:22:01.003 - 00:22:01.503  
(0.12)

Laia other question\  
TC 00:22:01.623 - 00:22:02.574  
(0.86)

Ahmet °what leather xxxxxxxx/° (reading worksheet)  
TC 00:22:03.440 - 00:22:07.701  
(1.92)

Ahmet after process/  
TC 00:22:09.630 - 00:22:10.867  
(0.41)

Laia hm  
TC 00:22:11.281 - 00:22:11.705  
(0.62)

Ahmet can d- xxx-/  
TC 00:22:12.330 - 00:22:13.692  
(0.05)

Laia the- the charac-  
TC 00:22:13.751 - 00:22:14.610  
(0.31)

Fatma the character\_  
TC 00:22:14.920 - 00:22:15.680  
(0.16)

Laia character is depend de: process  
TC 00:22:15.841 - 00:22:17.910  
(0.42)

Laia leather is/  
TC 00:22:18.331 - 00:22:18.922  
(0.12)

Laia °no/°  
TC 00:22:19.051 - 00:22:19.408  
(0.34)

Fatma m:::::  
TC 00:22:19.750 - 00:22:20.564  
(0.12)

Fatma character is- is depends on process b- YES\  
TC 00:22:20.684 - 00:22:23.120  
(0.06)

Laia [is a little\_  
TC 00:22:23.181 - 00:22:23.912

Fatma a little  
TC 00:22:23.890 - 00:22:24.792

Laia [a: xxxx xxx]  
TC 00:22:24.421 - 00:22:26.210

Fatma in salt maybe right\  
TC 00:22:25.340 - 00:22:27.481  
(0.04)

Ahmet yes\  
TC 00:22:27.530 - 00:22:27.929  
(0.03)

Laia and: process\  
TC 00:22:27.960 - 00:22:28.893

Fatma yes\ but-  
TC 00:22:28.910 - 00:22:29.687

Ahmet [only s:even\  
TC 00:22:29.687 - 00:22:30.882

Fatma [mainly]  
TC 00:22:29.910 - 00:22:31.059  
(0.03)

Ahmet means that-  
TC 00:22:31.090 - 00:22:32.013  
(0.51)

Fatma xxx is [so strong\  
TC 00:22:32.530 - 00:22:34.617

Ahmet [not change\ not change\  
TC 00:22:33.262 - 00:22:34.578  
(0.23)

Ahmet strong\ not change\  
TC 00:22:34.810 - 00:22:35.808

Laia strong\ si/  
TC 00:22:35.821 - 00:22:36.747  
(4.86)

Laia quantes n'hem de ficar de caracteristiques/ (to teacher)  
TC 00:22:41.610 - 00:22:43.894  
(0.16)

Caterina m:/ three or four\  
TC 00:22:44.060 - 00:22:45.968  
(0.08)

Caterina the main characteristics\  
TC 00:22:46.048 - 00:22:47.495  
(0.48)

Caterina you may wanna change positions now/  
TC 00:22:47.975 - 00:22:49.939  
(21.38)

Laia is:  
TC 00:23:11.319 - 00:23:11.739  
(1.0)

Laia mo:re complicated tha:n  
TC 00:23:12.739 - 00:23:14.919  
(0.45)

Laia in comparation de:  
TC 00:23:15.369 - 00:23:16.749  
(0.11)

Laia hm::  
TC 00:23:16.859 - 00:23:17.679  
(1.71)

Laia the::  
TC 00:23:19.389 - 00:23:20.239  
(1.17)

Laia fibra tèxtil/ pots-  
TC 00:23:21.409 - 00:23:22.609  
(0.07)

Laia el tèx[til/]  
TC 00:23:22.679 - 00:23:23.399

Caterina [textile] fiber  
TC 00:23:23.310 - 00:23:24.659

Fatma [textile] xxx  
TC 00:23:23.949 - 00:23:24.789

Laia [textile/]  
TC 00:23:24.199 - 00:23:24.829  
(0.36)

Laia is more  
TC 00:23:25.189 - 00:23:26.109  
(0.14)

Laia for me is m: more complicate\_  
TC 00:23:26.249 - 00:23:28.149  
(0.44)

Laia ahm:\  
TC 00:23:28.589 - 00:23:29.339  
(0.29)

Laia tanning the::\_  
TC 00:23:29.629 - 00:23:30.880  
(0.43)

Laia the leather/ [a:nd\_  
TC 00:23:31.319 - 00:23:32.819

Fatma [tan]ning is more complicate/  
TC 00:23:32.639 - 00:23:34.160  
(0.03)

Laia sí: =  
TC 00:23:34.190 - 00:23:34.400  
(0.03)

Fatma =yes\  
TC 00:23:34.439 - 00:23:34.768  
(0.67)

Laia que: the:  
TC 00:23:35.439 - 00:23:36.359  
(1.31)

Ahmet xx  
TC 00:23:37.670 - 00:23:38.041

Laia the:  
TC 00:23:38.049 - 00:23:38.369  
(0.26)

Ahmet [xxx] falan özelliklerinden bahsediyor\  
TC 00:23:38.630 - 00:23:40.460

Laia [the textile\  
TC 00:23:38.659 - 00:23:39.639  
(1.51)

Fatma about the: eh:  
TC 00:23:41.149 - 00:23:42.419  
(0.87)

Fatma we are telling about the [character]istic of tanning\  
TC 00:23:43.289 - 00:23:46.649

Ahmet [tanning\_]   
TC 00:23:45.130 - 00:23:45.667  
(1.87)

Laia n:o:  
TC 00:23:47.539 - 00:23:48.129  
(0.31)

Laia m:::  
TC 00:23:48.445 - 00:23:49.585  
(1.87)

Laia is not more important eh/ I [(laughter)]  
TC 00:23:51.455 - 00:23:55.875

Ahmet [(laughter)]  
TC 00:23:52.660 - 00:23:55.869

Fatma [(laughter)]  
TC 00:23:52.666 - 00:23:55.875  
(0.79)

Laia eh::  
TC 00:23:56.665 - 00:23:57.345  
(0.05)

Ahmet eh::  
TC 00:23:57.400 - 00:23:58.080  
(0.74)

Laia és que okey a:hm:  
TC 00:23:58.825 - 00:24:00.105  
(0.17)

Ahmet this is leather it's finished\  
TC 00:24:00.280 - 00:24:01.780  
(0.14)

Ahmet a- all process finished\  
TC 00:24:01.920 - 00:24:03.070  
(2.92)

Laia finish/  
TC 00:24:05.997 - 00:24:06.607

Ahmet yes finish\ all process finished\_  
TC 00:24:06.510 - 00:24:08.370  
(0.13)

Laia hm/  
TC 00:24:08.506 - 00:24:08.966  
(0.41)

Ahmet leather\  
TC 00:24:09.380 - 00:24:10.010  
(0.55)

Laia All/  
TC 00:24:10.566 - 00:24:10.976  
(0.26)

Ahmet [xx]  
TC 00:24:11.240 - 00:24:12.110

Fatma [ehm: aft-]  
TC 00:24:11.246 - 00:24:12.116  
(0.29)

Fatma he means that after\_  
TC 00:24:12.410 - 00:24:13.970  
(0.2)

Fatma that\_ all process is finished\_ and leather is coming\_ how can use this\ e:h how can see  
TC 00:24:14.179 - 00:24:20.189  
(0.39)

Fatma it's stro:ng\ normal leather\  
TC 00:24:20.579 - 00:24:22.369  
(0.13)

Laia ya\  
TC 00:24:22.505 - 00:24:22.835  
(0.14)

Laia ya\  
TC 00:24:22.979 - 00:24:23.200

Fatma for [example jacket]  
TC 00:24:23.215 - 00:24:23.975

Laia [during during] the:  
TC 00:24:23.795 - 00:24:24.950  
(0.36)

Laia during\  
TC 00:24:25.310 - 00:24:25.817  
(0.23)

Fatma not during\  
TC 00:24:26.055 - 00:24:26.925  
(0.46)

Fatma m::  
TC 00:24:27.389 - 00:24:28.109  
(0.1)

Fatma is\_  
TC 00:24:28.209 - 00:24:28.409  
(0.27)

Fatma for example your jacket\_ leather [jacket\  
TC 00:24:28.679 - 00:24:30.689

Ahmet [yes\] it's leather  
TC 00:24:30.200 - 00:24:31.139  
(0.35)

Fatma and how eh:-\_  
TC 00:24:31.489 - 00:24:32.439  
(0.18)

Fatma which differences between the textile and the leather\_ I think it they mean\ it  
means that\  
TC 00:24:32.619 - 00:24:38.130  
(0.31)

Fatma so it's mo:re stro:ng\_  
TC 00:24:38.449 - 00:24:39.890  
(0.06)

Fatma more e:: life\_  
TC 00:24:39.957 - 00:24:41.907  
(0.09)

Fatma long life\_  
TC 00:24:41.998 - 00:24:42.840  
(0.1)

Fatma a:nd\_

TC 00:24:42.948 - 00:24:43.610  
(0.64)

Fatma high temperature quantity: high temperature contraction\_  
TC 00:24:44.258 - 00:24:48.050  
(0.7)

Fatma e: I think it means that\  
TC 00:24:48.757 - 00:24:50.917  
(1.62)

Fatma s[o:\_]  
TC 00:24:52.537 - 00:24:53.177

Laia [mistakes\  
TC 00:24:52.640 - 00:24:53.347  
(0.58)

Laia [mistakes/  
TC 00:24:53.927 - 00:24:54.437

Fatma [what/  
TC 00:24:53.927 - 00:24:54.437  
(0.49)

Fatma mistakes/ no\  
TC 00:24:54.936 - 00:24:55.516

Laia [no:\ no\  
TC 00:24:55.520 - 00:24:56.460

Ahmet [no mistakes\_] okey  
TC 00:24:55.560 - 00:24:56.570

Laia [(laughter)]  
TC 00:24:56.556 - 00:24:58.486

Fatma [(laughter)]  
TC 00:24:56.556 - 00:24:58.486

Ahmet [no mistakes\  
TC 00:24:57.310 - 00:24:58.200  
(0.26)

Ahmet xx\  
TC 00:24:58.460 - 00:24:58.894  
(1.34)

Ahmet okey/  
TC 00:25:00.240 - 00:25:00.750  
(0.16)

Laia va\  
TC 00:25:00.913 - 00:25:01.370  
(0.2)

Laia more characteristics\  
TC 00:25:01.573 - 00:25:03.029  
(1.29)

Fatma and e: you said but [e:] more complicated/  
TC 00:25:04.323 - 00:25:07.473

Ahmet more complicated/  
TC 00:25:07.462 - 00:25:08.572

Laia [m\  
TC 00:25:08.161 - 00:25:08.500  
(0.65)

Fatma from textile/  
TC 00:25:09.153 - 00:25:09.933  
(0.27)

Laia sí\  
TC 00:25:10.203 - 00:25:10.653  
(0.88)

Laia a:m::\  
TC 00:25:11.533 - 00:25:12.763  
(1.01)

Laia is: m:: bueno\ more complicate- is\_  
TC 00:25:13.773 - 00:25:16.153  
(0.9)

Laia delicate\ ((+delikate+))



TC 00:25:17.053 - 00:25:17.733  
(0.24)

Laia (laughter) deli- ja parlem en italià aquí:/ (laughter)  
TC 00:25:17.981 - 00:25:21.501  
(0.04)

Laia com es diu de- (laughter)  
TC 00:25:21.541 - 00:25:22.341  
(1.12)

Laia delicate\ (pronounces delikat) (laughter )  
TC 00:25:23.461 - 00:25:25.120

Fatma [delicate] (pronounces delikat) deli[cate\] ((+delikat+))  
TC 00:25:24.181 - 00:25:25.760

Ahmet [deli-]  
TC 00:25:24.190 - 00:25:24.860  
(0.5)

Ahmet [bili]yordum\ sözlük ver [sözlüğü ver]  
TC 00:25:25.360 - 00:25:26.580

Fatma [delicate\] (delikeit)  
TC 00:25:25.917 - 00:25:26.698  
(0.33)

Ahmet xx  
TC 00:25:27.030 - 00:25:27.581  
(1.54)

Fatma ok he will use- (laughter. Ahmet gets a dictionary) xxx  
TC 00:25:29.128 - 00:25:31.970

Laia (laughs)  
TC 00:25:30.364 - 00:25:32.844  
(0.24)

Fatma [explain] explain okay\ delicat\ explain\  
TC 00:25:33.089 - 00:25:35.409  
(0.11)

Laia [(laughter)]  
TC 00:25:35.519 - 00:25:36.819

Fatma [with your hands\  
TC 00:25:35.519 - 00:25:36.819  
(0.47)

Fatma is better-  
TC 00:25:37.290 - 00:25:38.039

Ahmet xx we can use this (.) in spanish (giving Laia a dictionary)  
TC 00:25:37.360 - 00:25:39.620  
(1.13)

Laia delicado\ (looking in the dictionary)  
TC 00:25:40.759 - 00:25:41.519  
(0.52)

Ahmet delicado xxx am::  
TC 00:25:42.040 - 00:25:44.438  
(3.47)

Laia delicado\  
TC 00:25:47.913 - 00:25:48.955  
(14.56)

Laia DELICADO\ (reading from dictionary)  
TC 00:26:03.523 - 00:26:04.433

Ahmet °xxxx° (reads definition in dictionary)  
TC 00:26:04.433 - 00:26:06.593

Fatma ah\_ [ok] yes\  
TC 00:26:06.610 - 00:26:08.290

Laia [ok/]  
TC 00:26:07.098 - 00:26:07.621  
(0.95)

Laia for me is: this:  
TC 00:26:08.573 - 00:26:09.853  
(0.49)

Laia (laughs) delicado\_ hm: is more delicado\_

TC 00:26:10.343 - 00:26:13.190  
(0.51)

Laia [hm:] process the: the the: leather\_  
TC 00:26:13.703 - 00:26:16.243

Fatma [yes\  
TC 00:26:13.703 - 00:26:14.039  
(2.6)

Laia o:n comparison the:: textile\  
TC 00:26:16.643 - 00:26:19.370  
(0.53)

Fatma [for me too xx]  
TC 00:26:19.900 - 00:26:22.494

Ahmet [xxxx]  
TC 00:26:19.900 - 00:26:22.494  
(1.95)

Fatma e:::/  
TC 00:26:24.450 - 00:26:25.843

Ahmet xxx  
TC 00:26:25.310 - 00:26:26.511  
(2.21)

Fatma much xxx xxx/  
TC 00:26:28.730 - 00:26:31.145  
(5.53)

Laia val\ m:  
TC 00:26:36.680 - 00:26:37.565  
(0.65)

Laia finished/  
TC 00:26:38.220 - 00:26:38.570  
(0.12)

Laia or more\  
TC 00:26:38.690 - 00:26:39.337  
(0.2)

Laia o mes mes mes-  
TC 00:26:39.540 - 00:26:41.217

Fatma more xxx\  
TC 00:26:40.180 - 00:26:41.514

Ahmet °xxxx°  
TC 00:26:41.300 - 00:26:42.507  
(0.44)

Laia vale okay\  
TC 00:26:42.950 - 00:26:43.832  
(0.98)

Ahmet °xxxxxxxxxxx° (reading worksheet for the group)  
TC 00:26:44.820 - 00:26:49.857  
(0.9)

Ahmet chromium tanning characteristics  
TC 00:26:50.760 - 00:26:52.382  
(0.48)

Laia com/  
TC 00:26:52.870 - 00:26:53.195  
(0.64)

Laia corium/ corium/  
TC 00:26:53.840 - 00:26:55.274

Fatma chromIUm  
TC 00:26:55.274 - 00:26:56.055

Ahmet chrome chrome  
TC 00:26:55.760 - 00:26:56.485

Fatma chrome  
TC 00:26:56.125 - 00:26:56.817  
(1.0)

Laia corium\ corium\  
TC 00:26:57.820 - 00:26:58.839  
(0.05)

Fatma TC no- not corium\ chromIUm\  
00:26:58.889 - 00:27:00.667  
(0.17)

Ahmet TC chrome  
00:27:00.839 - 00:27:01.547  
(0.31)

Fatma TC chrome  
00:27:01.859 - 00:27:02.286  
(0.06)

Laia TC AH chrome\ okay  
00:27:02.350 - 00:27:03.839

Fatma TC yes\  
00:27:03.790 - 00:27:04.228  
(1.66)

Fatma TC so: write a piece-  
00:27:05.889 - 00:27:08.064  
(0.1)

Laia TC write a piece/ que es/  
00:27:08.170 - 00:27:09.717  
(0.37)

Fatma TC piece piece (gesticulating with hand)  
00:27:10.090 - 00:27:11.208  
(0.54)

Ahmet TC little- e::  
00:27:11.750 - 00:27:12.691  
(0.83)

Laia TC am: JA\ am::  
00:27:13.530 - 00:27:15.246  
(0.14)

Laia TC little:  
00:27:15.393 - 00:27:16.384

Fatma TC [piece of something]  
00:27:15.483 - 00:27:16.950

Laia TC ya\  
00:27:16.950 - 00:27:17.379  
(0.25)

Laia TC okay  
00:27:17.633 - 00:27:18.030  
(0.28)

Laia TC three: sentences\  
00:27:18.310 - 00:27:19.582  
(0.16)

Fatma TC yes  
00:27:19.750 - 00:27:20.205

Ahmet TC yeah  
00:27:19.750 - 00:27:20.205  
(6.34)

Fatma TC chromium tanning is  
00:27:26.550 - 00:27:27.959  
(0.22)

Fatma TC xxxxx  
00:27:28.180 - 00:27:29.211  
(0.37)

Fatma TC ab[out the-]  
00:27:29.590 - 00:27:30.441

Ahmet TC [xxx] and chrome tanning yes\  
00:27:29.590 - 00:27:32.340

Fatma TC yes\ °yes°\  
00:27:31.750 - 00:27:32.950  
(1.12)

Laia TC what/  
00:27:34.070 - 00:27:34.324

Ahmet TC for example we use  
00:27:34.320 - 00:27:35.560

(0.07)

Ahmet  
TC a: e:::  
00:27:35.630 - 00:27:36.814  
(0.04)

Ahmet  
TC chrome three\  
00:27:36.854 - 00:27:37.781  
(0.04)

Laia  
TC si/  
00:27:37.830 - 00:27:38.194  
(0.02)

Ahmet  
TC no chrome six\  
00:27:38.220 - 00:27:39.977  
(0.22)

Fatma  
TC yes\  
00:27:40.200 - 00:27:40.835  
(0.23)

Fatma  
TC because it's cancerigen\  
00:27:41.070 - 00:27:42.910

Ahmet  
TC [yes]  
00:27:42.610 - 00:27:43.057  
(0.57)

Fatma  
TC and::  
00:27:43.630 - 00:27:44.430  
(0.68)

Ahmet  
TC e::  
00:27:45.110 - 00:27:45.942  
(0.36)

Ahmet  
TC is  
00:27:46.310 - 00:27:46.667  
(0.27)

Ahmet  
TC soft\  
00:27:46.940 - 00:27:47.435  
(1.47)

Fatma  
TC yes\  
00:27:48.910 - 00:27:49.375  
(0.33)

Ahmet  
TC °make leather soft °  
00:27:49.710 - 00:27:51.520  
(3.4)

Ahmet  
TC is used to-  
00:27:54.920 - 00:27:55.772

Fatma  
TC chrome tanange is:: soft\ and\_  
00:27:55.772 - 00:27:58.027  
(0.19)

Fatma  
TC e:: the most useful something [in the world]\_  
00:27:58.220 - 00:28:01.600

Ahmet  
TC [yes\ in the air]  
00:28:00.660 - 00:28:01.479  
(0.31)

Fatma  
TC e:: chromium most\_  
00:28:01.790 - 00:28:03.490  
(0.16)

Fatma  
TC useful\_  
00:28:03.650 - 00:28:04.340  
(0.65)

Fatma  
TC e:: chemical products in the world\ about tanning\_  
00:28:04.990 - 00:28:08.840  
(1.25)

Fatma  
TC and::  
00:28:10.090 - 00:28:11.024

Laia  
TC and e::/  
00:28:11.024 - 00:28:12.112  
(0.3)

Fatma  
TC can:: manage xxxx\_

TC 00:28:12.420 - 00:28:15.314  
(0.21)

Laia I think  
TC 00:28:15.530 - 00:28:16.280

Fatma yes\  
TC 00:28:16.280 - 00:28:16.879  
(0.1)

Laia (laughs)  
TC 00:28:16.980 - 00:28:17.569

Fatma what are xxxx/  
TC 00:28:17.380 - 00:28:18.546  
(0.02)

Laia pasa palabra  
TC 00:28:18.570 - 00:28:19.473

Fatma pasapalabra pasapalabra who/ (laughing)  
TC 00:28:19.490 - 00:28:22.266

Laia (laughs)  
TC 00:28:19.513 - 00:28:22.562

Ahmet (laughs)  
TC 00:28:19.840 - 00:28:22.506  
(2.48)

Laia yo\ yo\  
TC 00:28:24.988 - 00:28:25.694  
(0.57)

Laia am: after- I-  
TC 00:28:26.269 - 00:28:27.330

Fatma (laughs)  
TC 00:28:27.330 - 00:28:28.437  
(1.03)

Fatma okay we said that e:: we can't use chromium 6 because it's cancerigen/ we are using  
chromium 3\ and e: most useful products chromium in the world\_  
TC 00:28:29.468 - 00:28:41.799  
(0.54)

Fatma and xxx is more softer there\_  
TC 00:28:42.340 - 00:28:44.830

Ahmet =for  
TC 00:28:44.830 - 00:28:45.457  
(0.16)

Ahmet is good [xx]  
TC 00:28:45.620 - 00:28:46.520

Fatma [e:] is good for leather\_  
TC 00:28:46.170 - 00:28:47.880  
(0.61)

Fatma m::[::]  
TC 00:28:48.490 - 00:28:49.166

Laia conservation\_ more time/  
TC 00:28:48.750 - 00:28:50.918  
(0.32)

Fatma more time/  
TC 00:28:51.241 - 00:28:51.956  
(0.02)

Laia with [chrome]/  
TC 00:28:51.980 - 00:28:52.140

Ahmet yes [yes]\  
TC 00:28:51.980 - 00:28:53.145

Fatma yes\  
TC 00:28:52.140 - 00:28:52.616  
(0.57)

Fatma more time yes\ but\_  
TC 00:28:53.190 - 00:28:54.794  
(0.09)

Fatma [xx] is a xxx-  
TC 00:28:54.890 - 00:28:56.150

(0.05)

Fatma [more xx\_] TC 00:28:56.208 - 00:28:56.943

Ahmet [more xx\_] TC 00:28:56.208 - 00:28:56.943

Laia this product is- m: majoritari/ TC 00:28:56.960 - 00:28:59.363 (0.1)

Laia m::: is TC 00:28:59.469 - 00:29:00.680 (2.45)

Laia m: no\ am:: TC 00:29:03.130 - 00:29:04.205 (1.5)

Laia am::: TC 00:29:05.710 - 00:29:06.604 (1.76)

Laia m::: TC 00:29:08.370 - 00:29:08.939 (0.76)

Laia hm (clearing her throat) TC 00:29:09.700 - 00:29:10.296 (0.14)

Laia [(laughs)] TC 00:29:10.440 - 00:29:12.082

Fatma [(laughs)] TC 00:29:10.440 - 00:29:12.082

Ahmet [(laughs)] TC 00:29:10.440 - 00:29:12.082

Caterina [(laughs)] TC 00:29:10.440 - 00:29:12.082 (1.0)

Laia the: TC 00:29:13.090 - 00:29:13.764 (0.18)

Laia a- in the world- a- TC 00:29:13.950 - 00:29:15.572 (0.62)

Laia m::: majoria/ TC 00:29:16.197 - 00:29:17.537 (0.24)

Laia majoria/ TC 00:29:17.777 - 00:29:18.414

Caterina most\ TC 00:29:18.414 - 00:29:18.972 (0.18)

Caterina most\ TC 00:29:19.156 - 00:29:19.683

Laia most leather is [xxx with] TC 00:29:19.700 - 00:29:21.921

Caterina [the majority\] TC 00:29:20.670 - 00:29:21.738 (0.4)

Laia chrome\ TC 00:29:22.140 - 00:29:22.899

Fatma mh\ TC 00:29:22.459 - 00:29:22.899

Ahmet yes\ TC 00:29:22.459 - 00:29:22.899 (0.15)

Laia after that am::: vegetal\_ am: a- glutraldehyde\_ but the first am: [product\_] TC 00:29:23.050 - 00:29:30.543

Ahmet [vegetal]  
TC 00:29:26.120 - 00:29:26.921  
(2.72)

Fatma [main]  
TC 00:29:29.650 - 00:29:30.314  
(0.24)

Fatma =main pro[duct]  
TC 00:29:30.554 - 00:29:31.752

Laia is general and important is chromium\  
TC 00:29:30.690 - 00:29:33.482

Ahmet [chromium]  
TC 00:29:32.880 - 00:29:33.478  
(0.11)

Fatma yes\  
TC 00:29:33.590 - 00:29:34.172  
(0.37)

Laia a::::nd  
TC 00:29:34.550 - 00:29:35.746  
(2.08)

Laia m/ m/  
TC 00:29:37.830 - 00:29:38.747  
(1.86)

Laia temperature contractionyou /  
TC 00:29:40.610 - 00:29:41.856

Ahmet yes\  
TC 00:29:41.856 - 00:29:42.402  
(0.16)

Fatma yes\  
TC 00:29:42.562 - 00:29:43.432

Ahmet is strong  
TC 00:29:43.432 - 00:29:44.173  
(0.28)

Fatma higher  
TC 00:29:44.460 - 00:29:45.403  
(0.61)

Ahmet °higher°  
TC 00:29:46.020 - 00:29:46.874  
(0.08)

Laia a::nd  
TC 00:29:46.954 - 00:29:47.853  
(0.3)

Laia m:::  
TC 00:29:48.160 - 00:29:48.735  
(0.99)

Laia more a::vantatges °més avantatges\_°  
TC 00:29:49.730 - 00:29:52.210  
(1.52)

Caterina avantatges\  
TC 00:29:53.730 - 00:29:54.613  
(0.2)

Laia [avantatges\  
TC 00:29:54.813 - 00:29:55.817

Ahmet [avantatges\  
TC 00:29:54.813 - 00:29:55.817  
(0.17)

Ahmet oh yes\  
TC 00:29:55.990 - 00:29:56.771  
(0.89)

Ahmet °xxxxxxxx° (in turk)  
TC 00:29:57.670 - 00:30:00.222  
(0.24)

Fatma xxx\  
TC 00:30:00.467 - 00:30:01.195  
(0.04)

Ahmet xxx\  
TC 00:30:01.235 - 00:30:01.853

Laia ya estÁ/ finish the question/ no:\  
TC 00:30:01.720 - 00:30:04.235

Fatma no\ if we can e::\_  
TC 00:30:03.750 - 00:30:06.006  
(0.08)

Fatma remember something we can add\_  
TC 00:30:06.086 - 00:30:07.625

Laia [vale]  
TC 00:30:06.860 - 00:30:07.401  
(0.42)

Fatma first  
TC 00:30:07.825 - 00:30:08.499

Laia val  
TC 00:30:07.930 - 00:30:08.280

Laia  
TC 00:30:08.280 - 00:30:08.281  
(0.33)

Fatma we write  
TC 00:30:08.619 - 00:30:09.209  
(0.7)

Laia vale\  
TC 00:30:09.910 - 00:30:10.427  
(0.04)

Laia m::  
TC 00:30:10.467 - 00:30:11.528  
(4.28)

Fatma °yes/ chromium 6 is cancerigen and\_  
TC 00:30:15.810 - 00:30:18.929  
(2.54)

Laia the chrome m:: could be recuperation in the:\_  
TC 00:30:21.470 - 00:30:25.935  
(0.9)

Laia in the water residual\  
TC 00:30:26.840 - 00:30:29.020  
(0.1)

Laia is  
TC 00:30:29.120 - 00:30:29.540  
(1.15)

Laia a::[hm]::\  
TC 00:30:30.696 - 00:30:31.410

Fatma [recycled/]  
TC 00:30:31.176 - 00:30:31.822  
(0.04)

Laia sí\  
TC 00:30:31.866 - 00:30:32.480  
(0.15)

Laia the chrome i:s/  
TC 00:30:32.630 - 00:30:33.940  
(0.24)

Laia possible recycling the:  
TC 00:30:34.186 - 00:30:35.999  
(0.06)

Laia water m- recycle-  
TC 00:30:36.067 - 00:30:37.480  
(0.28)

Laia (clicks her fingers)  
TC 00:30:37.761 - 00:30:38.350  
(0.03)

Laia in [the::\  
TC 00:30:38.380 - 00:30:39.257

Fatma yes\ chrome resi[due]\ (?)  
TC 00:30:38.990 - 00:30:39.990



(0.72)

Laia water\  
TC 00:30:40.710 - 00:30:41.169

Fatma yes\  
TC 00:30:41.169 - 00:30:41.509  
(1.32)

Laia m::\  
TC 00:30:42.832 - 00:30:43.960  
(0.89)

Laia m::\  
TC 00:30:44.850 - 00:30:45.920  
(0.3)

Laia I think i:s /  
TC 00:30:46.222 - 00:30:47.392  
(0.61)

Laia mo:re/ bueno\ more easy no\ is  
TC 00:30:48.004 - 00:30:49.900  
(0.1)

Laia ea/sy  
TC 00:30:50.004 - 00:30:50.840  
(0.3)

Laia is relative\  
TC 00:30:51.140 - 00:30:52.330  
(0.16)

Laia -me:nite easy (laughs)  
TC 00:30:52.497 - 00:30:55.400  
(0.87)

Fatma e:: going [better\  
TC 00:30:56.273 - 00:30:58.086

Laia [do you:/]  
TC 00:30:57.113 - 00:30:58.303

Ahmet yes\  
TC 00:30:58.303 - 00:30:58.677  
(0.56)

Laia you:/  
TC 00:30:59.240 - 00:30:59.952  
(1.08)

Laia you:: went the Recrisa/  
TC 00:31:01.040 - 00:31:03.660  
(0.76)

Fatma xxx\  
TC 00:31:04.420 - 00:31:05.100

Laia you: a:hh went/  
TC 00:31:05.102 - 00:31:06.612  
(1.0)

Laia you went/  
TC 00:31:07.612 - 00:31:08.612

Fatma went/ what\  
TC 00:31:08.612 - 00:31:09.425

Laia do you went in Recrisa/  
TC 00:31:09.425 - 00:31:11.510  
(0.95)

Laia Recrisa\  
TC 00:31:12.462 - 00:31:13.462  
(0.35)

Laia do you know Recrisa/ Recrisa\ recuperation of the chrome\  
TC 00:31:13.820 - 00:31:16.803

Fatma recycling/  
TC 00:31:16.803 - 00:31:17.803  
(0.28)

Laia si\ recycling the chrome [Recrisa\  
TC 00:31:18.092 - 00:31:20.095

Fatma [but we] know recycling\ how to recycle to chrome\  
TC 00:31:18.092 - 00:31:20.095

TC 00:31:19.772 - 00:31:22.503

Laia hmmm\  
TC 00:31:22.503 - 00:31:23.503

Fatma no:\ (shaking head, looking at Ahmed)  
TC 00:31:23.051 - 00:31:23.901

Laia no:/  
TC 00:31:23.901 - 00:31:24.430  
(0.31)

Laia you visit the mm\  
TC 00:31:24.748 - 00:31:26.129

Ahmet yes\  
TC 00:31:26.129 - 00:31:26.639

Laia the depurad[ora/]  
TC 00:31:26.639 - 00:31:28.319

Ahmet xxx/  
TC 00:31:28.142 - 00:31:28.796  
(0.18)

Ahmet xxx/ (in soft voice, showing directio with his hand, checking location)  
TC 00:31:28.985 - 00:31:29.821

Laia de[puradora] \ fa- fa- factory\ [yes depuradora\  
TC 00:31:29.838 - 00:31:33.328

Fatma [factory\  
TC 00:31:30.168 - 00:31:30.678

Ahmet [factory\  
TC 00:31:30.538 - 00:31:31.099  
(2.02)

Fatma [about/ ]and\  
TC 00:31:33.128 - 00:31:34.026

Caterina water\ water treatment (.) facility\  
TC 00:31:33.658 - 00:31:35.500

Fatma [water treatment\  
TC 00:31:34.980 - 00:31:36.252

Caterina [did you visit it\  
TC 00:31:35.630 - 00:31:36.630

Ahmet [yes and/]  
TC 00:31:36.070 - 00:31:36.631

Laia mm/  
TC 00:31:36.628 - 00:31:36.951

Fatma [water trea[tment/]  
TC 00:31:36.631 - 00:31:37.869

Ahmet [water treatment] (in a soft voice)  
TC 00:31:37.348 - 00:31:38.348

Laia si:/  
TC 00:31:37.768 - 00:31:38.348

Fatma yes\  
TC 00:31:38.348 - 00:31:38.824  
(0.02)

Laia Recrisa/  
TC 00:31:38.848 - 00:31:39.230  
(0.04)

Laia si/  
TC 00:31:39.273 - 00:31:39.596

Fatma [ye:s\ ]  
TC 00:31:39.596 - 00:31:40.208

Ahmet [yes yes/]  
TC 00:31:39.596 - 00:31:40.208

Laia okay\  
TC 00:31:40.208 - 00:31:40.973  
(5.43)

Fatma xxx\  
TC 00:31:40.208 - 00:31:40.973

TC 00:31:46.410 - 00:31:47.250  
(2.08)

Ahmet xxxxx (murmurs -in Turkish?- while writing on the worksheet)  
TC 00:31:49.330 - 00:31:51.752  
(2.01)

Ahmet xxx  
TC 00:31:53.770 - 00:31:54.388  
(0.04)

Fatma we can recycle the chromium\_ (dictating to Ahmet)  
TC 00:31:54.428 - 00:31:57.164  
(4.12)

Fatma chromium\  
TC 00:32:01.287 - 00:32:01.795  
(0.03)

Ahmet xxx/  
TC 00:32:01.829 - 00:32:02.599  
(3.92)

Fatma (Fatma takes paper from Ahmed and writes herself the answers)  
TC 00:32:06.527 - 00:32:22.707  
(0.08)

Fatma °more useful xxx as for leather\_° (reading what she wrote)  
TC 00:32:22.790 - 00:32:25.679  
(0.21)

Fatma at xxxx means e: chemical product\_  
TC 00:32:25.890 - 00:32:29.578

Laia m:\  
TC 00:32:29.580 - 00:32:30.007  
(4.9)

Fatma products:  
TC 00:32:34.910 - 00:32:35.736  
(0.24)

Fatma e: four ten  
TC 00:32:35.980 - 00:32:37.963  
(0.79)

Fatma a:nd  
TC 00:32:38.760 - 00:32:39.804  
(0.95)

Fatma four second xxx  
TC 00:32:40.760 - 00:32:42.349  
(2.06)

Fatma we can use (.) vegetable  
TC 00:32:44.410 - 00:32:46.351  
(0.45)

Laia mh\  
TC 00:32:46.810 - 00:32:47.390  
(0.59)

Laia vegetable/ o- a-  
TC 00:32:47.980 - 00:32:49.139

Fatma si\ vegetable\ [xxx]  
TC 00:32:49.139 - 00:32:50.928

Laia [vegetable\  
TC 00:32:49.520 - 00:32:50.454  
(5.32)

Caterina I can say in fi- in about\_ two or three minutes you should have this completed  
TC 00:32:55.780 - 00:33:00.169  
(0.41)

Caterina and  
TC 00:33:00.580 - 00:33:01.140  
(0.4)

Caterina one of you  
TC 00:33:01.540 - 00:33:02.500  
(0.74)

Caterina is going to go there  
TC 00:33:03.240 - 00:33:04.440  
(0.26)

Caterina and explain  
TC 00:33:04.700 - 00:33:05.745  
(0.42)

Caterina to the group  
TC 00:33:06.170 - 00:33:06.821  
(0.28)

Caterina okay/  
TC 00:33:07.110 - 00:33:07.874  
(0.36)

Caterina Ahmet would you like to go/  
TC 00:33:08.240 - 00:33:09.748  
(0.81)

Caterina yeah/ okay okay  
TC 00:33:10.560 - 00:33:12.350  
(0.18)

Caterina so yours- you are the one who is going to explain  
TC 00:33:12.530 - 00:33:15.417  
(0.31)

Caterina your results\  
TC 00:33:15.730 - 00:33:16.600  
(0.12)

Caterina and  
TC 00:33:16.720 - 00:33:17.240  
(0.23)

Caterina you\ one of you is going to explain\_  
TC 00:33:17.470 - 00:33:20.250  
(0.92)

Caterina your results to the person who will come  
TC 00:33:21.170 - 00:33:23.182  
(0.25)

Caterina okay/ so:  
TC 00:33:23.440 - 00:33:24.080  
(0.27)

Caterina there will be an exchange of information\  
TC 00:33:24.350 - 00:33:26.549  
(0.28)

Fatma mh\  
TC 00:33:26.830 - 00:33:27.306

Caterina [you understand/] so you have to explain  
TC 00:33:27.020 - 00:33:29.037

Fatma [okay\  
TC 00:33:27.540 - 00:33:28.034  
(1.49)

Caterina chromium tannage to them\  
TC 00:33:29.530 - 00:33:30.940  
(0.53)

Caterina okay/ Ahmet/  
TC 00:33:31.470 - 00:33:32.750

Ahmet okay\ okay\  
TC 00:33:32.380 - 00:33:33.376

Caterina yeah/  
TC 00:33:32.960 - 00:33:33.320  
(0.74)

Caterina and you need to decide e:: if Laia\_  
TC 00:33:34.060 - 00:33:37.274  
(0.4)

Caterina or Fatma will explain\_  
TC 00:33:37.680 - 00:33:39.520  
(0.17)

Caterina chromium tannage to the person who is gonna come here  
TC 00:33:39.690 - 00:33:42.286  
(0.02)

Fatma hm\  
TC 00:33:42.310 - 00:33:42.973

Caterina so you can decide this\  
TC 00:33:42.973 - 00:33:44.355  
(0.33)

Ahmet xxxxxxxx  
TC 00:33:44.690 - 00:33:46.321  
(1.51)

Laia bueno\  
TC 00:33:47.840 - 00:33:48.364  
(0.76)

Laia fin/ over/  
TC 00:33:49.130 - 00:33:49.887  
(0.56)

Fatma and: what- what did (.) e: you say I can't remember all of that/  
TC 00:33:50.447 - 00:33:55.508  
(3.03)

Fatma you wrote here/  
TC 00:33:58.540 - 00:33:59.914  
(0.94)

Fatma three/  
TC 00:34:00.860 - 00:34:01.400  
(0.66)

Fatma but we said more/  
TC 00:34:02.060 - 00:34:03.632  
(1.31)

Fatma I can't remember\ what- °you said°  
TC 00:34:04.950 - 00:34:07.070

Ahmet °a: ten xxx no ten per cent°  
TC 00:34:05.860 - 00:34:08.413  
(1.6)

Ahmet it's  
TC 00:34:10.020 - 00:34:10.633  
(0.87)

Ahmet contraction xxxxx (in Turkish)  
TC 00:34:11.510 - 00:34:13.268  
(4.31)

Fatma contraction/  
TC 00:34:17.580 - 00:34:18.336  
(0.44)

Ahmet general xxx leather  
TC 00:34:18.780 - 00:34:20.633  
(0.24)

Ahmet after the tanning  
TC 00:34:20.880 - 00:34:22.289

Laia mh/  
TC 00:34:22.300 - 00:34:22.623

Ahmet green\  
TC 00:34:22.623 - 00:34:23.073  
(0.44)

Ahmet we make a- color\  
TC 00:34:23.520 - 00:34:24.471

Laia a: color si\ mh\  
TC 00:34:24.471 - 00:34:26.021  
(1.29)

Ahmet and so:-  
TC 00:34:27.320 - 00:34:28.029

Laia green or blue\  
TC 00:34:27.740 - 00:34:28.987  
(0.12)

Laia is the best\ (laughs)  
TC 00:34:29.107 - 00:34:30.438

Ahmet [blue yes\  
TC 00:34:29.120 - 00:34:29.945  
(6.66)

Fatma right\ and/ (asking Ahmet what to write)  
TC 00:34:36.606 - 00:34:37.812  
(2.77)

Ahmet a: after the (.) chrome tannage\_  
TC 00:34:40.584 - 00:34:42.534  
(1.28)

Ahmet the leather colour\_  
TC 00:34:43.814 - 00:34:45.181  
(4.51)

Ahmet °xxx for the colour °  
TC 00:34:49.694 - 00:34:50.908  
(3.03)

Ahmet are: green or blue\  
TC 00:34:53.940 - 00:34:55.423  
(6.02)

Fatma and wet blue/  
TC 00:35:01.451 - 00:35:02.625  
(1.82)

Ahmet xxx\ (in Turkish)  
TC 00:35:04.450 - 00:35:05.001  
(0.49)

Fatma [xxx(?) e-]  
TC 00:35:05.500 - 00:35:06.549

Laia [the chrome is using-]  
TC 00:35:05.506 - 00:35:06.549  
(0.75)

Laia for:  
TC 00:35:07.300 - 00:35:07.650  
(0.15)

Laia recurtient\  
TC 00:35:07.800 - 00:35:08.464  
(0.6)

Ahmet recurtient yes\  
TC 00:35:09.070 - 00:35:10.172

Laia in the process\  
TC 00:35:09.080 - 00:35:10.064  
(1.0)

Laia no on:\  
TC 00:35:11.070 - 00:35:12.548  
(0.22)

Laia curtision\ curtision/  
TC 00:35:12.770 - 00:35:14.026  
(0.25)

Ahmet yes e- tannage\ retan tannage\  
TC 00:35:14.280 - 00:35:15.918

Fatma curts tannage\  
TC 00:35:14.980 - 00:35:15.945  
(0.04)

Laia tann- tann\ si\  
TC 00:35:15.988 - 00:35:17.271

Fatma retan\  
TC 00:35:16.360 - 00:35:17.003

Ahmet ret- xxxxx\  
TC 00:35:17.010 - 00:35:19.161  
(3.42)

Fatma is using\_ for\_  
TC 00:35:22.590 - 00:35:24.181  
(0.28)

Fatma the tanning curtein  
TC 00:35:24.470 - 00:35:26.076

Laia reca- retanning\  
TC 00:35:25.556 - 00:35:26.408

Ahmet ret-  
TC 00:35:25.850 - 00:35:26.360

(0.04)

Fatma retanning\  
TC 00:35:26.408 - 00:35:27.375  
(7.62)

Caterina okay ready/  
TC 00:35:35.000 - 00:35:36.164  
(1.24)

Fatma yes  
TC 00:35:37.410 - 00:35:37.790  
(0.24)

Caterina yes/  
TC 00:35:38.030 - 00:35:38.878  
(0.14)

Fatma xxxx  
TC 00:35:39.020 - 00:35:40.128  
(0.12)

Fatma another thing/  
TC 00:35:40.248 - 00:35:41.043  
(0.74)

Caterina is group b ready too/  
TC 00:35:41.790 - 00:35:43.499  
(0.14)

Caterina are you ready/  
TC 00:35:43.640 - 00:35:44.662  
(0.19)

Caterina not yet/  
TC 00:35:44.854 - 00:35:45.550  
(0.1)

Caterina two minutes ah/ two minutes\  
TC 00:35:45.650 - 00:35:47.373  
(8.32)

Fatma your name/  
TC 00:35:55.701 - 00:35:56.693  
(1.4)

Laia como se escribe/ ah- Laia\  
TC 00:35:58.100 - 00:36:00.245  
(0.37)

Laia Laia\  
TC 00:36:00.620 - 00:36:01.374  
(0.12)

Laia (takes worksheet and writes her onw name)  
TC 00:36:01.500 - 00:36:09.990  
(0.06)

Laia is very easy in comparacion with your name  
TC 00:36:10.050 - 00:36:12.038  
(0.47)

Laia (laughs)  
TC 00:36:12.510 - 00:36:13.118  
(0.19)

Laia what- no- this is you/  
TC 00:36:13.310 - 00:36:14.923  
(0.26)

Laia ah you (laughs)  
TC 00:36:15.190 - 00:36:17.180

Fatma (laughs)  
TC 00:36:15.720 - 00:36:17.180  
(13.23)

Caterina okay\ so:: have you decided who is gonna be the speaker/  
TC 00:36:30.410 - 00:36:34.270

Laia Ahmet  
TC 00:36:34.280 - 00:36:35.188  
(0.71)

Caterina Ahmet is gonna go there and then who is going to explain  
TC 00:36:35.900 - 00:36:38.830  
(0.49)

Caterina both of you/  
TC 00:36:39.320 - 00:36:40.111  
(0.1)

Caterina together/  
TC 00:36:40.220 - 00:36:40.916  
(1.77)

Fatma you/  
TC 00:36:42.690 - 00:36:43.199  
(0.46)

Laia explain other\_  
TC 00:36:43.660 - 00:36:44.963  
(0.1)

Fatma yes\  
TC 00:36:45.070 - 00:36:45.300

Laia m: group/  
TC 00:36:45.300 - 00:36:46.229  
(1.22)

Caterina together\  
TC 00:36:47.450 - 00:36:48.758

Laia is very complicated for me\  
TC 00:36:47.890 - 00:36:49.305  
(0.11)

Laia I'm no\_  
TC 00:36:49.420 - 00:36:50.047

Fatma together\ together\ half of you and half of me\  
TC 00:36:50.047 - 00:36:52.964

Laia I don't know english and\_  
TC 00:36:52.980 - 00:36:54.405

Fatma is good is good I'm sure  
TC 00:36:54.420 - 00:36:55.665  
(0.04)

Laia que ho puc explicar en catala o en espanyol/  
TC 00:36:55.710 - 00:36:58.187  
(0.12)

Laia no oi/  
TC 00:36:58.310 - 00:36:58.840  
(1.13)

Caterina a:: you can explain so/me words\_  
TC 00:36:59.970 - 00:37:02.296  
(0.14)

Laia [in spanish\  
TC 00:37:02.441 - 00:37:03.203

Caterina [yeah\  
TC 00:37:02.441 - 00:37:03.203  
(0.61)

Caterina or catalan\_  
TC 00:37:03.820 - 00:37:04.886

Laia you understand: spanish/  
TC 00:37:04.070 - 00:37:05.436  
(0.73)

Ahmet yes: [some]  
TC 00:37:06.170 - 00:37:07.582

Caterina [they are taking]  
TC 00:37:06.630 - 00:37:07.499

Fatma xxx two or three words  
TC 00:37:07.499 - 00:37:10.338  
(0.02)

Laia pues no: puede ser eh/  
TC 00:37:10.361 - 00:37:12.121  
(0.08)

Laia (laughs)  
TC 00:37:12.201 - 00:37:13.371



Fatma (laughs)  
TC 00:37:12.201 - 00:37:13.371  
(0.33)

Laia is not possible ah- okay- el: Mesut i el d'allò van aprendre:.\_  
TC 00:37:13.710 - 00:37:17.393  
(1.15)

Laia jo- n::  
TC 00:37:18.550 - 00:37:19.198  
(2.28)

Laia a- [you go] in the cent-  
TC 00:37:21.480 - 00:37:23.430

Fatma [course]  
TC 00:37:21.930 - 00:37:22.465  
(0.02)

Ahmet centre/  
TC 00:37:22.490 - 00:37:23.209  
(0.53)

Laia [that english center\_ ]  
TC 00:37:23.740 - 00:37:25.382

Fatma [xxx xxx/]  
TC 00:37:23.740 - 00:37:25.382  
(0.02)

Fatma a: with °me°/  
TC 00:37:25.410 - 00:37:26.559

Laia am::  
TC 00:37:26.570 - 00:37:27.495

Ahmet Mesu/ (?) yes Mesu  
TC 00:37:27.240 - 00:37:28.587  
(0.04)

Laia yeah de español no\ you\  
TC 00:37:28.630 - 00:37:30.130

Fatma me/ no\  
TC 00:37:30.130 - 00:37:30.960

Ahmet no this/ this [xxxxxx\  
TC 00:37:30.460 - 00:37:33.560

Laia no\  
TC 00:37:31.290 - 00:37:31.831

Fatma [we are going in a xxx course\  
TC 00:37:31.290 - 00:37:33.488  
(0.14)

Fatma red- red cr-/  
TC 00:37:33.630 - 00:37:34.564  
(0.24)

Fatma red cross/  
TC 00:37:34.810 - 00:37:35.263  
(0.04)

Caterina red cross spanish lessons\ red cross\ and also they are going to catalan courses\_  
TC 00:37:35.303 - 00:37:40.735  
(0.18)

Fatma yes\  
TC 00:37:40.920 - 00:37:41.333  
(0.03)

Ahmet catalan\ catalan\  
TC 00:37:41.370 - 00:37:42.940  
(0.55)

Ahmet xxxxx  
TC 00:37:43.490 - 00:37:44.496

Fatma (laughs) has every[thing]  
TC 00:37:44.496 - 00:37:46.031

Laia com es que s'ha decidit a aprendre català/  
TC 00:37:45.820 - 00:37:47.607  
(0.86)

Caterina ask them

TC 00:37:48.470 - 00:37:49.140  
(0.28)

Laia e:/  
TC 00:37:49.420 - 00:37:49.874  
(0.18)

Caterina ask them\  
TC 00:37:50.060 - 00:37:50.915

Laia (laughs)  
TC 00:37:50.460 - 00:37:51.078  
(0.32)

Laia am::  
TC 00:37:51.400 - 00:37:52.120  
(0.21)

Laia why/  
TC 00:37:52.330 - 00:37:52.903  
(0.24)

Laia e::m they  
TC 00:37:53.143 - 00:37:54.599

Fatma they/  
TC 00:37:54.001 - 00:37:54.271  
(0.98)

Laia e  
TC 00:37:55.260 - 00:37:55.449  
(0.81)

Fatma why you prefer [go to catalan course\  
TC 00:37:56.260 - 00:37:59.472

Laia [why you prefer: ]  
TC 00:37:57.190 - 00:37:58.373  
(0.32)

Laia [hear] the catalan and: (.) not °prefers°\_ (laughs)  
TC 00:37:58.700 - 00:38:02.242

Fatma we are going t- too often but-  
TC 00:38:01.680 - 00:38:04.472

Laia spanish\  
TC 00:38:02.340 - 00:38:02.924  
(1.69)

Fatma am:  
TC 00:38:04.620 - 00:38:05.265

Ahmet Spanish and Catalan\  
TC 00:38:04.631 - 00:38:05.251  
(0.51)

Fatma catalan xxx language and I can't learn e: anywhere\_  
TC 00:38:05.770 - 00:38:09.969  
(0.42)

Fatma e- e- just here  
TC 00:38:10.390 - 00:38:11.674  
(0.11)

Fatma and it's good\  
TC 00:38:11.790 - 00:38:12.748  
(0.4)

Laia yeah\  
TC 00:38:13.150 - 00:38:13.577

Fatma for going here  
TC 00:38:13.160 - 00:38:14.566

Ahmet and here xxxx  
TC 00:38:13.640 - 00:38:14.982

Laia mh\  
TC 00:38:14.810 - 00:38:15.250  
(0.36)

Laia you/ also/ catalan/  
TC 00:38:15.610 - 00:38:17.401

Ahmet [xxxx xxx]  
TC 00:38:15.680 - 00:38:17.507

(0.13)

Laia °a: xxxxx  
TC 00:38:17.640 - 00:38:18.741  
(0.6)

Laia is good\  
TC 00:38:19.350 - 00:38:19.924  
(0.1)

Fatma yes it's good  
TC 00:38:20.030 - 00:38:21.071  
(0.04)

Caterina so you can explain in catalan\ Laia\  
TC 00:38:21.120 - 00:38:23.286  
(0.79)

Caterina you can explain in catalan/  
TC 00:38:24.080 - 00:38:25.458  
(0.12)

Fatma o::h (laughs)  
TC 00:38:25.580 - 00:38:27.081  
(0.1)

Laia that/  
TC 00:38:27.190 - 00:38:27.816

Fatma you can explain but I'm not sure I can understand  
TC 00:38:27.816 - 00:38:31.511  
(0.19)

Laia but- a little/  
TC 00:38:31.710 - 00:38:32.785  
(0.17)

Fatma a little\ yes\  
TC 00:38:32.960 - 00:38:33.945

Laia [a little]  
TC 00:38:33.690 - 00:38:34.264  
(0.13)

Laia for example  
TC 00:38:34.400 - 00:38:35.165  
(0.38)

Laia a:::m  
TC 00:38:35.550 - 00:38:36.450  
(0.7)

Laia in Catalan  
TC 00:38:37.150 - 00:38:38.092  
(0.56)

Laia you translate the catalan  
TC 00:38:38.660 - 00:38:40.237  
(0.89)

Laia m:/  
TC 00:38:41.130 - 00:38:41.816  
(0.33)

Fatma xxx-  
TC 00:38:42.150 - 00:38:42.872

Laia [this]\  
TC 00:38:42.670 - 00:38:43.162  
(0.92)

Laia this\  
TC 00:38:44.090 - 00:38:44.530  
(1.03)

Laia no: or this\  
TC 00:38:45.560 - 00:38:46.480  
(0.45)

Laia for example\  
TC 00:38:46.930 - 00:38:47.629  
(0.25)

Laia no/ (laughing)  
TC 00:38:47.880 - 00:38:48.268

Fatma no (laughing) we just learned-

TC 00:38:48.268 - 00:38:51.096

Ahmet [jo em dic]  
TC 00:38:50.776 - 00:38:52.734

Fatma [xx em dic]  
TC 00:38:51.490 - 00:38:52.322  
(0.49)

Fatma and we just learned the numbers\_  
TC 00:38:52.820 - 00:38:54.799

Ahmet numbers  
TC 00:38:54.600 - 00:38:55.183

Fatma a week ago\  
TC 00:38:55.183 - 00:38:55.942

Laia the: numbers/ numbers  
TC 00:38:55.960 - 00:38:57.911  
(0.06)

Ahmet the numbers yes\ and address  
TC 00:38:57.980 - 00:39:00.232  
(0.16)

Fatma address\  
TC 00:39:00.400 - 00:39:01.043

Laia address\  
TC 00:39:01.000 - 00:39:01.606  
(0.45)

Caterina ready/ [talking to the other group]  
TC 00:39:02.060 - 00:39:02.775  
(1.68)

Ahmet e::: family/  
TC 00:39:04.463 - 00:39:06.280  
(0.41)

Laia family/  
TC 00:39:06.690 - 00:39:07.551

Ahmet [yes]  
TC 00:39:07.120 - 00:39:07.548  
(0.27)

Laia pare mare  
TC 00:39:07.820 - 00:39:09.298

Ahmet fill filla  
TC 00:39:09.298 - 00:39:10.240  
(0.04)

Laia fil fill- (laughs)  
TC 00:39:10.280 - 00:39:12.068

Fatma xxxxx  
TC 00:39:11.370 - 00:39:13.070

Laia si\  
TC 00:39:13.070 - 00:39:13.797  
(0.74)

Fatma it's the one thing (laughing)  
TC 00:39:14.540 - 00:39:15.676

Laia =but- numbers/  
TC 00:39:15.676 - 00:39:16.883  
(0.29)

Ahmet numbers/  
TC 00:39:17.176 - 00:39:17.696  
(0.17)

Laia si\ yes\  
TC 00:39:17.870 - 00:39:18.902  
(0.24)

Ahmet un dos tres\_ cuatro\_ cinc\_ sis\_ set\_ vint\_ vit\_ vuit\_  
TC 00:39:19.150 - 00:39:24.152  
(0.11)

Laia vuit\  
TC 00:39:24.270 - 00:39:24.819

Ahmet nou  
TC 00:39:24.819 - 00:39:25.273

Fatma =nou  
TC 00:39:25.280 - 00:39:25.565

Laia nou  
TC 00:39:25.570 - 00:39:26.014

Ahmet =deu  
TC 00:39:26.014 - 00:39:26.331

Fatma xxxx  
TC 00:39:26.340 - 00:39:27.259

Laia [(laughs)]  
TC 00:39:27.259 - 00:39:28.332

Ahmet dissen disset  
TC 00:39:27.259 - 00:39:28.332  
(0.06)

Ahmet divuit  
TC 00:39:28.397 - 00:39:29.338

Laia si\  
TC 00:39:29.338 - 00:39:29.896  
(0.3)

Ahmet divuit/ dinou/  
TC 00:39:30.205 - 00:39:31.427  
(0.19)

Ahmet [vuit]  
TC 00:39:31.617 - 00:39:32.136

Caterina [yes\] (talking to the other group)  
TC 00:39:31.617 - 00:39:32.136  
(0.03)

Ahmet vint-i-dos vint-i-tres  
TC 00:39:32.169 - 00:39:33.469  
(0.53)

Laia aha\  
TC 00:39:34.000 - 00:39:34.580

Ahmet vint-i-u vint-i-dos  
TC 00:39:34.580 - 00:39:35.646  
(0.43)

Laia and you family/ you::  
TC 00:39:36.076 - 00:39:38.218  
(0.82)

Fatma e:::: just-  
TC 00:39:39.042 - 00:39:40.355

Laia for the- for the father\  
TC 00:39:40.355 - 00:39:41.744  
(0.02)

Fatma =fa- father/ xxx/ (en turc)  
TC 00:39:41.768 - 00:39:43.957  
(0.13)

Ahmet la la meu pare/  
TC 00:39:44.092 - 00:39:45.915

Laia (laughs)  
TC 00:39:45.915 - 00:39:46.608

Ahmet xx [father/]  
TC 00:39:46.608 - 00:39:47.110

Fatma [I can't] remember (laughing)  
TC 00:39:46.792 - 00:39:48.088

Ahmet xxx- [la la meu pare]  
TC 00:39:48.102 - 00:39:50.483

Fatma xxxx\ [en turc]  
TC 00:39:48.883 - 00:39:49.695  
(0.87)

Ahmet father padre  
TC 00:39:50.573 - 00:39:51.849

(0.1)

Ahmet  
TC tiu  
00:39:51.950 - 00:39:52.493  
(0.07)

Laia  
TC padre es en [español\ ]  
00:39:52.570 - 00:39:53.819

Ahmet  
TC [diu ] padre\_  
00:39:53.170 - 00:39:54.237  
(0.22)

Ahmet  
TC padre/  
00:39:54.460 - 00:39:54.947  
(0.19)

Laia  
TC padre español\  
00:39:55.140 - 00:39:56.048  
(0.07)

Ahmet  
TC e::  
00:39:56.120 - 00:39:56.434

Fatma  
TC so: [xxxxxx/]  
00:39:56.434 - 00:39:58.178

Laia  
TC [am: en catalán es papa\  
00:39:56.664 - 00:39:58.662  
(0.06)

Fatma  
TC [papa/]  
00:39:58.731 - 00:39:59.182

Ahmet  
TC [papa/]  
00:39:58.731 - 00:39:59.182  
(0.03)

Laia  
TC (laughs)  
00:39:59.214 - 00:40:00.634  
(0.06)

Ahmet  
TC el meu papa diu\  
00:40:00.699 - 00:40:02.142

Fatma  
TC °[papa]°  
00:40:00.704 - 00:40:01.373  
(0.76)

Laia  
TC (laughs) quina gracia  
00:40:02.142 - 00:40:04.619  
(1.13)

Laia  
TC (laughs)  
00:40:05.753 - 00:40:06.288

Ahmet  
TC yes\  
00:40:06.288 - 00:40:06.528  
(0.15)

Caterina  
TC o:ka:y  
00:40:06.679 - 00:40:07.644  
(0.1)

Laia  
TC a:::m:  
00:40:07.744 - 00:40:08.693  
(0.92)

Laia  
TC a:::  
00:40:09.614 - 00:40:10.214  
(0.55)

Laia  
TC for example  
00:40:10.764 - 00:40:11.724  
(0.31)

Laia  
TC m::::  
00:40:12.040 - 00:40:13.312  
(0.25)

Laia  
TC madre/  
00:40:13.570 - 00:40:14.223  
(0.57)

Laia  
TC in- [span]ish mama\  
00:40:14.802 - 00:40:16.237

Ahmet mama/  
TC 00:40:14.997 - 00:40:15.532  
(0.51)

Ahmet ah\  
TC 00:40:16.042 - 00:40:16.415

Fatma mam- aha\  
TC 00:40:16.428 - 00:40:17.120

Laia (laughs)  
TC 00:40:17.120 - 00:40:18.031  
(0.19)

Laia and uncle/  
TC 00:40:18.230 - 00:40:18.990

Caterina =okay:  
TC 00:40:19.000 - 00:40:20.025

Ahmet oncle/  
TC 00:40:20.030 - 00:40:20.739  
(0.06)

Laia oncle/ [ai quina gracia] (laughing)  
TC 00:40:20.800 - 00:40:23.997

Fatma [oncle\_on:cle\_on:cle\_ ]  
TC 00:40:21.020 - 00:40:23.548  
(0.82)

Ahmet °is not our xxx\  
TC 00:40:24.372 - 00:40:25.516  
(0.07)

Laia am::: [son/]  
TC 00:40:25.594 - 00:40:27.134

Fatma [xxx oncle]  
TC 00:40:26.250 - 00:40:27.430

Laia [son/]  
TC 00:40:27.430 - 00:40:28.055

Caterina (laughs)  
TC 00:40:27.430 - 00:40:28.055  
(0.34)

Ahmet son/ fill (.) [filla]  
TC 00:40:28.400 - 00:40:29.827

Fatma [fili i filla-]  
TC 00:40:29.120 - 00:40:29.740  
(0.29)

Ahmet neu [nena]  
TC 00:40:30.038 - 00:40:31.408

Fatma [cousi/]  
TC 00:40:30.668 - 00:40:31.368  
(0.2)

Laia [cousin is hija\  
TC 00:40:31.568 - 00:40:33.263

Ahmet [cosí\_ cosina\_ ]  
TC 00:40:31.568 - 00:40:33.263  
(0.28)

Fatma °cosina°  
TC 00:40:33.548 - 00:40:34.238  
(0.39)

Laia mh\  
TC 00:40:34.634 - 00:40:35.558

Fatma xxx germà\  
TC 00:40:35.080 - 00:40:36.096  
(0.28)

Laia germà/  
TC 00:40:36.380 - 00:40:36.959

Fatma [germana\  
TC 00:40:36.940 - 00:40:37.587

Ahmet [germà\  
TC 00:40:37.587

TC 00:40:36.940 - 00:40:37.587  
(0.16)

Laia germana\  
TC 00:40:37.750 - 00:40:38.485  
(0.31)

Laia (laughs)  
TC 00:40:38.803 - 00:40:39.638

Fatma [yes\ ]  
TC 00:40:39.226 - 00:40:40.036  
(0.12)

Caterina okay\ so:: Ahmet/  
TC 00:40:40.160 - 00:40:42.418  
(0.3)

Caterina you can go there/ Cem you come here\  
TC 00:40:42.722 - 00:40:44.646

Ahmet xxx-  
TC 00:40:44.646 - 00:40:45.284

Caterina so what we are going to do is/ you are going to explain there\_  
TC 00:40:44.722 - 00:40:48.070  
(0.58)

Caterina chromium tannage\  
TC 00:40:48.655 - 00:40:49.712  
(0.11)

Ahmet I explain\  
TC 00:40:49.826 - 00:40:50.426

Caterina yeah\  
TC 00:40:50.426 - 00:40:50.866  
(0.32)

Caterina an:d:  
TC 00:40:51.190 - 00:40:52.150  
(0.16)

Caterina you are going to come here and explain vegetable tannage\_  
TC 00:40:52.310 - 00:40:55.257  
(0.12)

Caterina to\_  
TC 00:40:55.377 - 00:40:55.992  
(0.12)

Caterina these girls\  
TC 00:40:56.119 - 00:40:57.117  
(0.24)

Caterina and then you two girls [will explain] chromium tannage to- to him\  
TC 00:40:57.357 - 00:41:01.653

Laia (laughs)  
TC 00:40:58.621 - 00:40:59.714  
(2.21)

Caterina and you girls will explain vegetable tannage [to Ahmet]  
TC 00:41:01.927 - 00:41:06.163

Cem [to Ahmet\ ]  
TC 00:41:04.817 - 00:41:05.758  
(8.09)

Fatma welcome in catalan/  
TC 00:41:13.848 - 00:41:15.914  
(0.02)

Laia como/  
TC 00:41:15.941 - 00:41:16.462

Fatma in catalan/ welcome/  
TC 00:41:16.462 - 00:41:18.106  
(0.45)

Laia benvingut\  
TC 00:41:18.565 - 00:41:19.273  
(0.1)

Cem benvingut okay\  
TC 00:41:19.376 - 00:41:20.134



Laia (laughs)  
TC 00:41:20.134 - 00:41:21.290

Fatma ben- ingut\  
TC 00:41:21.090 - 00:41:22.065  
(0.26)

Cem ben[vingut]  
TC 00:41:22.330 - 00:41:23.354

Fatma ben-vingut\  
TC 00:41:22.660 - 00:41:23.370  
(1.37)

Fatma °okay°  
TC 00:41:24.740 - 00:41:25.268  
(0.05)

Cem xxx  
TC 00:41:25.318 - 00:41:25.952  
(0.58)

Cem chrome  
TC 00:41:26.537 - 00:41:26.982  
(0.29)

Cem I will explain you what's chromium tanning\_  
TC 00:41:27.277 - 00:41:29.676  
(0.4)

Cem vegetable tanning\  
TC 00:41:30.083 - 00:41:30.978  
(0.1)

Cem what is meant with e: vegetable tanning is the first tannage process in tthe world-  
TC 00:41:31.083 - 00:41:34.560

Laia sht sht (asking him to slow down with hand gestures)  
TC 00:41:34.570 - 00:41:35.782

Fatma (laughs and repeats hand gesture)  
TC 00:41:35.159 - 00:41:36.272  
(0.24)

Fatma slowly please\_ slowly (laughs)  
TC 00:41:36.519 - 00:41:38.579  
(0.15)

Cem a:: vegetable tanning e: is the first tanning process and a\_  
TC 00:41:38.735 - 00:41:42.955  
(0.23)

Cem an::d a  
TC 00:41:43.185 - 00:41:44.015  
(0.22)

Cem an:d also this\_  
TC 00:41:44.235 - 00:41:45.436  
(0.36)

Cem xxx xxx/  
TC 00:41:45.800 - 00:41:47.075  
(0.32)

Cem a:: there is a- vegetable tanning process\_  
TC 00:41:47.398 - 00:41:49.755  
(0.41)

Cem e:: some extracts\_  
TC 00:41:50.171 - 00:41:51.510  
(0.12)

Cem from\_  
TC 00:41:51.636 - 00:41:51.996  
(0.24)

Cem part  
TC 00:41:52.236 - 00:41:52.545  
(0.2)

Cem root\_  
TC 00:41:52.745 - 00:41:53.134  
(0.3)

Cem and\_ plants or fruits trees e:\_  
TC 00:41:53.437 - 00:41:56.083  
(0.5)

Cem e::m  
TC 00:41:56.590 - 00:41:57.076  
(0.76)

Cem generally\_  
TC 00:41:57.840 - 00:41:58.677  
(0.79)

Cem (clears his throat) all leather's characteristic is changed with\_  
TC 00:41:59.475 - 00:42:02.933  
(0.38)

Cem e:: what we use  
TC 00:42:03.315 - 00:42:04.545  
(0.14)

Cem e: like  
TC 00:42:04.694 - 00:42:05.588  
(0.29)

Cem if we use e:  
TC 00:42:05.883 - 00:42:07.010  
(0.08)

Cem e: red  
TC 00:42:07.090 - 00:42:07.804  
(0.4)

Cem e:: colours/  
TC 00:42:08.204 - 00:42:09.049  
(0.61)

Cem red extract/  
TC 00:42:09.668 - 00:42:10.705  
(0.12)

Cem all leather will be red\  
TC 00:42:10.825 - 00:42:12.430  
(0.59)

Cem e- if we use e:  
TC 00:42:13.023 - 00:42:14.370  
(0.16)

Cem like xxx mimosa\  
TC 00:42:14.530 - 00:42:15.647

Laia si/  
TC 00:42:15.647 - 00:42:16.204  
(0.04)

Cem yes xxx-  
TC 00:42:16.248 - 00:42:17.128

Laia le- red o warrou\ (meaning marron)  
TC 00:42:17.128 - 00:42:18.607  
(0.11)

Cem yes\ ye-  
TC 00:42:18.718 - 00:42:19.427

Laia warrow or a:: \_ xx\  
TC 00:42:19.358 - 00:42:20.840  
(0.52)

Cem yes\  
TC 00:42:21.360 - 00:42:21.788  
(0.37)

Cem (clears his throat) a\_ and e::\_  
TC 00:42:22.158 - 00:42:23.963  
(0.84)

Cem after this process all leather\_  
TC 00:42:24.808 - 00:42:26.872  
(0.14)

Cem m: (gesticulating with hands)  
TC 00:42:27.012 - 00:42:27.573  
(0.32)

Cem harD  
TC 00:42:27.893 - 00:42:28.795  
(0.34)

Cem and heavy: and\_

TC 00:42:29.143 - 00:42:30.307  
(0.47)

Cem plumage  
TC 00:42:30.777 - 00:42:31.484  
(0.44)

Cem plumage/  
TC 00:42:31.932 - 00:42:32.500  
(0.33)

Cem xxx/ (asks in turc to Fatma)  
TC 00:42:32.831 - 00:42:33.777  
(0.25)

Fatma °xxx°  
TC 00:42:34.032 - 00:42:34.647  
(1.29)

Fatma smaller/-  
TC 00:42:35.937 - 00:42:36.492

Cem xxx-/  
TC 00:42:36.272 - 00:42:36.973

Laia [xxx]xx/  
TC 00:42:36.722 - 00:42:37.696

Fatma [thick]ness/  
TC 00:42:36.722 - 00:42:37.696  
(0.23)

Laia this gruix\ [gruixut/] gruix\  
TC 00:42:37.932 - 00:42:40.306

Cem [gruix]  
TC 00:42:39.062 - 00:42:39.500  
(0.97)

Cem gruix\  
TC 00:42:40.472 - 00:42:40.980

Laia in catalan is gruixut\ gruixut\  
TC 00:42:40.802 - 00:42:42.680

Cem (laughs)  
TC 00:42:42.432 - 00:42:43.245

Fatma gruixut\  
TC 00:42:42.700 - 00:42:43.310  
(0.31)

Laia e- com es-  
TC 00:42:43.622 - 00:42:44.370  
(0.2)

Laia in english/ gruixut/  
TC 00:42:44.570 - 00:42:45.651  
(0.16)

Caterina a- thick\  
TC 00:42:45.811 - 00:42:46.628  
(0.21)

Laia [thick\  
TC 00:42:46.840 - 00:42:47.156

Cem [thick\  
TC 00:42:46.840 - 00:42:48.481  
(0.4)

Cem after th- this e::  
TC 00:42:48.884 - 00:42:50.226  
(0.08)

Cem all leather xx\_  
TC 00:42:50.306 - 00:42:51.282  
(0.22)

Cem take  
TC 00:42:51.510 - 00:42:51.895  
(0.64)

Cem e:: SO we can use this type of leather\_  
TC 00:42:52.541 - 00:42:55.490  
(1.05)

Cem generally leath- sole leather\_  
TC 00:42:56.542 - 00:42:59.155  
(0.16)

Cem a: shoes up/  
TC 00:42:59.321 - 00:43:00.311

Fatma shoes\  
TC 00:43:00.191 - 00:43:00.645  
(0.02)

Laia hm\  
TC 00:43:00.671 - 00:43:01.116  
(0.21)

Cem shoes down/  
TC 00:43:01.327 - 00:43:02.270

Laia si\  
TC 00:43:02.287 - 00:43:02.864

Cem also xxx shoes up\  
TC 00:43:02.864 - 00:43:04.411  
(0.22)

Laia mh\  
TC 00:43:04.632 - 00:43:05.238  
(0.15)

Cem °xxx°  
TC 00:43:05.391 - 00:43:06.210  
(0.55)

Cem a::nd  
TC 00:43:06.768 - 00:43:07.559  
(0.84)

Cem generally we use  
TC 00:43:08.406 - 00:43:09.297  
(1.09)

Cem this e:  
TC 00:43:10.395 - 00:43:10.995  
(0.24)

Cem e: and e::  
TC 00:43:11.240 - 00:43:12.431  
(0.84)

Cem what can we say/ (clears his throat) after that\_  
TC 00:43:13.275 - 00:43:15.978  
(3.87)

Cem leather  
TC 00:43:19.850 - 00:43:20.490  
(0.29)

Cem more acidity is  
TC 00:43:20.787 - 00:43:22.379  
(0.28)

Cem uptake  
TC 00:43:22.659 - 00:43:23.458  
(0.43)

Cem am: like  
TC 00:43:23.894 - 00:43:24.468  
(1.29)

Cem it's different to chrome  
TC 00:43:25.766 - 00:43:26.948  
(0.39)

Cem chrome tannage  
TC 00:43:27.345 - 00:43:28.532  
(0.37)

Cem and  
TC 00:43:28.909 - 00:43:29.389  
(0.2)

Cem e::m  
TC 00:43:29.595 - 00:43:30.200  
(1.11)

Cem °what can we say after/°  
TC 00:43:31.319 - 00:43:32.756

(0.39)

Cem °ah- all leathers color e- has changed and also- it can be- yellow\_ red°\_  
TC 00:43:33.149 - 00:43:37.321  
(0.24)

Cem °brown°  
TC 00:43:37.561 - 00:43:38.023  
(0.57)

Cem °light°  
TC 00:43:38.597 - 00:43:39.135  
(0.9)

Cem °pr- the others process°  
TC 00:43:40.042 - 00:43:42.064

Laia mh/  
TC 00:43:42.061 - 00:43:42.562  
(0.02)

Cem m:  
TC 00:43:42.582 - 00:43:43.090  
(0.4)

Cem °and and and°  
TC 00:43:43.492 - 00:43:44.715  
(1.0)

Cem °and it's good°\ (laughs)  
TC 00:43:45.722 - 00:43:46.937  
(0.04)

Fatma that's all\  
TC 00:43:46.977 - 00:43:47.477  
(0.2)

Laia (laughs)  
TC 00:43:47.682 - 00:43:48.408

Cem [that's all] it's- it's very hard to xxx it\_  
TC 00:43:47.682 - 00:43:49.968  
(0.4)

Cem e- we can't use everywhere  
TC 00:43:50.369 - 00:43:52.013  
(0.12)

Cem like chrome\  
TC 00:43:52.133 - 00:43:52.784  
(1.18)

Laia h[m\  
TC 00:43:53.971 - 00:43:54.370

Fatma [like chrome/  
TC 00:43:54.029 - 00:43:54.591  
(0.33)

Cem yes\ e:  
TC 00:43:54.930 - 00:43:55.602  
(0.38)

Cem like some-  
TC 00:43:55.989 - 00:43:56.582

Laia do you prefer m:/ chrome or vegetal/  
TC 00:43:56.480 - 00:43:59.446  
(0.21)

Cem a::h I [prefer\  
TC 00:43:59.660 - 00:44:01.140

Laia [ but a:: tanning leather/  
TC 00:44:00.436 - 00:44:02.300

Cem [chrome]  
TC 00:44:01.226 - 00:44:01.770  
(0.51)

Cem [chrome tanning after [e-re- tannage]  
TC 00:44:02.280 - 00:44:04.280

Laia [o- no/  
TC 00:44:03.660 - 00:44:04.320  
(0.13)

Laia you/ what you prefer de procés\  
TC 00:44:04.453 - 00:44:06.283  
(0.39)

Laia a:m/ vegetal/  
TC 00:44:06.674 - 00:44:08.286  
(0.45)

Laia a:h o::/  
TC 00:44:08.745 - 00:44:09.720  
(0.09)

Laia vegetal ta:nning or [chrome] tanning/  
TC 00:44:09.810 - 00:44:12.167

Cem [or chrome\  
TC 00:44:10.890 - 00:44:11.340  
(0.82)

Cem I think chrome tan[ning\  
TC 00:44:12.167 - 00:44:13.184

Laia chromium\  
TC 00:44:13.030 - 00:44:13.590  
(0.25)

Laia because is very easy [(laughs)]  
TC 00:44:13.840 - 00:44:16.470

Cem [°yes is very easy°\  
TC 00:44:15.000 - 00:44:16.343  
(0.19)

Fatma and softer\  
TC 00:44:16.541 - 00:44:17.422  
(0.03)

Laia and [you/]  
TC 00:44:17.460 - 00:44:18.171

Fatma [malny people\  
TC 00:44:17.980 - 00:44:18.650  
(0.2)

Fatma ye:s chromium leather t- tanning because many people wants to soften and\_  
TC 00:44:18.851 - 00:44:23.150  
(0.53)

Fatma for clothes is using chromium/  
TC 00:44:23.684 - 00:44:25.624

Laia [yes\  
TC 00:44:25.624 - 00:44:26.287

Cem [yes\  
TC 00:44:25.640 - 00:44:26.157

Fatma that's why I o- I prefer but-  
TC 00:44:25.724 - 00:44:27.880  
(0.15)

Fatma [vegetable] is good (method ?)\ [maybe] /  
TC 00:44:28.030 - 00:44:30.633

Cem [vegetable or xxx]  
TC 00:44:28.104 - 00:44:29.450  
(0.4)

Cem [for] shoes\  
TC 00:44:29.854 - 00:44:30.633  
(0.2)

Fatma for shoes yeah/  
TC 00:44:30.840 - 00:44:31.398

Laia if you:::  
TC 00:44:31.290 - 00:44:32.590  
(0.1)

Laia a::m  
TC 00:44:32.698 - 00:44:33.698  
(0.96)

Laia h- have  
TC 00:44:34.667 - 00:44:35.150  
(0.45)

Laia had tannery/  
TC 00:44:35.600 - 00:44:36.789  
(0.05)

Cem ye:s/  
TC 00:44:36.840 - 00:44:37.486

Laia si\  
TC 00:44:37.480 - 00:44:37.711  
(0.14)

Laia what process/  
TC 00:44:37.860 - 00:44:39.407  
(0.16)

Laia in your tannery\  
TC 00:44:39.576 - 00:44:41.103  
(0.23)

Laia es:: colliries/  
TC 00:44:41.341 - 00:44:42.530  
(0.11)

Laia a:m\  
TC 00:44:42.647 - 00:44:43.409  
(0.4)

Laia escollir/  
TC 00:44:43.817 - 00:44:44.885  
(0.28)

Caterina choose\  
TC 00:44:45.174 - 00:44:45.718

Laia choo[se]\  
TC 00:44:45.718 - 00:44:46.500

Fatma [choose\  
TC 00:44:46.105 - 00:44:46.555  
(1.45)

Fatma I think chromium tannage is very /  
TC 00:44:48.007 - 00:44:49.449

Laia chro[me] \ (nodding)  
TC 00:44:49.449 - 00:44:50.265

Fatma [ yeah] \  
TC 00:44:49.780 - 00:44:50.256

Cem [I think]/  
TC 00:44:49.780 - 00:44:50.256  
(0.08)

Laia ([said ]?)  
TC 00:44:50.336 - 00:44:50.948

Cem [e/ is just/]  
TC 00:44:50.526 - 00:44:51.526  
(0.04)

Cem is just  
TC 00:44:51.570 - 00:44:52.270

Laia more people [chrome\  
TC 00:44:52.036 - 00:44:55.628 [chrome\  
and] vegetal/ [(laughs)]

Fatma [yes\  
TC 00:44:52.826 - 00:44:53.200

Cem [hmm\  
TC 00:44:53.200 - 00:44:53.812  
(0.23)

Fatma [more people\  
TC 00:44:54.050 - 00:44:54.948

Fatma because\  
TC 00:44:54.960 - 00:44:55.600  
(0.15)

Fatma a::m::  
TC 00:44:55.750 - 00:44:56.720  
(0.33)

Fatma clothes is (.) important \  
TC 00:44:57.056 - 00:44:58.730

(0.05)

Laia yeah\  
TC 00:44:58.780 - 00:44:59.096

Fatma for leather and [clothes is] /  
TC 00:44:59.106 - 00:45:01.191

Cem [is good for the market]  
TC 00:45:00.026 - 00:45:01.191  
(0.55)

Cem [maybe] market want  
TC 00:45:01.750 - 00:45:02.996

Fatma [yes e:h/]  
TC 00:45:01.855 - 00:45:02.745  
(0.34)

Fatma is e: maybe depends on fashion\  
TC 00:45:03.085 - 00:45:05.612  
(0.26)

Laia yeah\  
TC 00:45:05.880 - 00:45:06.470

Cem [ye:s\  
TC 00:45:06.050 - 00:45:06.582  
(0.16)

Fatma fashion e:: is the most important thing in lea[ther] so maybe it depends on [xxx]  
TC 00:45:06.747 - 00:45:12.290

Laia [yeah yeah]  
TC 00:45:09.530 - 00:45:10.400  
(0.32)

Cem is vegetable leather  
TC 00:45:10.720 - 00:45:12.340  
(0.03)

Fatma yes veg- xxx/ vegetable leather for/ (.) jackets\  
TC 00:45:12.371 - 00:45:15.380

Cem [yeah vegetable]  
TC 00:45:13.241 - 00:45:14.241  
(1.18)

Laia yeah/ but- però- a- in the::/  
TC 00:45:15.423 - 00:45:17.916  
(1.01)

Laia bueno in speci-  
TC 00:45:18.933 - 00:45:19.830  
(0.1)

Laia no:\n  
TC 00:45:19.933 - 00:45:20.490  
(1.74)

Laia foncy/ foncy/ això de foncy/  
TC 00:45:22.239 - 00:45:24.721

Fatma fancy\  
TC 00:45:24.250 - 00:45:24.905

Cem fancy  
TC 00:45:24.625 - 00:45:25.310

Laia foncy hem dit que era marroquineria no\  
TC 00:45:24.999 - 00:45:26.764  
(0.06)

Caterina fancy goods\  
TC 00:45:26.832 - 00:45:27.738

Laia fancy goods/  
TC 00:45:27.738 - 00:45:28.650  
(0.26)

Laia marroquinería\  
TC 00:45:28.911 - 00:45:30.084  
(0.53)

Fatma so: yes\ e::h  
TC 00:45:30.619 - 00:45:32.098  
(0.12)



Fatma if we need fancy goods/  
TC 00:45:32.220 - 00:45:33.310

Laia or- or c- cinturón/ (pronounced à l'anglaise)  
TC 00:45:33.310 - 00:45:35.570  
(0.28)

Cem ah: that\  
TC 00:45:35.859 - 00:45:36.872

Fatma belt/  
TC 00:45:36.889 - 00:45:37.669

Cem yes\  
TC 00:45:37.569 - 00:45:38.669  
(0.08)

Cem yes is good for /  
TC 00:45:38.749 - 00:45:40.289  
(0.14)

Fatma for vegeable that is good\  
TC 00:45:40.429 - 00:45:42.419

Laia that\  
TC 00:45:42.419 - 00:45:43.303  
(1.81)

Laia I don::: 't /  
TC 00:45:45.120 - 00:45:46.300  
(0.12)

Laia I don::: 't /  
TC 00:45:46.426 - 00:45:47.710  
(0.29)

Cem know/ remember/  
TC 00:45:48.000 - 00:45:49.000  
(0.37)

Laia no\  
TC 00:45:49.370 - 00:45:49.650  
(0.09)

Laia remember \ (laughs)  
TC 00:45:49.740 - 00:45:52.060  
(0.68)

Laia a::nd  
TC 00:45:52.740 - 00:45:53.942  
(0.22)

Laia jo- bueno jo no sé dir-ho:/ MM  
TC 00:45:54.163 - 00:45:56.140  
(0.43)

Fatma you can just talk that/  
TC 00:45:56.570 - 00:45:58.260

Laia I don't m::: (. ) k -know the: choose the process \  
TC 00:45:57.400 - 00:46:01.837  
(0.58)

Laia it's depend the moment/ it's depend de:\_  
TC 00:46:02.425 - 00:46:05.173  
(0.61)

Laia city/  
TC 00:46:05.790 - 00:46:06.603

Fatma [yes\  
TC 00:46:06.603 - 00:46:07.113

Laia [for example a: :hm /]  
TC 00:46:06.880 - 00:46:08.170  
(0.24)

Laia in Igualada/  
TC 00:46:08.410 - 00:46:09.386

Cem hm[m\  
TC 00:46:09.386 - 00:46:09.811

Laia [I] think two tanneries\  
TC 00:46:09.680 - 00:46:11.578  
(0.11)

Laia vegetal tanneries\  
TC 00:46:11.697 - 00:46:13.357  
(0.22)

Laia a:nd other / otras\  
TC 00:46:13.578 - 00:46:15.340  
(0.17)

Cem chro[me\  
TC 00:46:15.517 - 00:46:15.821

Fatma [chrome\  
TC 00:46:15.647 - 00:46:15.966

Laia chrome\  
TC 00:46:15.966 - 00:46:16.677  
(0.5)

Fatma in Tur[key] it's the same\ not vegetable so much\_  
TC 00:46:17.177 - 00:46:20.330

Laia [and-]  
TC 00:46:17.447 - 00:46:17.727  
(2.83)

Fatma chromium tan[nage]  
TC 00:46:20.565 - 00:46:22.177

Cem [also in Turkey\  
TC 00:46:21.617 - 00:46:22.314  
(0.05)

Fatma a lot of\_  
TC 00:46:22.367 - 00:46:23.170  
(0.23)

Fatma because\_  
TC 00:46:23.400 - 00:46:24.247  
(0.27)

Fatma eh:: everybody wants the clothes\ jackets\_  
TC 00:46:24.519 - 00:46:27.488

Laia [yeah]  
TC 00:46:27.488 - 00:46:27.896

Fatma so:: in tannage I'm making chromium [tannage \ ]  
TC 00:46:27.656 - 00:46:31.290

Cem [also chrome/ ] chrome\  
TC 00:46:30.164 - 00:46:31.621

Fatma and cheap \  
TC 00:46:31.600 - 00:46:32.294  
(0.4)

Fatma and-  
TC 00:46:32.697 - 00:46:33.329

Cem and cheaper\ produced in [Turkey\  
TC 00:46:32.740 - 00:46:34.454

Fatma [pro]duced in Turkey yes\ chromium\_  
TC 00:46:34.040 - 00:46:36.550

Laia [yes\  
TC 00:46:35.380 - 00:46:35.960  
(1.32)

Fatma is produced in Turkey a lot of chromium xxx  
TC 00:46:37.280 - 00:46:40.360

Cem [yes\  
TC 00:46:39.430 - 00:46:39.787  
(0.59)

Cem we haven't got any mimosa tree (laughs)  
TC 00:46:40.384 - 00:46:42.724

Laia yeah\  
TC 00:46:42.724 - 00:46:43.810  
(0.53)

Laia a:nd/  
TC 00:46:44.340 - 00:46:44.890  
(0.35)

Laia a::nd/  
TC 00:46:45.240 - 00:46:46.040  
(0.34)

Laia do they like a::/  
TC 00:46:46.380 - 00:46:48.380  
(0.25)

Laia a::/  
TC 00:46:48.635 - 00:46:49.990  
(0.5)

Laia leather piel/ no leather piel no\ (laughs)  
TC 00:46:50.490 - 00:46:53.310

Cem leather [piel leather skin sheep skin] (gesturing with hands)  
TC 00:46:53.310 - 00:46:55.930

Fatma leather/  
TC 00:46:53.960 - 00:46:54.803

Laia [no\ a::hm] \ no\ hmm::\  
TC 00:46:54.760 - 00:46:57.150  
(0.4)

Laia hair\ leather with hair\  
TC 00:46:57.559 - 00:46:59.410

Cem aha  
TC 00:46:59.420 - 00:47:00.000

Fatma with hair/  
TC 00:46:59.820 - 00:47:00.430  
(0.19)

Fatma a:h/ okay\  
TC 00:47:00.620 - 00:47:02.060  
(0.14)

Fatma mink\ like mink\  
TC 00:47:02.200 - 00:47:04.230

Cem [in Turkey/]  
TC 00:47:02.200 - 00:47:03.230  
(1.08)

Fatma e:hhh\  
TC 00:47:04.310 - 00:47:05.310  
(0.22)

Fatma [YES\  
TC 00:47:05.530 - 00:47:06.530

Cem some [tanneries/]  
TC 00:47:05.530 - 00:47:06.431

Laia for me:: I  
TC 00:47:06.431 - 00:47:07.740  
(0.24)

Laia no\ I don't [ like\ ]  
TC 00:47:07.984 - 00:47:09.337

Fatma in Turkey yes/ for me no\ I don't [like\ (laughs) ]  
TC 00:47:09.020 - 00:47:11.853

Laia [yeah\  
TC 00:47:10.960 - 00:47:11.750

Cem I like\  
TC 00:47:11.750 - 00:47:12.750  
(0.2)

Fatma you like/  
TC 00:47:12.954 - 00:47:13.630

Cem why you don't like/  
TC 00:47:13.630 - 00:47:14.590  
(0.23)

Cem why (you say so/?)  
TC 00:47:14.820 - 00:47:15.570  
(0.07)

Cem it's expensive/  
TC 00:47:15.640 - 00:47:16.640

(0.43)

Cem you can sell expensive xxx  
TC 00:47:17.070 - 00:47:19.587

Fatma [it's so:::]  
TC 00:47:17.170 - 00:47:18.767  
(0.47)

Laia expensive (laughs)  
TC 00:47:19.238 - 00:47:21.377

Cem (laughs)  
TC 00:47:20.298 - 00:47:21.377

Fatma (laughs)  
TC 00:47:20.388 - 00:47:22.808

Laia in the process on: química técnica no explain the: leather with hair/  
TC 00:47:22.808 - 00:47:27.316

Cem [yes/ ]  
TC 00:47:27.316 - 00:47:28.046

Laia the process\  
TC 00:47:27.566 - 00:47:28.200  
(0.04)

Laia [no\  
TC 00:47:28.246 - 00:47:28.576

Cem oh sometimes [ yes/]  
TC 00:47:28.246 - 00:47:29.419

Laia a::h no:\ a little\  
TC 00:47:28.640 - 00:47:29.826

Cem a little also xxx  
TC 00:47:29.826 - 00:47:31.536

Laia [a little\ (nodding)]  
TC 00:47:30.536 - 00:47:31.277

Fatma [ also in Turkey\  
TC 00:47:30.986 - 00:47:31.956

Laia [in Turkey sí/ ]  
TC 00:47:31.576 - 00:47:32.576

Cem yes\ it's a special thing [they do \ ]  
TC 00:47:31.946 - 00:47:33.600

Fatma [yes\  
TC 00:47:32.920 - 00:47:33.631

Caterina [have] you: e:h that group has finished already/ did you explain the [vegetable  
tannage/ ]  
TC 00:47:33.490 - 00:47:37.560

Cem [yes\  
TC 00:47:36.561 - 00:47:36.986

Laia [no: no m'heu vist no (laughs)]  
TC 00:47:36.740 - 00:47:39.632

Cem I don't know chrome\  
TC 00:47:38.570 - 00:47:39.630

Caterina a:: maybe/ you can explain to everybody\ okay/  
TC 00:47:39.630 - 00:47:43.432  
(0.29)

Caterina yeah/  
TC 00:47:43.730 - 00:47:44.158

Fatma okay\  
TC 00:47:44.158 - 00:47:44.745  
(0.14)

Caterina you two/ can you explain to everybody/ okay\  
TC 00:47:44.890 - 00:47:47.522  
(0.22)

Caterina so: Laia  
TC 00:47:47.747 - 00:47:48.737  
(0.09)

Caterina and Fatma\  
TC 00:47:48.830 - 00:47:49.690  
(0.74)

Laia què/  
TC 00:47:50.430 - 00:47:50.861  
(0.48)

Laia yes (laughs) de que xxxxx ah okay  
TC 00:47:51.350 - 00:47:55.296  
(0.99)

Laia que tinc que explicar a vosaltres/  
TC 00:47:56.290 - 00:47:57.749  
(0.42)

Fatma (laughs)  
TC 00:47:58.170 - 00:47:59.730

Laia (laughs)  
TC 00:47:58.180 - 00:47:59.787

Fatma vosaltres  
TC 00:47:59.790 - 00:48:00.418  
(0.57)

Fatma vosaltres is:\  
TC 00:48:00.990 - 00:48:02.026

Caterina everybody\ a tothom\  
TC 00:48:02.026 - 00:48:03.592  
(0.04)

Laia però si es que-  
TC 00:48:03.633 - 00:48:04.230  
(0.16)

Laia nosaltres anàvem per la pregunta dos encara\  
TC 00:48:04.390 - 00:48:06.381  
(0.3)

Laia bueno encara no- estàvem- e- què la dos- estàvem a la u  
TC 00:48:06.681 - 00:48:09.028  
(0.09)

Cem vale  
TC 00:48:09.127 - 00:48:09.858  
(0.4)

Laia vale/ (laughs)  
TC 00:48:10.258 - 00:48:13.540

Fatma (laughs)  
TC 00:48:10.680 - 00:48:13.530

Caterina no- but you need to explain-  
TC 00:48:12.040 - 00:48:13.709  
(0.17)

Caterina he has explain:ed  
TC 00:48:13.887 - 00:48:15.086  
(0.08)

Laia [no m: ]  
TC 00:48:15.170 - 00:48:15.770

Caterina the chromium tannage so [you need to explain the- ]  
TC 00:48:15.170 - 00:48:18.030

Laia [no finish the explain ]  
TC 00:48:17.256 - 00:48:18.718  
(0.06)

Laia one question: he\  
TC 00:48:18.785 - 00:48:20.125

Caterina he haven't- has h-  
TC 00:48:19.580 - 00:48:20.538

Fatma he explained vegetable tanning\_  
TC 00:48:20.538 - 00:48:22.447  
(0.21)

Fatma to us  
TC 00:48:22.658 - 00:48:23.214  
(0.1)

Caterina yeah\  
TC 00:48:23.320 - 00:48:23.700  
(0.14)

Fatma so we explain chromium tanning/  
TC 00:48:23.846 - 00:48:25.810

Caterina [tan]ning\_  
TC 00:48:25.630 - 00:48:26.254  
(0.2)

Caterina to him and\_  
TC 00:48:26.454 - 00:48:27.951  
(0.56)

Fatma [xxx]  
TC 00:48:28.520 - 00:48:29.414

Caterina [them\  
TC 00:48:28.520 - 00:48:29.414

Cem [them]  
TC 00:48:28.520 - 00:48:29.414  
(0.05)

Fatma okay\  
TC 00:48:29.468 - 00:48:29.859

Cem okay/  
TC 00:48:29.859 - 00:48:30.431  
(0.65)

Fatma °okay°  
TC 00:48:31.090 - 00:48:31.559  
(0.78)

Caterina come on\  
TC 00:48:32.341 - 00:48:32.834  
(0.46)

Laia que/ es que encara- (laughs)  
TC 00:48:33.296 - 00:48:35.242

Fatma (laughs)  
TC 00:48:34.356 - 00:48:35.242  
(0.14)

Caterina okay- a- Laia you need to explain\_  
TC 00:48:35.389 - 00:48:37.961  
(0.42)

Caterina together with Fatma\_  
TC 00:48:38.384 - 00:48:39.869  
(0.03)

Fatma hm\  
TC 00:48:39.899 - 00:48:40.286  
(0.04)

Caterina what\_  
TC 00:48:40.326 - 00:48:41.048  
(0.16)

Caterina vegetable tannage\_  
TC 00:48:41.208 - 00:48:42.492  
(0.08)

Caterina i:s  
TC 00:48:42.572 - 00:48:43.252  
(0.35)

Caterina to the people\_  
TC 00:48:43.610 - 00:48:44.444  
(0.08)

Caterina who did\_  
TC 00:48:44.524 - 00:48:45.433  
(0.11)

Fatma vegetable [tann-]  
TC 00:48:45.552 - 00:48:46.237

Caterina NO\ chromium tannage\ sorry\  
TC 00:48:45.957 - 00:48:47.620  
(0.24)

Caterina chromium tannage to the people who studied\_

TC 00:48:47.860 - 00:48:50.342  
(0.08)

Caterina vegetable tannage\  
TC 00:48:50.425 - 00:48:51.305  
(0.36)

Caterina so you two explain  
TC 00:48:51.671 - 00:48:53.511  
(0.85)

Caterina the bAsics:  
TC 00:48:54.361 - 00:48:55.350  
(0.17)

Caterina of:  
TC 00:48:55.521 - 00:48:56.161  
(0.48)

Caterina chromium tannage to everybody\  
TC 00:48:56.641 - 00:48:58.366  
(0.28)

Caterina okay/  
TC 00:48:58.651 - 00:48:59.131  
(0.06)

Caterina Fatma you can start if [you want]\  
TC 00:48:59.192 - 00:49:00.792

Fatma [okay\  
TC 00:49:00.222 - 00:49:00.834  
(0.5)

Laia ya\  
TC 00:49:01.341 - 00:49:01.862

Fatma e::  
TC 00:49:01.862 - 00:49:02.680  
(0.42)

Fatma in chro[mium-]  
TC 00:49:03.102 - 00:49:03.974

Laia [TOTES/  
TC 00:49:03.622 - 00:49:04.290  
(0.38)

Laia totes/ es a dir-  
TC 00:49:04.671 - 00:49:05.698

Caterina no just chromium tannage\  
TC 00:49:05.218 - 00:49:06.461  
(0.42)

Laia puc parlar en catala/  
TC 00:49:06.882 - 00:49:07.858  
(0.5)

Caterina yeah  
TC 00:49:08.362 - 00:49:09.095  
(0.08)

Laia (laughs)  
TC 00:49:09.175 - 00:49:10.629  
(0.34)

Fatma e::  
TC 00:49:10.973 - 00:49:11.716  
(0.04)

Laia [free Catalonia] (laughs)  
TC 00:49:11.756 - 00:49:13.617

Fatma [xxx the most important\_]  
TC 00:49:11.756 - 00:49:13.617

Cem (laughs)  
TC 00:49:13.585 - 00:49:14.702

Laia (laughs)  
TC 00:49:14.702 - 00:49:17.315

Fatma chemical products: in the world\ e::\_  
TC 00:49:14.702 - 00:49:17.315  
(0.08)

Fatma TC because e: a lot of people are using chromium t- e: for chemical products\_ 00:49:17.395 - 00:49:22.583 (0.47)

Fatma TC and in Turkey also: 00:49:23.060 - 00:49:24.913 (0.39)

Fatma TC em: cause e:: 00:49:25.312 - 00:49:27.064 (0.38)

Fatma TC it`s produced in Turkey: 00:49:27.453 - 00:49:29.143 (0.28)

Fatma TC and for clothes 00:49:29.423 - 00:49:30.580 (0.79)

Fatma TC we are using e: chromium products\_ 00:49:31.371 - 00:49:33.944 (0.29)

Fatma TC e:: and 00:49:34.235 - 00:49:35.115 (0.32)

Fatma TC chromium products are doing\_ 00:49:35.442 - 00:49:37.068 (0.35)

Fatma TC soft effects/ 00:49:37.425 - 00:49:38.261 (0.77)

Fatma TC e::m:: 00:49:39.031 - 00:49:40.156 (0.12)

Fatma TC done is through- 00:49:40.276 - 00:49:41.207 (0.16)

Fatma TC e::: 00:49:41.367 - 00:49:42.109 (0.05)

Fatma TC it's using\_ 00:49:42.161 - 00:49:42.878 (0.2)

Fatma TC more for 00:49:43.078 - 00:49:43.994 (0.2)

Fatma TC from the e- veget- 00:49:44.194 - 00:49:45.362 (0.24)

Fatma TC or than: vegetable tanning because vegetable is\_ 00:49:45.602 - 00:49:48.552 (0.21)

Fatma TC getting so hard but 00:49:48.765 - 00:49:50.197 (0.76)

Fatma TC chromium is 00:49:50.965 - 00:49:51.602 (0.28)

Fatma TC more soft\ 00:49:51.882 - 00:49:52.762 (0.52)

Fatma TC and: more flexible 00:49:53.285 - 00:49:54.948 (0.7)

Fatma TC e: and 00:49:55.651 - 00:49:56.577 (0.08)

Fatma TC chrom- we are using usually chromium three\_ 00:49:56.657 - 00:49:59.474 (0.27)



Fatma e:::/  
TC 00:49:59.750 - 00:50:00.573  
(0.32)

Fatma not chromium six because chromium six\_  
TC 00:50:00.893 - 00:50:03.561  
(0.32)

Fatma e: is a cancerigen\_  
TC 00:50:03.890 - 00:50:05.443  
(0.4)

Fatma that's why e: we don't want chromium six into leather\_  
TC 00:50:05.850 - 00:50:09.496  
(0.86)

Fatma so we are using chromium three/\_  
TC 00:50:10.360 - 00:50:12.389  
(0.85)

Fatma pasaparaula (laughs) Laia  
TC 00:50:13.245 - 00:50:16.480

Selma (laughs)  
TC 00:50:13.960 - 00:50:15.255

Loli (laughs)  
TC 00:50:13.960 - 00:50:15.255  
(1.44)

Laia (clearing her throat)  
TC 00:50:16.700 - 00:50:18.037

Fatma I said this  
TC 00:50:18.037 - 00:50:19.347  
(0.57)

Fatma e:::: and this  
TC 00:50:19.917 - 00:50:21.690  
(0.12)

Laia hm\  
TC 00:50:21.813 - 00:50:22.258  
(0.67)

Laia todo\ (laughs)  
TC 00:50:22.937 - 00:50:24.612

Fatma (laughing) no\ that's two or three\  
TC 00:50:23.617 - 00:50:26.134  
(1.23)

Fatma five is in here  
TC 00:50:27.365 - 00:50:28.225

Laia this no/  
TC 00:50:28.225 - 00:50:28.911  
(0.16)

Fatma no\  
TC 00:50:29.071 - 00:50:29.411  
(0.17)

Laia mh\  
TC 00:50:29.590 - 00:50:30.550  
(2.17)

Laia the:: hmm\  
TC 00:50:32.720 - 00:50:33.840  
(0.36)

Laia chromium tannage is a::/  
TC 00:50:34.200 - 00:50:36.200  
(0.41)

Laia chemical product\  
TC 00:50:36.610 - 00:50:37.820  
(0.03)

Laia hmm:: hmm::\  
TC 00:50:37.850 - 00:50:38.810  
(0.29)

Laia majoritari\  
TC 00:50:39.108 - 00:50:40.200  
(0.09)

Laia (laughs)  
TC 00:50:40.299 - 00:50:41.369  
(0.11)

Laia majoritari for a: tanning leather \  
TC 00:50:41.488 - 00:50:44.182  
(0.4)

Laia hmm:\  
TC 00:50:44.590 - 00:50:45.590  
(0.09)

Laia after vegetal a::nd/  
TC 00:50:45.680 - 00:50:48.330  
(0.6)

Laia sintetic\  
TC 00:50:48.930 - 00:50:49.930  
(0.51)

Laia etc etc (laughs)  
TC 00:50:50.440 - 00:50:51.550  
(0.13)

Laia [(laughs)]  
TC 00:50:51.680 - 00:50:52.410

Cem [(laughs)]  
TC 00:50:51.680 - 00:50:52.470

Laia but the first is is/  
TC 00:50:52.470 - 00:50:54.470  
(0.21)

Laia chromium tanning\  
TC 00:50:54.680 - 00:50:56.190  
(0.15)

Laia a::hmm\  
TC 00:50:56.343 - 00:50:57.567  
(0.37)

Laia there are\  
TC 00:50:57.937 - 00:50:58.497  
(0.12)

Laia and the: different tannings we [explained/] (to Fatma)  
TC 00:50:58.620 - 00:51:00.180

Fatma [no\] (shaking head)  
TC 00:50:59.957 - 00:51:00.427

Laia no\  
TC 00:51:00.427 - 00:51:01.027  
(0.35)

Laia a:hmm/  
TC 00:51:01.380 - 00:51:02.137  
(0.26)

Laia temperatura de contraction\  
TC 00:51:02.400 - 00:51:03.970  
(0.53)

Laia is good temperatura de contraction/ (to Fatma)  
TC 00:51:04.507 - 00:51:06.257

Fatma yeah\  
TC 00:51:06.257 - 00:51:06.527

Cem yeah\  
TC 00:51:06.257 - 00:51:06.527

Selma XXX  
TC 00:51:06.527 - 00:51:07.027

Laia temperature contraction is more /  
TC 00:51:07.027 - 00:51:09.920  
(0.43)

Laia en compareson a:  
TC 00:51:10.357 - 00:51:11.820  
(0.14)

Laia a:::  
TC 00:51:11.969 - 00:51:12.740

(0.2)

Laia temperatura contraction de: vegetal/  
TC 00:51:12.947 - 00:51:15.304  
(0.51)

Laia is mo:re/  
TC 00:51:15.814 - 00:51:16.790  
(0.34)

Laia for example/  
TC 00:51:17.134 - 00:51:18.010  
(0.4)

Laia a:n chrome ta- a:hm: corium tanning \  
TC 00:51:18.410 - 00:51:21.610  
(0.35)

Laia is a:/:  
TC 00:51:21.960 - 00:51:22.790  
(0.19)

Laia twenty:/:  
TC 00:51:22.980 - 00:51:23.620  
(0.06)

Laia no: twelve\  
TC 00:51:23.680 - 00:51:24.510

Caterina [(laughs)]  
TC 00:51:24.320 - 00:51:25.670

Cem [(laughs)]  
TC 00:51:24.320 - 00:51:25.670

Selma [xxx (laughing)]  
TC 00:51:24.320 - 00:51:25.670

Fatma [(laughs)]  
TC 00:51:24.340 - 00:51:25.670

Ahmet [(laughs)]  
TC 00:51:24.340 - 00:51:25.670

Laia [(laughs)]  
TC 00:51:24.630 - 00:51:25.610  
(0.05)

Laia hundr- hundred a:nd vegetal i:s/  
TC 00:51:25.660 - 00:51:28.240

Cem hundred\  
TC 00:51:26.540 - 00:51:26.948  
(1.81)

Laia seventy: a:nd  
TC 00:51:28.765 - 00:51:30.070  
(0.19)

Laia twenty\ ai twenty/ ui ui ui/  
TC 00:51:30.260 - 00:51:32.000

Fatma [(laughs)] eighty\  
TC 00:51:31.710 - 00:51:32.860

Ahmet [(laughs)]  
TC 00:51:31.710 - 00:51:32.560

Caterina [(laughs)]  
TC 00:51:31.710 - 00:51:32.560

Cem [(laughs)]  
TC 00:51:31.710 - 00:51:32.560

Selma [(laughs)]  
TC 00:51:31.710 - 00:51:32.560  
(0.29)

Laia sí eighty\  
TC 00:51:32.850 - 00:51:34.110  
(1.84)

Laia a:hm:\  
TC 00:51:35.950 - 00:51:36.950  
(1.22)

Laia and\_

TC 00:51:38.170 - 00:51:38.820  
(0.54)

Laia the: corium tanning  
TC 00:51:39.360 - 00:51:40.910  
(0.56)

Laia no\  
TC 00:51:41.471 - 00:51:42.049  
(0.4)

Laia chromium tanning leather colour is green and blue it's depend del tant per cent de:/  
TC 00:51:42.450 - 00:51:47.270  
(0.05)

Laia chromium \  
TC 00:51:47.320 - 00:51:48.120  
(0.09)

Laia to the lea[ther\  
TC 00:51:48.210 - 00:51:49.210

Cem xxx  
TC 00:51:48.750 - 00:51:51.300  
(0.31)

Laia a::hm\  
TC 00:51:51.610 - 00:51:52.610  
(1.4)

Laia a::hmm::/  
TC 00:51:54.010 - 00:51:55.740  
(1.9)

Laia and the corium tanning is using for a:h retanning \  
TC 00:51:57.640 - 00:52:00.700  
(0.22)

Laia reteining / (checking pronounciation  
TC 00:52:00.920 - 00:52:01.750  
(0.11)

Laia [reteining/ ]  
TC 00:52:01.860 - 00:52:02.860

Cem [°xxx°]  
TC 00:52:02.130 - 00:52:02.708  
(0.2)

Laia a::nd\  
TC 00:52:02.910 - 00:52:04.910  
(1.67)

Laia °a veure on som\  
TC 00:52:06.580 - 00:52:07.820  
(0.38)

Laia in the::/  
TC 00:52:08.200 - 00:52:09.580  
(0.08)

Laia in the world comercio \  
TC 00:52:09.660 - 00:52:10.880  
(0.16)

Laia °comercio/° (to Fatma)  
TC 00:52:11.040 - 00:52:11.710

Cem xxx  
TC 00:52:11.590 - 00:52:12.243

Fatma comercio/  
TC 00:52:12.243 - 00:52:12.685

Laia comer-[comerc]ial\  
TC 00:52:12.685 - 00:52:14.493  
(moving hand in cir cles)

Fatma comercial\  
TC 00:52:14.500 - 00:52:15.044  
(nodding)

Laia a::h wet-blue\  
TC 00:52:15.044 - 00:52:16.656  
(0.28)

Cem ( yes [eight] \  
TC 00:52:16.936 - 00:52:17.986  
(1.15)

Laia hm hm\  
TC 00:52:19.141 - 00:52:19.923  
(0.29)

Laia is a:./  
TC 00:52:20.216 - 00:52:21.675  
(1.2)

Laia bueno\  
TC 00:52:22.879 - 00:52:23.530  
(0.45)

Laia is a wet-blue\  
TC 00:52:23.980 - 00:52:24.752  
(0.47)

Laia (laughs)  
TC 00:52:25.230 - 00:52:26.700  
(0.17)

Laia finish ya\  
TC 00:52:26.879 - 00:52:27.790  
(0.09)

Laia a.:nd/  
TC 00:52:27.889 - 00:52:28.889  
(0.4)

Laia pasopalabra\  
TC 00:52:29.297 - 00:52:30.130

Fatma [(laughs)]  
TC 00:52:30.040 - 00:52:35.020

Cem  
TC 00:52:30.040 - 00:52:31.550

Laia for you (to Cem, laughing)  
TC 00:52:30.170 - 00:52:33.070

Cem [(laughs)]  
TC 00:52:31.550 - 00:52:32.771  
(0.61)

Cem [xxx]  
TC 00:52:33.390 - 00:52:34.190  
(1.2)

Caterina okay\ [well/]  
TC 00:52:35.390 - 00:52:36.910

Laia °I a:m:./°  
TC 00:52:36.460 - 00:52:37.230

Caterina any/ you want to add anything else/  
TC 00:52:37.230 - 00:52:39.730

Laia you unders[tand] algo/ alguna cosa/  
TC 00:52:39.730 - 00:52:41.810

Caterina did you]  
TC 00:52:40.087 - 00:52:40.537  
(1.32)

Caterina [Did/ did you forget anything] about vegetable: or chromium/  
TC 00:52:41.857 - 00:52:46.627  
(0.89)

Caterina no:./ you want to add anything else/  
TC 00:52:47.520 - 00:52:50.077  
(1.4)

Caterina chromium and  
TC 00:52:51.480 - 00:52:52.616

Ahmet [xxxx]  
TC 00:52:51.700 - 00:52:52.825

Loli yes\  
TC 00:52:52.330 - 00:52:52.904  
(0.34)

Caterina laughs  
TC 00:52:53.250 - 00:52:53.944

Ahmet o:::h

TC 00:52:53.810 - 00:52:54.437  
(0.02)

Caterina why/ a- why/ Ahmet/  
TC 00:52:54.464 - 00:52:56.278

Ahmet why Conkun  
TC 00:52:56.078 - 00:52:56.729  
(0.96)

Ahmet why because  
TC 00:52:57.690 - 00:52:58.792  
(0.5)

Ahmet e::  
TC 00:52:59.301 - 00:52:59.914  
(1.74)

Caterina why/ why/  
TC 00:53:01.662 - 00:53:02.441

Ahmet it\_  
TC 00:53:02.441 - 00:53:03.118  
(0.33)

Ahmet makes leather best  
TC 00:53:03.451 - 00:53:04.944  
(0.89)

Ahmet °make leather\_ best\  
TC 00:53:05.834 - 00:53:07.365  
(1.11)

Ahmet e:::: xxx  
TC 00:53:08.481 - 00:53:09.843  
(0.64)

Ahmet and strong\_  
TC 00:53:10.491 - 00:53:11.200  
(0.81)

Ahmet and xxx  
TC 00:53:12.015 - 00:53:13.010  
(0.97)

Ahmet °xx°  
TC 00:53:13.986 - 00:53:14.544

Selma and cheap  
TC 00:53:14.544 - 00:53:15.277  
(0.03)

Ahmet and\_ cheap yes xx\  
TC 00:53:15.311 - 00:53:17.168  
(0.98)

Ahmet [you] can from- you can find it\_  
TC 00:53:18.150 - 00:53:20.623

Cem [Ahmet]  
TC 00:53:18.150 - 00:53:18.724  
(2.26)

Ahmet it- it- you can find from\_  
TC 00:53:20.986 - 00:53:22.505  
(0.28)

Ahmet xx-  
TC 00:53:22.787 - 00:53:23.383

Cem Ahmet/  
TC 00:53:23.383 - 00:53:23.923

Ahmet yes/  
TC 00:53:23.801 - 00:53:24.008

Cem can we use em- chrome tanning instead of-  
TC 00:53:24.008 - 00:53:26.552

Ahmet but- I prefer- I prefer vegetable\_  
TC 00:53:26.552 - 00:53:29.061  
(0.47)

Cem you prefer vegetable/  
TC 00:53:29.538 - 00:53:30.694  
(1.29)

Laia why/  
TC 00:53:31.985 - 00:53:32.511  
(0.34)

Ahmet I repeat  
TC 00:53:32.855 - 00:53:33.581  
(1.74)

Laia you prefer vegetal o no/  
TC 00:53:35.328 - 00:53:36.685  
(1.27)

Laia you prefer vegetal or no/  
TC 00:53:37.962 - 00:53:39.313

Ahmet I- I prefer veget- [vegetal]  
TC 00:53:39.313 - 00:53:41.071

Laia [si/]  
TC 00:53:40.551 - 00:53:41.099  
(0.26)

Laia vegetal/  
TC 00:53:41.367 - 00:53:42.014  
(0.26)

Laia and you/  
TC 00:53:42.275 - 00:53:42.842  
(0.66)

Selma chromium  
TC 00:53:43.506 - 00:53:44.320  
(1.18)

Ahmet a- chrome less but- I n- I prefer vegetal\  
TC 00:53:45.501 - 00:53:48.871

Cem I- I prefer oth- xxx\ (laughs)  
TC 00:53:48.871 - 00:53:50.867  
(0.29)

Fatma other xx/ yeah [xx]  
TC 00:53:51.162 - 00:53:52.160

Cem yeah [different xx]  
TC 00:53:51.620 - 00:53:52.698  
(0.79)

Cem e: I have a question\  
TC 00:53:53.488 - 00:53:54.728  
(0.51)

Cem em::  
TC 00:53:55.241 - 00:53:55.766  
(0.43)

Ahmet (laughs)  
TC 00:53:56.200 - 00:53:57.221  
(0.24)

Cem you said chrome- a::  
TC 00:53:57.461 - 00:53:58.971  
(0.08)

Cem we- we can use chrome tannage leather/ everywhere\  
TC 00:53:59.051 - 00:54:02.142  
(0.54)

Cem yes/  
TC 00:54:02.691 - 00:54:03.083  
(0.9)

Ahmet °we can find chrome\_°  
TC 00:54:03.991 - 00:54:05.818  
(0.56)

Cem we can find/ no\ we can use chrome tannage leather\_  
TC 00:54:06.381 - 00:54:08.625  
(0.88)

Cem every- where/  
TC 00:54:09.506 - 00:54:10.392  
(2.36)

Fatma [xxxx chrome]  
TC 00:54:12.758 - 00:54:14.021

Cem [xxxx] a: if y- if you want xxx- xxx leather/  
TC 00:54:12.758 - 00:54:15.841  
(0.24)

Cem we can use chrome tannage/  
TC 00:54:16.086 - 00:54:17.258  
(0.36)

Cem leather/  
TC 00:54:17.618 - 00:54:18.093  
(0.94)

Cem hard\  
TC 00:54:19.040 - 00:54:19.614  
(1.24)

Ahmet no\  
TC 00:54:20.858 - 00:54:21.237  
(0.24)

Ahmet if you\_ we found hard leather we can\_  
TC 00:54:21.477 - 00:54:24.089  
(0.2)

Ahmet use  
TC 00:54:24.289 - 00:54:24.652  
(0.28)

Ahmet vegetable\  
TC 00:54:24.932 - 00:54:25.626  
(0.16)

Cem maybe retanagge  
TC 00:54:25.786 - 00:54:26.647  
(0.52)

Cem [is possible/]  
TC 00:54:27.167 - 00:54:27.965

Ahmet ° [xx] is possible\  
TC 00:54:27.457 - 00:54:29.030  
(0.95)

Laia what/ is [possible but xxx]  
TC 00:54:29.987 - 00:54:31.993

Cem [chrome- chromium]  
TC 00:54:30.627 - 00:54:31.978  
(0.07)

Fatma but-  
TC 00:54:32.050 - 00:54:32.472

Cem if- if we use-  
TC 00:54:32.390 - 00:54:33.324

Laia in retanagge\_ and that is chromium-  
TC 00:54:33.324 - 00:54:35.778

Cem in retanning is chromium after we are using\_  
TC 00:54:35.600 - 00:54:38.271  
(0.34)

Cem a: vegetable\_  
TC 00:54:38.620 - 00:54:39.439  
(0.12)

Cem xxx  
TC 00:54:39.560 - 00:54:40.071  
(0.1)

Cem e:  
TC 00:54:40.179 - 00:54:40.517  
(0.16)

Laia ah si [yes yes yes]  
TC 00:54:40.677 - 00:54:42.224

Cem [xxx yes yes yes yes]  
TC 00:54:40.978 - 00:54:42.696  
(0.5)

Cem °vegetable °  
TC 00:54:43.196 - 00:54:44.151  
(0.3)

Cem °leather°



TC 00:54:44.457 - 00:54:44.958  
(0.74)

Laia [°yes°]  
TC 00:54:45.707 - 00:54:46.213

Cem [°yes°]  
TC 00:54:45.707 - 00:54:46.213  
(1.65)

Caterina okay/ well perfect\  
TC 00:54:47.867 - 00:54:49.513  
(0.24)

Caterina what I want you to do  
TC 00:54:49.753 - 00:54:51.210  
(0.08)

Caterina fo::r  
TC 00:54:51.298 - 00:54:51.966  
(0.04)

Caterina monday is  
TC 00:54:52.006 - 00:54:53.040  
(0.43)

Caterina I want you to put this in:  
TC 00:54:53.473 - 00:54:55.860  
(0.25)

Caterina writing\  
TC 00:54:56.110 - 00:54:56.790  
(0.62)

Caterina bu:t I want you to- make legal study\_  
TC 00:54:57.419 - 00:55:00.159  
(0.55)

Caterina o:f  
TC 00:55:00.710 - 00:55:01.190  
(0.72)

Caterina a:::  
TC 00:55:01.910 - 00:55:02.618  
(0.72)

Caterina your country\  
TC 00:55:03.338 - 00:55:04.238  
(0.55)

Caterina how you country\_ is mannaging\_  
TC 00:55:04.795 - 00:55:06.995  
(0.48)

Caterina a:: leather  
TC 00:55:07.475 - 00:55:08.618  
(0.13)

Caterina technology/ and especially  
TC 00:55:08.750 - 00:55:10.707  
(0.44)

Caterina a:::  
TC 00:55:11.147 - 00:55:11.597  
(0.08)

Caterina is it using  
TC 00:55:11.677 - 00:55:12.728  
(0.12)

Caterina chrome tannage/  
TC 00:55:12.848 - 00:55:13.743  
(0.19)

Caterina or is it using vegetable tannage/  
TC 00:55:13.937 - 00:55:15.720  
(0.44)

Caterina if you can use percentages that's better but\_  
TC 00:55:16.160 - 00:55:18.725  
(0.12)

Caterina you can explain your o:wn opinion\  
TC 00:55:18.845 - 00:55:21.115  
(0.14)

Caterina also\  
TC

TC 00:55:21.258 - 00:55:21.738  
(0.12)

Caterina yeah/  
TC 00:55:21.858 - 00:55:22.249  
(0.33)

Caterina so what is better/  
TC 00:55:22.580 - 00:55:23.754  
(0.19)

Caterina a:nd what is your country using more and more\  
TC 00:55:23.947 - 00:55:26.785  
(0.53)

Caterina okay/  
TC 00:55:27.317 - 00:55:27.677  
(0.44)

Caterina so this is into writing\_  
TC 00:55:28.117 - 00:55:29.711  
(0.08)

Caterina for me\ I'm going to break this\_  
TC 00:55:29.791 - 00:55:31.257  
(0.26)

Caterina exercise\  
TC 00:55:31.517 - 00:55:32.171  
(0.37)

Caterina okay/  
TC 00:55:32.545 - 00:55:33.102  
(0.41)

Fatma °okay\  
TC 00:55:33.515 - 00:55:34.033

Cem °okay\  
TC 00:55:33.515 - 00:55:34.033  
(0.03)

Caterina well\_  
TC 00:55:34.064 - 00:55:34.617  
(0.14)

Caterina thank yo:u  
TC 00:55:34.758 - 00:55:35.526

## APÈNDIX

### ii.9 Transcripció de TG3

Cem Loli do you have a idea\  
TC 00:00:12.764 - 00:00:14.620  
(0.89)

Cem let's let's start/  
TC 00:00:15.510 - 00:00:17.695  
(0.03)

Ahmet XXXXXXX problem XXX[XX]  
TC 00:00:17.734 - 00:00:21.893

Fatma  
TC 00:00:21.260 - 00:00:23.441

Loli [problem\  
TC 00:00:21.483 - 00:00:22.323

Cem [and XXXXX]  
TC 00:00:21.581 - 00:00:22.971

Loli mo:re work/  
TC 00:00:22.323 - 00:00:24.162

Cem [more work]  
TC 00:00:24.150 - 00:00:24.520

Loli [mo:re/]  
TC 00:00:24.162 - 00:00:25.786

Ahmet for us the language\  
TC 00:00:25.786 - 00:00:27.044  
(0.44)

Ahmet a[nd the relation] with people  
TC 00:00:27.493 - 00:00:29.333

Cem [XXXXXX]  
TC 00:00:27.580 - 00:00:28.396  
(1.72)

Ahmet °the relation a problem°  
TC 00:00:30.120 - 00:00:32.289  
(19.5)

Caterina yes so what we're going to do /  
TC 00:00:51.795 - 00:00:53.422  
(0.3)

Caterina after is we're going to swo:tch  
TC 00:00:53.722 - 00:00:55.772  
(0.81)

Caterina you have to write your problems\  
TC 00:00:56.582 - 00:00:58.582  
(0.38)

Caterina in a piece of paper and you're goig to give it to the other group\  
TC 00:00:58.964 - 00:01:02.134  
(0.53)

Caterina and the other grou:p will try to find solutions/  
TC 00:01:02.672 - 00:01:05.282

Ahmet our own [problem/]  
TC 00:01:05.285 - 00:01:06.285

Caterina [to to your] own problems\  
TC 00:01:06.009 - 00:01:07.285

Ahmet ah okey\  
TC 00:01:06.949 - 00:01:07.372

Cem okey  
TC 00:01:07.372 - 00:01:07.839

Caterina okey\  
TC 00:01:07.857 - 00:01:08.449  
(0.15)

Caterina yes\Fatma/  
TC 00:01:08.607 - 00:01:09.505

Caterina Selma  
TC 00:01:09.505 - 00:01:10.165

Ahmet XXXX  
TC 00:01:10.165 - 00:01:10.638  
(0.17)

Ahmet XXXXXXXXXXXXXXX  
TC 00:01:10.808 - 00:01:12.029  
(0.03)

Cem XX  
TC 00:01:12.063 - 00:01:12.349  
(14.61)

Cem and teh cofee machine not XXX  
TC 00:01:26.968 - 00:01:28.240  
(0.79)

Ahmet (laughs)  
TC 00:01:29.036 - 00:01:29.351

Cem (laughs)  
TC 00:01:29.036 - 00:01:29.351  
(0.91)

Cem IN TURKISH  
TC 00:01:30.266 - 00:01:30.934  
(0.15)

Ahmet cum  
TC 00:01:31.087 - 00:01:31.308  
(0.55)

Loli you are different/  
TC 00:01:31.859 - 00:01:32.917

Ahmet (laughs)  
TC 00:01:32.917 - 00:01:34.189

Cem (laughs)  
TC 00:01:32.917 - 00:01:34.189  
(0.6)

Ahmet sometimes  
TC 00:01:34.798 - 00:01:35.257  
(0.53)

Ahmet the problem  
TC 00:01:35.787 - 00:01:36.727  
(0.52)

Cem I-I'd like a cofee machine  
TC 00:01:37.254 - 00:01:38.883  
(0.32)

Cem I havve a problem with he coffee machine  
TC 00:01:39.206 - 00:01:40.580  
(0.77)

Ahmet don't work sometimes\  
TC 00:01:41.359 - 00:01:42.359  
(0.34)

Cem find the solution Fatma/  
TC 00:01:42.699 - 00:01:43.971  
(0.59)

Ahmet (laughs)  
TC 00:01:44.566 - 00:01:45.733

Cem (laughs)  
TC 00:01:44.566 - 00:01:45.733

Fatma (laughs)  
TC 00:01:44.566 - 00:01:45.733

Selma (laughs)  
TC 00:01:44.566 - 00:01:45.733

Loli (laughs)  
TC 00:01:44.566 - 00:01:45.733

Caterina (laughs)  
TC 00:01:44.566 - 00:01:45.733

Fatma okay: I will find a soluti[on]  
TC 00:01:45.736 - 00:01:47.544

Ahmet [ye:]e  
TC 00:01:47.486 - 00:01:48.166  
(3.25)

Ahmet °XXXXXXX°  
TC 00:01:51.421 - 00:01:52.268  
(1.22)

Ahmet °XXXXXXXXXX°  
TC 00:01:53.492 - 00:01:54.390

Cem a:u yes it's a: in the  
TC 00:01:54.390 - 00:01:56.450  
(0.67)

Ahmet [XXXXXXXXXX]  
TC 00:01:57.127 - 00:01:58.229

Cem a:h l[unchtime]  
TC 00:01:57.127 - 00:01:58.229  
(0.22)

Cem e:rrr  
TC 00:01:58.449 - 00:01:58.889  
(1.31)

Cem difficult a: to eat in here sometimes\  
TC 00:02:00.199 - 00:02:03.029  
(1.92)

Cem XXXXXXXXXXXXX no/ err  
TC 00:02:04.957 - 00:02:07.165

Cem lu-lunchtime/  
TC 00:02:07.165 - 00:02:08.318  
(1.35)

Cem a: eating/  
TC 00:02:09.672 - 00:02:10.672  
(0.45)

Cem outside/  
TC 00:02:11.122 - 00:02:11.675  
(0.21)

Cem it's a problem for us I think  
TC 00:02:11.892 - 00:02:13.331  
(1.88)

Loli Loli i tu/  
TC 00:02:15.213 - 00:02:15.923  
(15.98)

Cem Anton[ia]  
TC 00:02:31.912 - 00:02:32.218

Ahmet [th]is our problem and your problems/  
TC 00:02:32.034 - 00:02:34.154

Ahmet (laughs)  
TC 00:02:34.154 - 00:02:35.154  
(0.2)

Ahmet [(laughs)]  
TC 00:02:35.358 - 00:02:36.398

Cem [(laughs)]  
TC 00:02:35.358 - 00:02:36.398

Fatma [(laughs)]  
TC 00:02:35.358 - 00:02:36.398

Selma [(laughs)]  
TC 00:02:35.358 - 00:02:36.392

Loli [(laughs)]  
TC 00:02:35.358 - 00:02:36.392

Caterina [(laughs)]  
TC 00:02:35.358 - 00:02:36.392  
(1.83)

Loli problems\  
TC 00:02:38.228 - 00:02:38.483  
(0.48)

Loli yeah\  
TC 00:02:38.963 - 00:02:39.252  
(0.63)

Loli more  
TC 00:02:39.882 - 00:02:40.052  
(0.17)

Loli more  
TC 00:02:40.222 - 00:02:40.545  
(0.72)

Loli e:mm  
TC 00:02:41.270 - 00:02:42.703  
(0.17)

Ahmet XXXX  
TC 00:02:42.873 - 00:02:43.196  
(0.42)

Cem your house e: is  
TC 00:02:43.621 - 00:02:44.876  
(0.15)

Cem near your  
TC 00:02:45.029 - 00:02:45.876  
(0.39)

Cem uni- university  
TC 00:02:46.267 - 00:02:47.097  
(1.0)

Loli it is near\ (laughs)  
TC 00:02:48.097 - 00:02:50.097

Cem ah::  
TC 00:02:49.007 - 00:02:49.250

Ahmet okay  
TC 00:02:49.250 - 00:02:49.539  
(1.17)

Ahmet not a problem a:h  
TC 00:02:50.709 - 00:02:52.775  
(0.51)

Cem no time  
TC 00:02:53.285 - 00:02:53.931  
(4.86)

Cem Mo- mondays university is hot ai not hot  
TC 00:02:58.799 - 00:03:01.680  
(0.17)

Cem cold (laughing)  
TC 00:03:01.850 - 00:03:02.343  
(1.0)

Cem cold  
TC 00:03:03.343 - 00:03:03.513  
(0.34)

Ahmet yes  
TC 00:03:03.853 - 00:03:03.989  
(4.49)

Loli it's a problem  
TC 00:03:08.482 - 00:03:09.482

Cem a:h timetable yeah sometimes\  
TC 00:03:09.462 - 00:03:11.669  
(1.45)

Cem and a:hh Mondays university is not  
TC 00:03:13.125 - 00:03:16.870  
(1.82)

Ahmet on Monday\  
TC 00:03:18.696 - 00:03:19.422

Ahmet [ Monday] Mondays university is cold  
TC 00:03:19.422 - 00:03:23.388

Cem [Monday]  
TC 00:03:19.437 - 00:03:20.015  
(2.98)

Caterina ye:s  
TC 00:03:22.995 - 00:03:23.420  
(0.15)

Caterina (laughing)  
TC 00:03:23.573 - 00:03:24.437  
(0.26)

Ahmet XXXXX  
TC 00:03:24.703 - 00:03:25.213  
(0.4)

Cem yes a:h\  
TC 00:03:25.621 - 00:03:26.383  
(8.88)

Cem also I have a problem with the cola machine  
TC 00:03:35.264 - 00:03:37.281  
(1.16)

Cem XXXXXX  
TC 00:03:38.445 - 00:03:39.108  
(19.56)

Caterina That's it\  
TC 00:03:58.669 - 00:03:59.669  
(0.45)

Caterina yeah/  
TC 00:04:00.128 - 00:04:00.502  
(0.18)

Caterina yeah\  
TC 00:04:00.689 - 00:04:00.876  
(0.13)

Selma (In Turkish in the background)  
TC 00:04:01.012 - 00:04:02.080

Caterina you can change/  
TC 00:04:02.080 - 00:04:03.080  
(0.15)

Caterina papers/  
TC 00:04:03.233 - 00:04:04.352  
(0.16)

Cem nice people/  
TC 00:04:04.519 - 00:04:05.196  
(0.13)

Caterina yeah okay so now you give it  
TC 00:04:05.332 - 00:04:07.060  
(0.86)

Caterina to hi-to them and they have  
TC 00:04:07.924 - 00:04:09.400  
(0.1)

Caterina to write the solutions  
TC 00:04:09.502 - 00:04:10.893  
(0.57)

Caterina to your problems  
TC 00:04:11.468 - 00:04:12.468  
(0.44)

Caterina on the back of the paper/  
TC 00:04:12.910 - 00:04:14.250  
(0.64)

Cem okay  
TC 00:04:14.893 - 00:04:15.230  
(0.13)

Ahmet okay  
TC 00:04:15.366 - 00:04:15.638  
(0.15)

Fatma a:hhh  
TC 00:04:15.791 - 00:04:16.791

Ahmet we change it  
TC 00:04:15.967 - 00:04:16.791  
(0.55)

Fatma I think [(laughs)]  
TC 00:04:17.349 - 00:04:18.903

Ahmet [XXXXXXXXXX]  
TC 00:04:18.209 - 00:04:19.328  
(0.06)

Fatma here I wrote XXXX[XX]  
TC 00:04:19.396 - 00:04:21.161

Caterina oh well\  
TC 00:04:20.764 - 00:04:22.106

Caterina you write it [below\  
TC 00:04:22.106 - 00:04:23.429

Selma [XXXXX]  
TC 00:04:22.716 - 00:04:23.429  
(0.03)

Caterina below  
TC 00:04:23.460 - 00:04:24.123  
(0.83)

Selma XXXX  
TC 00:04:24.953 - 00:04:25.327  
(0.06)

Ahmet bihem\  
TC 00:04:25.395 - 00:04:25.987  
(0.32)

Ahmet °XXXXXXXXXXXXXXXXXX° (reading from paper to group)  
TC 00:04:26.310 - 00:04:29.571

Ahmet [XX] (continues to read from  
paper)  
TC 00:04:29.571 - 00:04:35.435

Fatma we wro[te / ]  
TC 00:04:29.571 - 00:04:30.435

Cem [they solved their problems\  
TC 00:04:30.411 - 00:04:31.717

Fatma yeah to your own solutions (laughing)  
TC 00:04:31.267 - 00:04:33.475  
(0.04)

Fatma they XXXXXXXX isn't/  
TC 00:04:33.517 - 00:04:35.427  
(1.81)

Ahmet [they help us XXXXX]  
TC 00:04:37.240 - 00:04:38.376

Caterina okay can you/  
TC 00:04:37.240 - 00:04:38.376

Ahmet °XXXXXXXXXXXXXXXXXX° (still reading from paper)  
TC 00:04:38.376 - 00:04:40.546

Fatma [a: find another solution\  
TC 00:04:38.376 - 00:04:39.699  
(0.06)

Caterina [ yea:hh] (laughs)  
TC 00:04:39.766 - 00:04:41.257

Ahmet °Of Catalan we XXXXXXXXXXXXXXXXXXXX because [the relationship] ° (reading other  
group's comments to his own group)  
TC 00:04:41.130 - 00:04:50.484

Caterina [what are the problems/  
TC 00:04:46.660 - 00:04:47.660  
(0.47)

Cem [I know they have a problem/  
TC 00:04:48.130 - 00:04:50.130

Loli the la: nguage is a pro: ble:m ] (laughs)  
TC 00:04:49.193 - 00:04:52.079



Fatma [the language\ yes/ a major problem the language]  
TC 00:04:50.458 - 00:04:53.359

Ahmet [ language\  
TC 00:04:51.518 - 00:04:52.331

Cem [language\  
TC 00:04:52.280 - 00:04:52.858

Ahmet [main problem\  
TC 00:04:52.756 - 00:04:53.756  
(1.66)

Cem XXXX  
TC 00:04:55.419 - 00:04:55.827  
(0.23)

Caterina okay\ so find solutions/  
TC 00:04:56.065 - 00:04:57.575  
(0.11)

Cem [yes]/ find solutions\  
TC 00:04:57.694 - 00:04:58.694

Ahmet yes/  
TC 00:04:57.722 - 00:04:58.096  
(1.6)

Cem learn Spanish/ (laughs)  
TC 00:04:59.702 - 00:05:01.345  
(1.3)

Cem it's so easy (laughs)  
TC 00:05:02.651 - 00:05:03.549

Selma isn't easy/  
TC 00:05:03.549 - 00:05:04.464

Fatma learn Spanish/  
TC 00:05:04.464 - 00:05:05.549  
(0.47)

Fatma >fast fast fast< for two weeks  
TC 00:05:06.024 - 00:05:07.752  
(0.52)

Cem yes\  
TC 00:05:08.276 - 00:05:08.766  
(0.45)

Fatma ye:s/ (laughing ironically)  
TC 00:05:09.225 - 00:05:09.633

Cem watch TV in Spanish\  
TC 00:05:09.633 - 00:05:11.395  
(0.59)

Cem do you do you watch TV in Spanish^ [ish/  
TC 00:05:11.990 - 00:05:14.228

Fatma [No\  
TC 00:05:13.946 - 00:05:14.218

Fatma I don't like watch TV\  
TC 00:05:14.228 - 00:05:15.568  
(0.05)

Cem Do you read books in Spanish/ (ironically)  
TC 00:05:15.626 - 00:05:17.272  
(0.44)

Fatma No\ because I don't know the grammar\  
TC 00:05:17.716 - 00:05:19.532  
(0.17)

Cem Do you study your teacher in Spanish/  
TC 00:05:19.702 - 00:05:21.348  
(0.35)

Cem No\  
TC 00:05:21.702 - 00:05:22.008  
(0.18)

Fatma ((laughing)No::\ )  
TC 00:05:22.195 - 00:05:24.110  
(0.42)

Fatma ((laughing)then [how can] how can you do [the: exams/ ])  
TC 00:05:24.535 - 00:05:27.790

Cem (?[how can you do/])  
TC 00:05:25.205 - 00:05:25.730  
(1.57)

Ahmet (?[what I] real read \ yes/)  
TC 00:05:27.301 - 00:05:28.199  
(0.15)

Ahmet XXXX  
TC 00:05:28.352 - 00:05:28.726  
(0.2)

Fatma and you/  
TC 00:05:28.930 - 00:05:29.423

Cem XXXX  
TC 00:05:29.423 - 00:05:29.814  
(1.0)

Cem yes\  
TC 00:05:30.814 - 00:05:31.188  
(0.13)

Fatma you have the same problem/  
TC 00:05:31.324 - 00:05:32.477

Cem I-I watch T[V\  
TC 00:05:32.483 - 00:05:33.520

Ahmet [Bam]bi\  
TC 00:05:33.273 - 00:05:33.947  
(0.31)

Ahmet we [watch] alw[ays]  
TC 00:05:34.259 - 00:05:35.120

Cem [sometimes\  
TC 00:05:34.259 - 00:05:35.120

Fatma you know XXX[XX/]  
TC 00:05:35.119 - 00:05:36.051

Ahmet I-I watch [the movies]  
TC 00:05:36.051 - 00:05:37.765

Cem [and and we know]  
TC 00:05:36.559 - 00:05:37.739  
(0.02)

Cem ((laughing) poco\  
TC 00:05:37.765 - 00:05:38.377

Fatma poquito\  
TC 00:05:38.377 - 00:05:38.802

Fatma ((laughing) I know poquito también)  
TC 00:05:38.804 - 00:05:40.605

Ahmet [((laughs))]  
TC 00:05:40.605 - 00:05:44.792

Cem [((laughs))]  
TC 00:05:40.605 - 00:05:44.792

Fatma [((laughs))]  
TC 00:05:40.605 - 00:05:44.792

Selma [((laughs))]  
TC 00:05:40.605 - 00:05:44.792

Loli [((laughs))]  
TC 00:05:40.605 - 00:05:44.792

Caterina [((laughs))]  
TC 00:05:40.605 - 00:05:44.792  
(0.5)

Ahmet TV bes (Telecinco in Turkish)  
TC 00:05:45.300 - 00:05:45.861  
(0.51)

Ahmet TV five\  
TC 00:05:46.371 - 00:05:46.762  
(0.15)

Ahmet TC [((laughs))] 00:05:46.915 - 00:05:49.238

Cem TC [((laughs))] 00:05:46.915 - 00:05:49.238

Fatma TC [((laughs))] 00:05:46.921 - 00:05:49.238

Selma TC [((laughs))] 00:05:46.921 - 00:05:49.238

Loli TC [((laughs))] 00:05:46.921 - 00:05:49.238

Caterina TC [((laughs))] 00:05:46.921 - 00:05:49.238 (0.36)

Loli TC Fa una careta\ 00:05:49.599 - 00:05:50.480

Ahmet TC yes e::h 00:05:50.480 - 00:05:50.990 (0.06)

Ahmet TC [e::h ] 00:05:51.058 - 00:05:51.939

Cem TC [Look at the present ] 00:05:51.058 - 00:05:51.939 (0.3)

Ahmet TC [la la Sexta] 00:05:52.245 - 00:05:53.905

Cem TC [XXXXX] 00:05:52.245 - 00:05:52.973

Fatma TC [okay there\ your] solution for me\ 00:05:52.973 - 00:05:54.905 (0.06)

Selma TC XXXXXXXX 00:05:54.973 - 00:05:55.704 (0.46)

Ahmet TC yes/ 00:05:56.173 - 00:05:56.333 (0.35)

Cem TC ((laughing) study study study\ what can I say/) 00:05:56.683 - 00:05:59.074

Cem TC (laughs) 00:05:59.090 - 00:06:00.345

Fatma TC oka[y you're\] there's/ 00:06:00.363 - 00:06:01.750

Cem TC [okay] 00:06:00.807 - 00:06:01.079 (0.67)

Fatma TC your solutions[for us\] 00:06:01.750 - 00:06:03.309

Cem TC [you can watch] deports programs\ 00:06:02.340 - 00:06:04.162 (0.39)

Cem TC what/ 00:06:04.553 - 00:06:04.944 (0.03)

Ahmet TC deports\ (?for mensh) 00:06:04.983 - 00:06:06.051 (0.54)

Ahmet TC XXXXXX(explaining in Turkish) 00:06:06.595 - 00:06:07.595 (0.2)

Cem TC I think you must fi:nd\ 00:06:07.799 - 00:06:09.377 (0.13)

Ahmet  
TC XXXXX[X]  
00:06:09.513 - 00:06:10.513

Cem  
TC [go]od Spanish friends\  
00:06:10.513 - 00:06:11.870  
(0.32)

Cem  
TC and  
00:06:12.193 - 00:06:12.448  
(0.27)

Cem  
TC lots of practice\  
00:06:12.720 - 00:06:13.567  
(0.19)

Ahmet  
TC yes/  
00:06:13.761 - 00:06:14.135

Fatma  
TC yeah\  
00:06:14.135 - 00:06:14.509  
(0.05)

Cem  
TC but a:h is [very difficult] to [hear because] all they speak/  
00:06:14.565 - 00:06:18.128

Fatma  
TC [(laughs)]  
00:06:15.338 - 00:06:15.878  
(0.23)

Ahmet  
TC (smiling [like like Cem\ ])  
00:06:16.108 - 00:06:17.077  
(1.05)

Cem  
TC all want to speak [is] Catalan\  
00:06:18.128 - 00:06:20.485

Ahmet  
TC [yes/]  
00:06:19.688 - 00:06:19.977  
(1.15)

Cem  
TC so that\  
00:06:21.128 - 00:06:22.128

Cem  
TC °we can't learn°\  
00:06:22.128 - 00:06:23.230  
(0.84)

Fatma  
TC so/  
00:06:24.077 - 00:06:24.366  
(0.45)

Selma  
TC our solution/  
00:06:24.825 - 00:06:25.893  
(0.08)

Cem  
TC so:::  
00:06:25.978 - 00:06:26.978

Cem  
TC (laughing (maybe:/))  
00:06:26.978 - 00:06:27.978

Fatma  
TC we can't learn to speak here  
00:06:27.978 - 00:06:29.471  
(0.11)

Fatma  
TC or what/  
00:06:29.590 - 00:06:30.168  
(1.37)

Cem  
TC so that may[be:./]  
00:06:31.544 - 00:06:32.615

Ahmet  
TC [I think] you can\  
00:06:32.164 - 00:06:33.164  
(0.58)

?  
TC XXXXXX  
00:06:33.744 - 00:06:34.708

Cem  
TC (( laughing) you can teach your teacher English\  
00:06:34.708 - 00:06:36.657

Ahmet  
TC [((laughs))]  
00:06:36.657 - 00:06:39.354

Cem  
TC [((laughs))]

TC 00:06:36.657 - 00:06:39.354

Fatma [(laughs)]  
TC 00:06:36.657 - 00:06:39.354

Selma [(laughs)]  
TC 00:06:36.657 - 00:06:39.354

Loli [(laughs)]  
TC 00:06:36.657 - 00:06:39.354

Caterina [(laughs)]  
TC 00:06:36.657 - 00:06:39.354

Fatma [(laughing)yes/ XXXX]  
TC 00:06:39.354 - 00:06:41.915

? [(laughs)]  
TC 00:06:39.375 - 00:06:44.239

Cem [(laughing) XXXX]  
TC 00:06:39.825 - 00:06:41.915

Ahmet [(laughing) XXXX]  
TC 00:06:40.515 - 00:06:41.978

Fatma [(laughs)]  
TC 00:06:41.932 - 00:06:43.964

Ahmet [(laughs)]  
TC 00:06:42.035 - 00:06:43.975

Cem [(laughs)]  
TC 00:06:42.035 - 00:06:43.964

Cem [(laughing) in Turkish\  
TC 00:06:43.964 - 00:06:45.709

Selma [(laughing(in Turkish/ yes\))]  
TC 00:06:43.964 - 00:06:45.709

Ahmet [But we we can] understand Spanish\  
TC 00:06:44.575 - 00:06:47.761  
(0.69)

Ahmet yes we can understand ah: our Spanish frie[nds]  
TC 00:06:48.455 - 00:06:51.693

Cem he can understand\ yeah/  
TC 00:06:51.043 - 00:06:52.583

Ahmet [(laughs)]  
TC 00:06:52.583 - 00:06:53.651

Cem [(laughs)]  
TC 00:06:52.583 - 00:06:56.127

Fatma yeah\ you do/  
TC 00:06:52.606 - 00:06:53.810

Ahmet [I can understand\ yes/ ]  
TC 00:06:53.651 - 00:06:55.433

Fatma you run a course\  
TC 00:06:53.946 - 00:06:55.456

Fatma before here/  
TC 00:06:55.456 - 00:06:56.346

Cem yes  
TC 00:06:56.346 - 00:06:56.635  
(0.09)

Cem ah: but [only two months]  
TC 00:06:56.726 - 00:06:58.522

Fatma [In Turkey\  
TC 00:06:57.226 - 00:06:57.898

Ahmet [on]ly one m[on]th\  
TC 00:06:57.886 - 00:06:59.034

Fatma [two months\  
TC 00:06:58.752 - 00:06:59.526

Cem [one mo]nth/  
TC 00:06:59.072 - 00:07:00.062

Ahmet one month\  
TC 00:07:00.036 - 00:07:00.529  
(0.08)

Ahmet [(laughing (no two\))]  
TC 00:07:00.614 - 00:07:01.733

? [(laughing (two no))]  
TC 00:07:00.834 - 00:07:01.733  
(0.03)

Cem [(laughing) maybe weeks)]  
TC 00:07:01.766 - 00:07:03.565

? [((laughing))]  
TC 00:07:01.806 - 00:07:05.092

Ahmet [one month\  
TC 00:07:02.296 - 00:07:03.432  
(0.13)

Ahmet [only problem XXX ]  
TC 00:07:03.562 - 00:07:05.112

Cem ah: y[es\  
TC 00:07:05.112 - 00:07:05.903

Fatma [but you) learn the [grammar every day\  
TC 00:07:05.433 - 00:07:07.705

Ahmet we we all no]  
TC 00:07:06.562 - 00:07:07.973  
(0.09)

Fatma and [I can't] learn-  
TC 00:07:08.072 - 00:07:09.820

Ahmet [we ah:]  
TC 00:07:08.292 - 00:07:09.152  
(0.92)

Fatma a a language without grammar\  
TC 00:07:10.072 - 00:07:12.415

Fatma I can't learn\  
TC 00:07:12.415 - 00:07:13.415  
(0.1)

Ahmet [ah::]  
TC 00:07:13.516 - 00:07:14.052

Fatma [I]need to know grammar and then I have to I can learn yes \ hearing / but without  
grammar / no I can't learn \  
TC 00:07:13.625 - 00:07:20.713

Ahmet I think grammar is not important\  
TC 00:07:20.726 - 00:07:22.146  
(0.34)

Ahmet [the important thing] is words\  
TC 00:07:22.486 - 00:07:23.985

Fatma [for me it is/]  
TC 00:07:22.506 - 00:07:23.594  
(0.51)

Fatma for me it's im[portant\  
TC 00:07:24.106 - 00:07:25.512

Cem [and for me no ]  
TC 00:07:24.757 - 00:07:25.825

Selma but you know\  
TC 00:07:25.825 - 00:07:26.859

Selma the the grammar  
TC 00:07:26.859 - 00:07:28.046

Ahmet no\  
TC 00:07:27.977 - 00:07:28.079  
(0.18)

Selma > it's mo:re [the::] <  
TC 00:07:28.266 - 00:07:29.847

Cem [Also Sel]ma no grammar/

TC 00:07:29.256 - 00:07:30.667

Cem (laughs)  
TC 00:07:30.667 - 00:07:31.979

Ahmet but she can speak\  
TC 00:07:30.867 - 00:07:32.710

Cem Selma what is our problem/  
TC 00:07:32.710 - 00:07:33.710

Fatma [For me grammar] is important\  
TC 00:07:33.710 - 00:07:35.271

Cem [XXXXXX]  
TC 00:07:33.740 - 00:07:34.505  
(0.8)

Fatma I don't know for you but for me is important\  
TC 00:07:35.310 - 00:07:37.650  
(0.17)

Fatma if I don't know the grammar I can't/  
TC 00:07:37.820 - 00:07:39.704  
(0.91)

Fatma learn the language I can't talk\  
TC 00:07:40.622 - 00:07:42.387  
(0.3)

Fatma no: : \  
TC 00:07:42.693 - 00:07:43.254  
(0.11)

Fatma it's impossible for [ me\  
TC 00:07:43.369 - 00:07:44.733

Cem [Have you XXXX/ ]  
TC 00:07:44.465 - 00:07:45.287

Fatma [ I don't know]w for you\  
TC 00:07:44.746 - 00:07:46.287  
(0.18)

Cem you are [going Ca]-Catalan course  
TC 00:07:46.474 - 00:07:48.185

? [XXXX]  
TC 00:07:47.044 - 00:07:47.469  
(0.85)

Cem and also Spanish course\  
TC 00:07:48.324 - 00:07:49.141

Cem [course]  
TC 00:07:49.141 - 00:07:49.591

Fatma [and] in Catalan course we don't eh: learn the grammar\  
TC 00:07:49.141 - 00:07:52.382  
(0.89)

Ahmet yes/ all we learn/  
TC 00:07:53.281 - 00:07:55.229  
(0.15)

Fatma [for practice\ for talking\ ]  
TC 00:07:55.382 - 00:07:57.382

Ahmet [ eh: you use useful XXXXXXXX sentences (? you speak)\]  
TC 00:07:55.737 - 00:07:59.499

Selma [is not enough for us\  
TC 00:07:56.607 - 00:07:57.769

Selma [for the understanding the: class\  
TC 00:07:57.769 - 00:07:59.947

Fatma [yeah/ useful sentences\  
TC 00:07:57.977 - 00:07:59.504

Ahmet [wo- ]eh : words \  
TC 00:07:59.512 - 00:08:00.742  
(0.48)

Ahmet and it's  
TC 00:08:01.231 - 00:08:01.936  
(0.47)

Fatma and [ eh: it's I'm a little] lazy I [think ]I'm not /  
TC 00:08:02.412 - 00:08:06.228

Ahmet [for me good\  
TC 00:08:02.742 - 00:08:03.531  
(1.8)

? [not/  
TC 00:08:05.332 - 00:08:05.774  
(0.46)

Fatma ((laughing)studyi:ng [so much\  
TC 00:08:06.242 - 00:08:08.092

Ahmet [ I I learn I start learning words \  
TC 00:08:07.112 - 00:08:09.632

Fatma I have/  
TC 00:08:08.202 - 00:08:08.870

Cem [Loli/ ]what's your solution\  
TC 00:08:08.870 - 00:08:10.431  
(0.52)

Ahmet ah: it'[s problem\  
TC 00:08:10.958 - 00:08:11.958  
(0.62)

Loli a course/  
TC 00:08:12.581 - 00:08:13.125

Loli [((laughs))]  
TC 00:08:13.139 - 00:08:15.340

Fatma [a course/  
TC 00:08:13.633 - 00:08:14.245

Cem [a course/  
TC 00:08:14.245 - 00:08:15.245  
(0.09)

Selma [((laughs))]  
TC 00:08:15.340 - 00:08:16.082

Loli [of Catalan/ or o- of Spanish\  
TC 00:08:15.340 - 00:08:17.340

Ahmet [ you ca:n practise\  
TC 00:08:16.082 - 00:08:17.218  
(1.24)

Loli and practi[que/  
TC 00:08:18.460 - 00:08:19.409

Cem [we] need more practice\  
TC 00:08:19.190 - 00:08:20.125  
(0.84)

Ahmet [and you in XXXXX]  
TC 00:08:20.967 - 00:08:23.176

Cem [I heard and\  
TC 00:08:20.967 - 00:08:22.205

Cem [XXXX learnt and XXXX learnt S panish for eh]  
TC 00:08:22.207 - 00:08:25.663

Loli [or or lessons in English\  
TC 00:08:23.666 - 00:08:25.663  
(0.16)

Cem three weeks\  
TC 00:08:25.831 - 00:08:26.273  
(0.2)

Selma yes/  
TC 00:08:26.477 - 00:08:26.715  
(0.07)

Ahmet yes\  
TC 00:08:26.791 - 00:08:27.243

Loli lessons in English/  
TC 00:08:27.243 - 00:08:28.243  
(0.39)



? is about XXXXX\  
TC 00:08:28.634 - 00:08:29.906  
(0.23)

Ahmet our our Bu- hi:s his Bu- Bulgarian friends  
TC 00:08:30.136 - 00:08:33.881  
(0.42)

Caterina ah::  
TC 00:08:34.304 - 00:08:34.678

Ahmet yes [learnt le]arnt Spanish only two months  
TC 00:08:34.678 - 00:08:37.103

Cem [°I have a friend^]  
TC 00:08:35.018 - 00:08:35.729  
(1.71)

Cem She learned Span[ish only two months\  
TC 00:08:37.447 - 00:08:39.660

Ahmet [she: ha:s a lot of she has] a lot of Spanish friends\  
TC 00:08:39.660 - 00:08:43.119

Cem [and she speak very good but/]  
TC 00:08:40.060 - 00:08:41.660  
(1.52)

Ahmet always speaks t[ogether \ yes / ]  
TC 00:08:43.187 - 00:08:46.219

Cem XXXXXXXXXXXX  
TC 00:08:43.389 - 00:08:44.542  
(0.13)

Cem [watches TV \ reads boo:\  
TC 00:08:44.678 - 00:08:46.678

Cem XXXX  
TC 00:08:46.678 - 00:08:47.299

Caterina [Here/ they live in Igualada/ ]  
TC 00:08:46.678 - 00:08:49.678

Ahmet [she:/]  
TC 00:08:47.438 - 00:08:47.888

Cem [yes\  
TC 00:08:47.848 - 00:08:48.239

Ahmet [yes she:]  
TC 00:08:48.239 - 00:08:48.681

Fatma [no\  
TC 00:08:48.681 - 00:08:48.953

Ahmet [no\  
TC 00:08:48.941 - 00:08:49.272

Cem [no\  
TC 00:08:49.178 - 00:08:49.516  
(0.4)

Cem [Barcelona\  
TC 00:08:49.918 - 00:08:50.833

Selma [Barcelona\  
TC 00:08:49.918 - 00:08:50.833

Caterina [ah:/]  
TC 00:08:50.688 - 00:08:50.935  
(0.05)

Ahmet [in Sabadell\  
TC 00:08:50.990 - 00:08:51.745  
(0.32)

Ahmet [in Saba]dell yes/  
TC 00:08:52.070 - 00:08:52.801

Caterina [ah:]  
TC 00:08:52.110 - 00:08:52.501  
(1.36)

Ahmet in Sabadell/  
TC 00:08:53.870 - 00:08:54.499  
(0.11)

Cem I don't know\  
TC 00:08:54.610 - 00:08:55.338

Ahmet yes\ Sabadell\  
TC 00:08:55.338 - 00:08:55.899  
(1.66)

Cem Sabadell/  
TC 00:08:57.565 - 00:08:58.211  
(0.15)

Ahmet °Saba-°[Sabadell] near  
TC 00:08:58.364 - 00:08:59.574

Selma [sabadell\  
TC 00:08:58.474 - 00:08:58.905  
(0.66)

Cem in Barcelona/  
TC 00:08:59.574 - 00:09:00.388

Ahmet no\ is a town/ Sabadell\  
TC 00:09:00.338 - 00:09:01.783  
(0.49)

Cem no\  
TC 00:09:02.276 - 00:09:02.580

Caterina [ Sa]badell\  
TC 00:09:02.276 - 00:09:03.279

Cem no/  
TC 00:09:03.250 - 00:09:03.621  
(0.04)

Caterina it's a town\  
TC 00:09:03.664 - 00:09:04.718

Ahmet town\  
TC 00:09:04.718 - 00:09:05.007  
(0.17)

Cem it's the tr-train plaça de Catalunya\  
TC 00:09:05.177 - 00:09:07.653  
(0.26)

Ahmet <ye she's she's [old]>  
TC 00:09:07.920 - 00:09:09.957

Cem [I think you] you you (making sign with hand) [mixed it\  
TC 00:09:09.420 - 00:09:12.817

Ahmet [((laughs))]  
TC 00:09:10.790 - 00:09:12.817  
(0.74)

Cem XXXXXX  
TC 00:09:13.560 - 00:09:14.155  
(0.34)

Caterina okay so: /  
TC 00:09:14.495 - 00:09:15.750  
(0.15)

Caterina Loli/ can you  
TC 00:09:15.903 - 00:09:16.733

Caterina offer the: them some solution/  
TC 00:09:16.733 - 00:09:18.892  
(1.74)

Loli No:: a: a course o:r /  
TC 00:09:20.634 - 00:09:22.498  
(1.05)

Loli <English cla:sses\  
TC 00:09:23.548 - 00:09:24.803  
(0.2)

Loli mmm  
TC 00:09:25.007 - 00:09:25.620  
(0.67)

Loli leather i:n English\  
TC 00:09:26.290 - 00:09:28.140  
(1.06)

Loli >°ja est[à\]°<  
TC 00:09:29.203 - 00:09:29.917

Ahmet (?[<ma]kes any programs> )  
TC 00:09:29.677 - 00:09:31.917  
(0.88)

Caterina mm\  
TC 00:09:32.797 - 00:09:33.256

Cem and also we have a problem about/  
TC 00:09:33.256 - 00:09:35.069  
(0.4)

Cem because our  
TC 00:09:35.477 - 00:09:37.004  
(0.66)

Cem XXXXXXXX  
TC 00:09:37.670 - 00:09:38.670

Cem (?our people peoples peoples)  
TC 00:09:38.670 - 00:09:41.670

Selma o:r/  
TC 00:09:41.670 - 00:09:42.483

Selma ah:\  
TC 00:09:42.483 - 00:09:43.075  
(0.47)

Cem all the practice is translate from Spanish and we translate  
TC 00:09:43.551 - 00:09:47.874  
(0.12)

Cem a:r  
TC 00:09:48.003 - 00:09:48.360  
(0.18)

Cem English to Turkish\  
TC 00:09:48.547 - 00:09:49.768  
(0.39)

Cem and it's very mixed\  
TC 00:09:50.159 - 00:09:51.686  
(1.59)

Cem (? then) we learn Spanish\  
TC 00:09:53.279 - 00:09:54.507  
(1.02)

Ahmet yes we learn Spani[sh\  
TC 00:09:55.529 - 00:09:56.338

Caterina [An]tonia\  
TC 00:09:56.239 - 00:09:56.987

Loli o a couple\ ah: one/  
TC 00:09:56.987 - 00:09:58.799  
(0.47)

Loli one student Spanish with /  
TC 00:09:59.275 - 00:10:01.043  
(1.2)

Loli with a Turkish Spa:nish and\  
TC 00:10:02.250 - 00:10:03.947  
(1.47)

Caterina an exchange/ a language exch[ange /]  
TC 00:10:05.417 - 00:10:07.329

Loli [ye:s (nodding)]  
TC 00:10:07.207 - 00:10:07.836

Ahmet [ah:]  
TC 00:10:07.387 - 00:10:07.812  
(0.76)

Caterina That's a good idea\  
TC 00:10:08.577 - 00:10:09.577  
(1.02)

Caterina yeah\  
TC 00:10:10.597 - 00:10:11.022  
(1.91)

Caterina you can be: :  
TC 00:10:12.937 - 00:10:14.209  
(0.35)

Caterina maybe for one of them/  
TC 00:10:14.566 - 00:10:16.566

Caterina yeah/  
TC 00:10:16.566 - 00:10:17.008  
(0.49)

Loli [((laughing) °yes°)]  
TC 00:10:17.501 - 00:10:19.501  
(3.09)

Caterina yeah\  
TC 00:10:22.595 - 00:10:22.867  
(0.28)

Caterina I think in Catalan there's a program\  
TC 00:10:23.156 - 00:10:25.275  
(0.06)

Caterina that is called/ parella lingüística\  
TC 00:10:25.343 - 00:10:27.428  
(0.68)

Caterina language partner\  
TC 00:10:28.108 - 00:10:29.159  
(0.76)

Caterina and I think/  
TC 00:10:29.924 - 00:10:30.924  
(0.23)

Caterina that you get like\  
TC 00:10:31.162 - 00:10:32.162  
(0.39)

Caterina some kind  
TC 00:10:32.553 - 00:10:33.230  
(0.09)

Caterina a person that heps/  
TC 00:10:33.328 - 00:10:34.430  
(0.13)

Caterina you::\  
TC 00:10:34.566 - 00:10:35.144  
(1.0)

Caterina ta:lk a:nd you go and have a coffee together \  
TC 00:10:36.144 - 00:10:39.042  
(0.13)

Caterina you may- maybe you can ask your teacher\ your Catalan teacher/  
TC 00:10:39.178 - 00:10:42.705  
(0.37)

Fatma we are making like this\ eh: we have a lot of mm friends\  
TC 00:10:43.079 - 00:10:46.972  
(0.66)

Fatma from Basque\ from Colombia/  
TC 00:10:47.635 - 00:10:49.760

Fatma and they also speak Spanish but we are eh:::/  
TC 00:10:49.760 - 00:10:53.695  
(0.03)

Fatma (?stand :ing) sitting in a table and they a:re  
TC 00:10:53.729 - 00:10:56.865  
(0.47)

Ahmet only eh::\  
TC 00:10:57.335 - 00:10:58.335  
(0.2)

Ahmet XXXXXXXX  
TC 00:10:58.540 - 00:10:59.335  
(0.63)

Fatma all the people know the Spanish\  
TC 00:10:59.968 - 00:11:01.648  
(0.15)

Fatma and they're always/  
TC 00:11:01.801 - 00:11:03.022  
(0.32)

Fatma eh: talking with us Spanish Spanish/  
TC 00:11:03.345 - 00:11:05.532

Fatma one woman from Basque  
TC 00:11:05.532 - 00:11:07.005  
(0.56)

Fatma ah: she's so sweet and she's always >talking always talking < (laughing)  
TC 00:11:07.566 - 00:11:12.379

Fatma Spanish but/  
TC 00:11:12.379 - 00:11:13.379  
(0.18)

Fatma we can't unders-  
TC 00:11:13.560 - 00:11:14.587

Fatma we are tryi:ng to understand\  
TC 00:11:14.587 - 00:11:16.315

Fatma we are saying okay\  
TC 00:11:16.315 - 00:11:17.468  
(0.22)

Fatma and she's learning us\  
TC 00:11:17.689 - 00:11:19.046  
(0.15)

Fatma <this is thi::s/>  
TC 00:11:19.199 - 00:11:20.539

Fatma ((laughing)<this is thi::is/>)  
TC 00:11:20.539 - 00:11:23.692  
(0.02)

Caterina and that's the Catalan class/  
TC 00:11:23.712 - 00:11:25.222

Fatma [ yes\] in Catalan class \  
TC 00:11:25.222 - 00:11:26.681

Ahmet [yes]  
TC 00:11:25.532 - 00:11:25.964  
(0.71)

Ahmet [°shes from/°]  
TC 00:11:26.681 - 00:11:27.509

Caterina you learn you learn Spanish (laughing)in the Catalan class\  
TC 00:11:26.681 - 00:11:29.630

Fatma ((laughing) yes\  
TC 00:11:28.680 - 00:11:29.680

Ahmet she's from Basque\  
TC 00:11:29.660 - 00:11:30.680  
(0.37)

Ahmet Basque\ Basque\  
TC 00:11:31.054 - 00:11:31.768

Caterina [ah::]  
TC 00:11:31.579 - 00:11:31.819

Ahmet [so]metimes eh::  
TC 00:11:31.768 - 00:11:33.414  
(0.03)

Ahmet we learnt  
TC 00:11:33.449 - 00:11:34.569

Ahmet she lerned us  
TC 00:11:34.579 - 00:11:35.579  
(0.15)

Ahmet ah: Basque\  
TC 00:11:35.732 - 00:11:36.446  
(0.1)

Ahmet Basque language\  
TC 00:11:36.548 - 00:11:37.092  
(0.23)

Ahmet (laghing) oh\ re[ally/]  
TC 00:11:37.330 - 00:11:38.330

Ahmet [((laughs))]  
TC 00:11:38.330 - 00:11:39.704

Fatma [((laughs))]  
TC 00:11:38.330 - 00:11:39.704

Caterina [((laughs))]  
TC 00:11:38.330 - 00:11:39.704

? [((laughs))]  
TC 00:11:38.330 - 00:11:39.704

Fatma [((laughing)I can't remember\)]  
TC 00:11:39.704 - 00:11:41.234

? [((laughs))]  
TC 00:11:39.704 - 00:11:42.523

Fatma [((laughs))]  
TC 00:11:41.234 - 00:11:42.512

Ahmet we tried to learn\  
TC 00:11:42.512 - 00:11:43.682  
(0.16)

Ahmet two language in Catalan cour[se] \ Basque\ and Catalan\  
TC 00:11:43.849 - 00:11:47.229

Cem [((laughs))]  
TC 00:11:45.647 - 00:11:46.174  
(1.35)

Caterina oh: and Spa:nish\  
TC 00:11:47.527 - 00:11:48.952

Selma [ also Spanish\  
TC 00:11:47.757 - 00:11:48.934

Ahmet [((laughing) and Spanish\ yeah/ )]  
TC 00:11:48.707 - 00:11:49.707

? [((laughs))]  
TC 00:11:48.707 - 00:11:51.319

Fatma because there I learn Spanish\  
TC 00:11:49.567 - 00:11:51.337  
(0.1)

Caterina ah:: oke:y\  
TC 00:11:51.440 - 00:11:52.936

Caterina well/ one thing you're learning eh is that/  
TC 00:11:52.945 - 00:11:55.100

Caterina there're many languages around here\  
TC 00:11:55.115 - 00:11:57.421  
(0.44)

Ahmet [((laughs))]  
TC 00:11:57.870 - 00:11:58.553

Caterina [((laughs))]  
TC 00:11:57.870 - 00:11:58.553  
(0.17)

Cem why you don't teach Turkish\  
TC 00:11:58.723 - 00:11:59.995  
(0.57)

Caterina yeah/  
TC 00:12:00.573 - 00:12:01.250  
(0.06)

Caterina [why don't you/ you teach/]  
TC 00:12:01.318 - 00:12:02.505

Ahmet [yeah\  
TC 00:12:01.338 - 00:12:01.729

Ahmet I I teach\ sometimes\ yes \  
TC 00:12:01.729 - 00:12:04.120

Cem [((laughs ))]  
TC 00:12:04.120 - 00:12:06.882

Ahmet I ah: I I say ah: some words\  
TC 00:12:04.690 - 00:12:07.905

? our teacher XXXX\  
TC 00:12:04.690 - 00:12:06.082  
(0.06)

Caterina [((laughs))]  
TC 00:12:06.150 - 00:12:06.643  
(1.55)

Ahmet and some sentences\ them/  
TC 00:12:08.200 - 00:12:10.078