

Full lesson transcript for Mrs. Letsiba of School B

Lesson 3: Genetics and inheritance on 15 June 2020

Details

- This lesson transcript represents 36:36 minutes of teaching time.
- A female black South African teacher was teaching the topic of genetics and inheritance to 15 male and female learner participants, all in grade 12.
- The lesson took place at a former model C co-educational High school in Johannesburg East district in Gauteng on 15 June 2020.
- When used by the teacher, the learners' names have been changed to protect anonymity.
- The textbook utilised during the lesson is Exam Fever Life Sciences Grade 12 2nd edition published by Exam Fever Publishers.
- Used the white board and board markers.

Transcription conventions

Symbol	Signification
T:	A verbal contribution belonging the teacher
L:	A verbal contribution belonging to any individual learner
LS:	A verbal contribution belonging to two or more learners
...	Noticeable pause of less than 1 second in a turn, which could be due to reformulation or hesitation
—	Sound abruptly cut off e.g false start Truncated word Formal made shorter e.g S-
/ /	Words between slashes show uncertain transcription (not clearly known or understood).
/ ? /	Inaudible utterances

[]	Words in brackets indicate non-linguistic information e.g [Laughter], throat clearing, smile, applause, sigh happily/deeply, contently, swallowing, nodding, shaking head dance or movement towards/away
()	Parenthesis around tone units indicate words spoken in a sotto voice under one's breath (in a very quiet voice)
(())	Overlapping speech with learner/teacher
,	Slight pause
?	High rising intonation
.	Falling intonation at the end of tone unit
:	Colon following a vowel, indicates elongated vowel sound or extending length of sound e.g Die:d
::	Extra colon indicates longer elongation
↑	A step up in pitch/ high pitch (high quality sound)
↓	A shift down in pitch (low quality sound)
^	A caret indicating high pitch level e.g ^weird
-	Low pitch level
--	Self-interruption or repair
abc	Best guess transcription
ALL CAPS	Utterance is louder/said with extra stress/emphasised compared with surrounding words
/	Rise tone e.g ...saying something, /
\	Fall tone

V	Fall-rise-tone
Λ	Rise-fall-tone
CAPS	Prominent syllable e.gs On or FAthEr

EPISODE 1: RECAPING MONOHYBRID CROSS, DIHYBRID CROSS DIHYBRID CROSS,
BLOOD GROUPS, PATERNITY TESTING AND SEX DETERMINATION

1. Mrs. Letsiba: Ehh...we revise the monohybrid crosses, that is the dihybrid cross, we have done the blood ehh...type that we have done the blood ehh...type that we have ehh... type A, type ehh...B and AB and O and we know ehh... how ehh...we do eeh...the crossing.
2. How we can find a child ehh...whether the child belongs to him or him or her using the ehh...using the blood type.
3. Then we also ehh... done the sex determination ehh... to say that ehh... to say that ehh... males will always have the ehh... X ehh... Y ehh...chromosome.
4. And then ehh... the female will have to XX chromosome while again we have done the crossing and seen how many ehh... in that family will have boys and also ehh...girls.

EPISODE 2: RECAPING MUTATIONS

5. We are continuing with mutation to say that ehh...A mutation is just a mistake or a su— sudden change in the genetic code.
6. Mutation is just a...a mistake or a sudden change in the genetic code.
7. Then I say to you that ehh... we have different ehh...types of mutation.
8. Some of these mutations, they might be harmful [using hands]



and some of the mutations ehh...can be ehh... harmless [using hands]



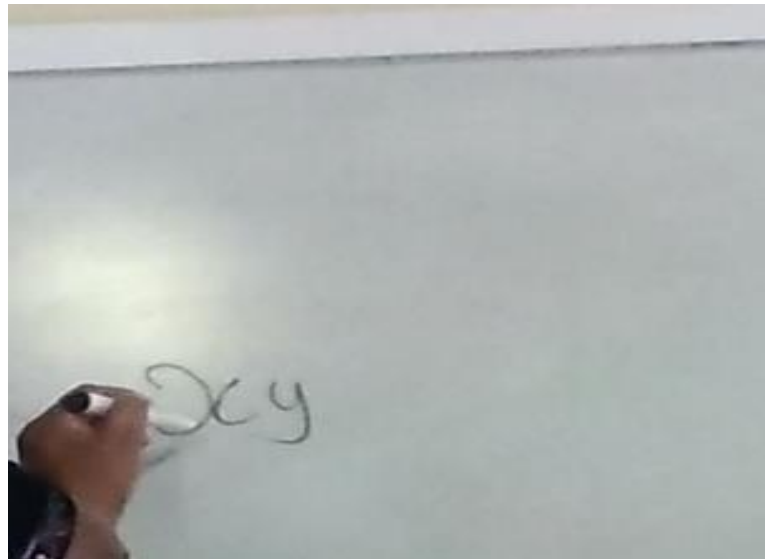
...so that is ehh...the point mutation and also the frame shift
ehh...mutation, we have done this neh!

EPISODE 2: SEX-LINKED DISEASES

9. Then we moved on to the sex ehh...linked diseases.
10. That ehh...affect the sex ehh... gametes, remember that ehh...as males
again we have ehh... the [writing] X Y chromosomes...

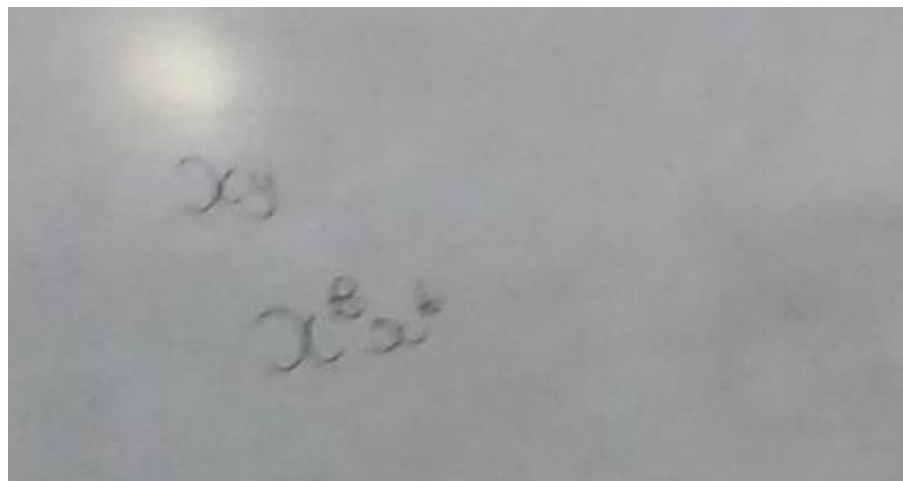


...and I have said ehh...to you that in the sex-linked
ehh...disease...ehh...the ehh... always those diseases affect the
ehh...affect what...the ehh...X chromosome. [Showing]

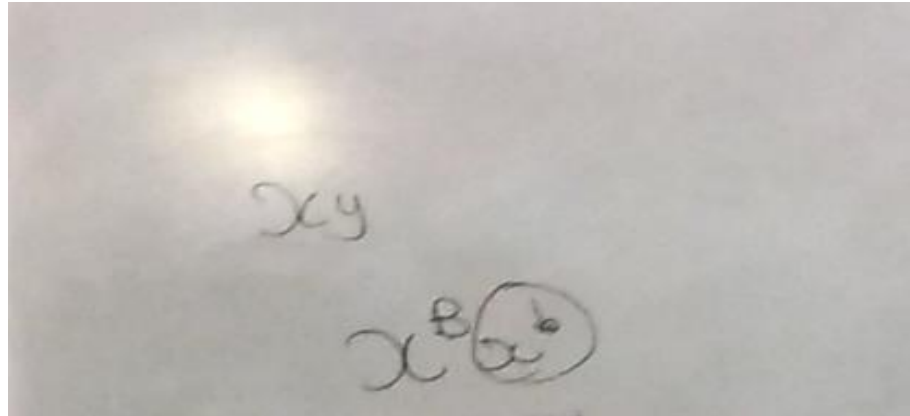


11. Let us say for example in haemophilia...I mean ehh...in
colour-blindness that ehh...we have said that ehh...colour-blindness
affects all ehh...males and if you find that males cannot be able to
differentiate ehh...between the ehh...their colours neh!

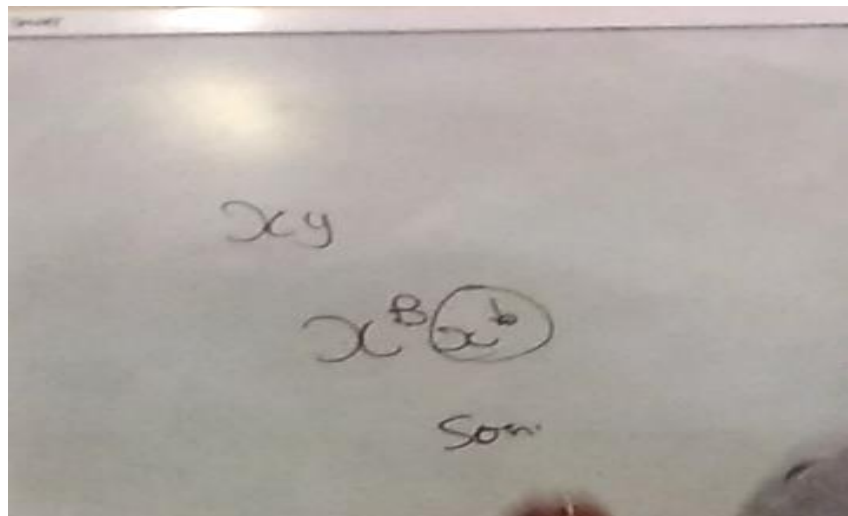
12. So, we have ehh...the colour-blind ehh...female that will be ehh...X
and a capital letter 'B' and a X with a...small letter 'b' [writing $X^B X^b$]



13. [Silence] That shows us that ehh...this female here is THE...the carrier
of the colour-blindness.



14. And we said that that ehh...this female again can ehh...transfer this ehh...disease to↑ THE ehh...son.



15. And then we have the male who has ehh...the colour-blindness that is ehh...represented by this ehh...recessive allele...



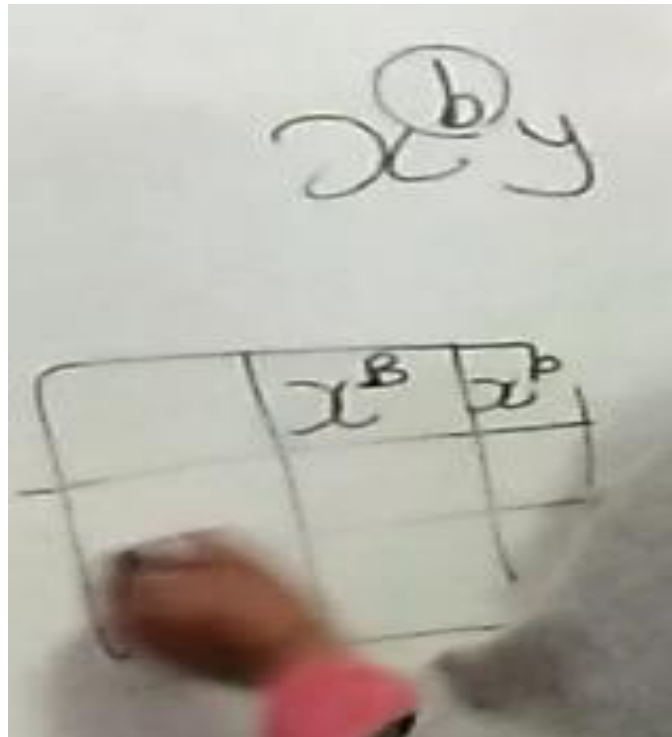
...that ehh...the ehh...the small letter 'b'. [Writing]



...we have the small letter 'b', that shows as ehh...that this male is here what?



16. Is colour-blind neh!
17. And then we do what?
18. We do our crossing to find out ehh...how many ehh...in this family they are having this ehh...what...this ehh...colour-blindness...and I have said that you have to use ehh...the what...the punnet ehh...square and we have ehh... X^B here and then we have the X and the small letter 'b'...



19. And then we have the X^b and then we have ehh...the Y, so behind this ehh...Y ehh...the shorter chromosome...



...remember that ehh...when we look at ehh...these X chromosomes. The Y chromosome is smaller than the ehh...X chromosome.

Remember that in sex determination I said that it will depend on whether that sperm cell is-- carrying...



...is carrying what the X OR the Y chromosome.



20. However, in SEX LINKED eh...DISEASES...in sex linked diseases is where you find that only the chromosome eh...will be affected.

21. Let us say that we have our crossing here then if it will be what X^b and the X smaller eh... 'b', that is the recessive allele.
22. Then we have this one that is eh... X^b and X smaller 'b' that is again the recessive allele.
23. Already we have a daughter who has what?
24. Colour-blind because we have what?
25. This recessive allele and then X^b and Y, this eh... male here can you see that the male is not colour-blind because of what this eh... dominant trait that is.



26. The capital letter 'B' neh!
27. And then we have this and that is X^b and Y so this male is also what Colour-blind because we are having what eh... this eh... recessive allele.



28. So that is what we did ehh...last week.

EPISODE 3: THREE DEFICIENCIES

29. So, moving on we have ehh...remember your test.

30. They are going to test you on these ehh...three deficiencies...

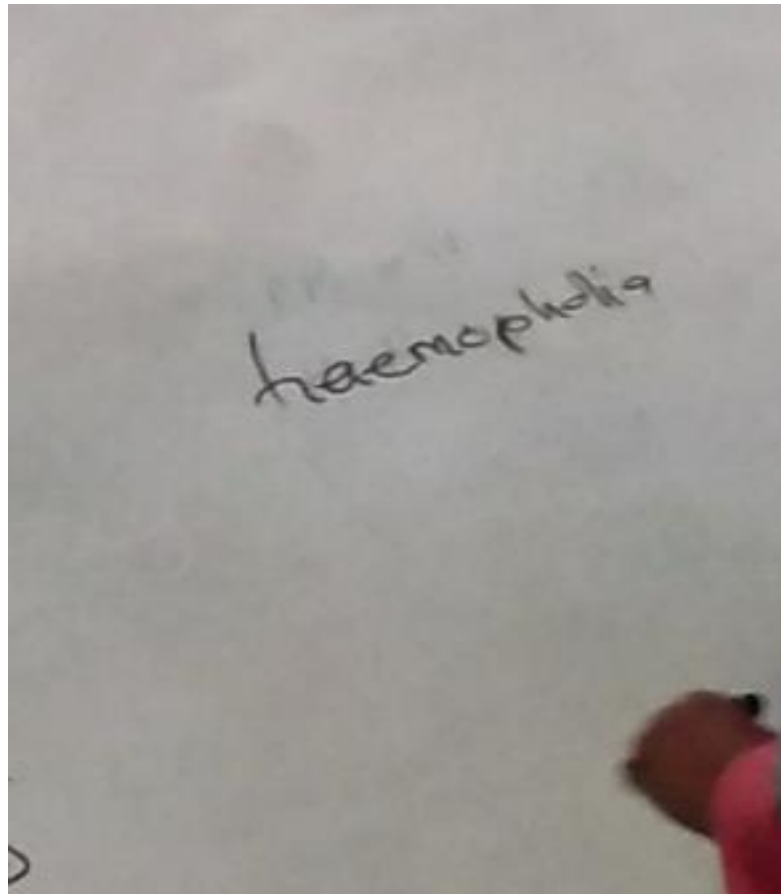


that is ehh...

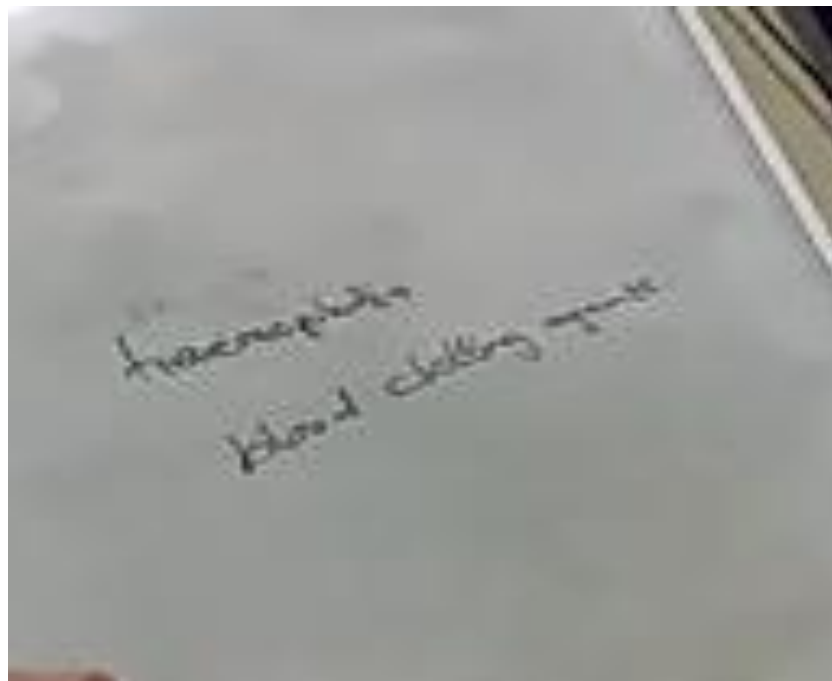


Down Syndrome and you know what will be happening with Down Syndrome, whereby the chromosomes fail to separate in anaphase ehh...one neh!

31. That is the non ehh...disjunction.
32. Again, we have what...to differentiate between the colours.
33. Then the third one that you will be tested on is the ehh...Haemophilia...we have ehh...the haemophilia.



34. So, with the haemophilia people ehh...we have what we call blood clotting agents \uparrow ...we have ehh...the ehh...blood clotting agents...



...so, meaning that if one is suffering from haemophilia...



...THEN it means that the blood cannot do what...the blood cannot
ehh...clot, you understand!

35. When I am saying that ehh...the blood cannot clot I am not only referring to when you just ehh...mistakenly sawing, then you prick your hand with a needle and then after you ehh...you see blood coming out and then after a few minutes then blood will stop to ehh...come out.
36. We cannot say that when you are in that ehh...structure then you say that it is what...it's ehh...haemophilia.
37. So, we have a person here ehh...who ehh...got injured or got involved in the ehh...accident, when this person is in the hospital, then they keep on telling this person that you have what...internal bleeding neh!



38. Once they say to you or to that person...



...that you what...the internal bleeding.

39. It means ehh...that the person does not have what...these ehh...blood clotting agents, that can do what?

40. That can block...



...ehh... the blood from ehh coming out.

41. You understand that most of the cases this affects the ehh...the joints, this affects the eeh...muscles, then you say this person does not have eeh...blood clotting agents then is suffering from HEAMO ehh...PHILIC neh...that is the non-clotting of the ehh blood.

42. The blood cannot clot easily so.

43. Is it not that when you are bleeding you-- there is a time whereby everything must come back to ehh ... to normal but then with this he keeps on bleeding unfortunately to an extent that they just say to you that ehh...you are heamo— philic.

44. It means that ehh...this can at the same time lead to what ehh...ehh...DEATH.

45. You understand, so again it is the type of mutation that is harmful because one can die from internal bleeding.

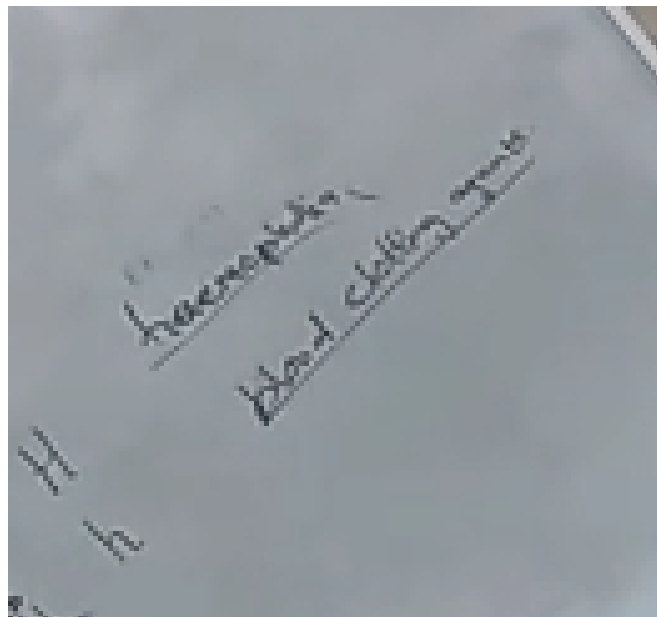
EPISODE 4: GENETIC CROSS USING HAEMOPHILIA

46. So, we are doing ehh a crossing we have what the capital letter H neh...

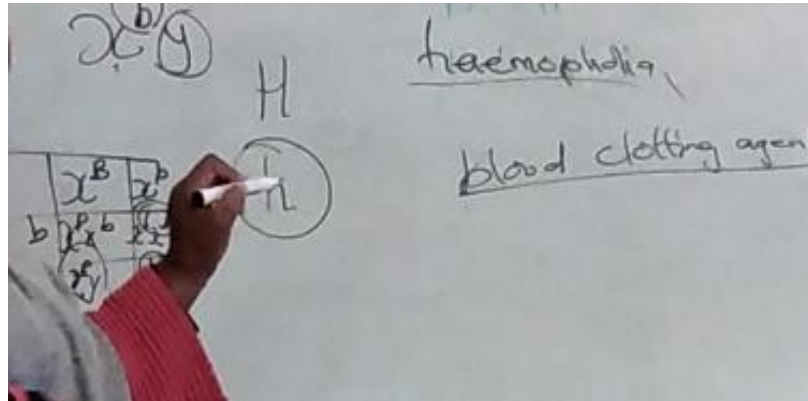


...and then we have what?

47. THE ... the small letter ehh...h,

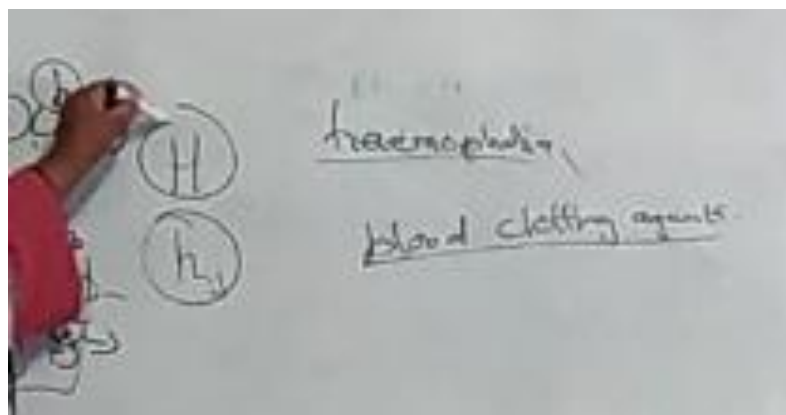


48. So, this ehh...recessive eeh...trait that is ehh the small letter h...



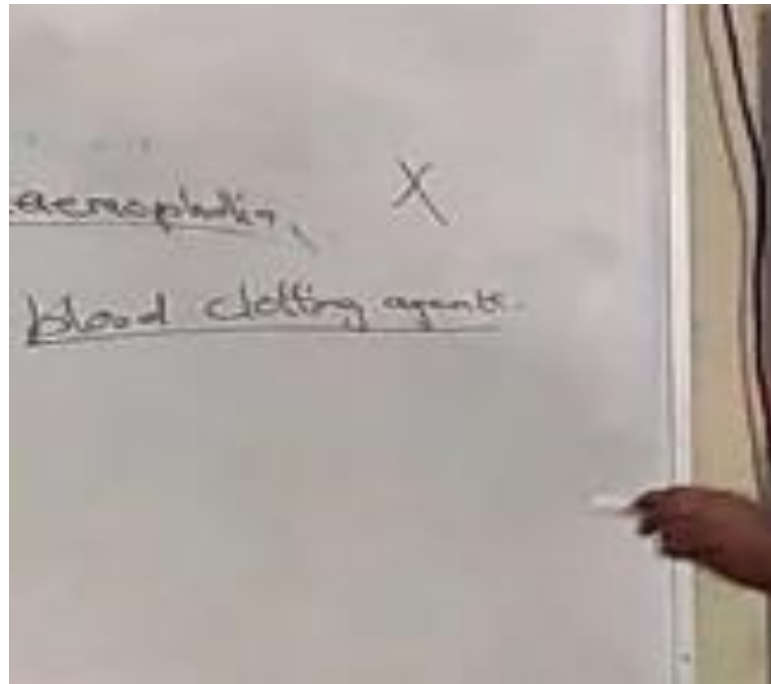
...that shows us ehh that ehh...this person here is ehh haemophilic.

49. And then we have the capital letter H...

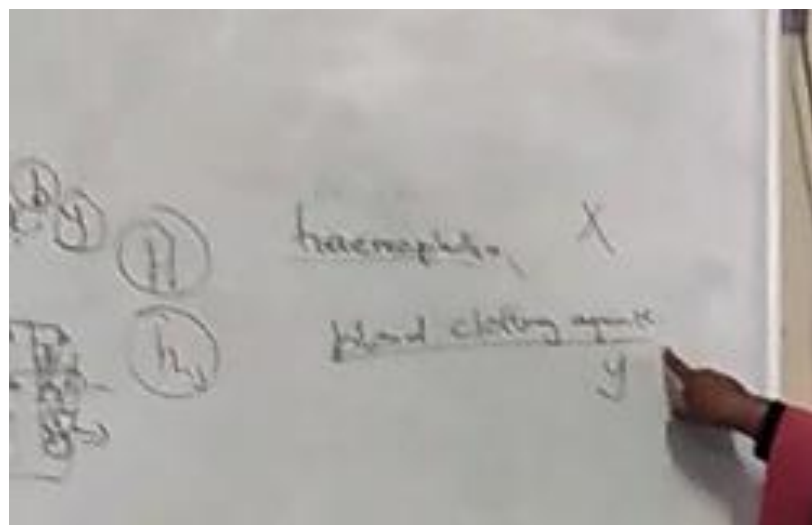


...that shows ehh that the person is not ehh...haemo— ehh...philic.

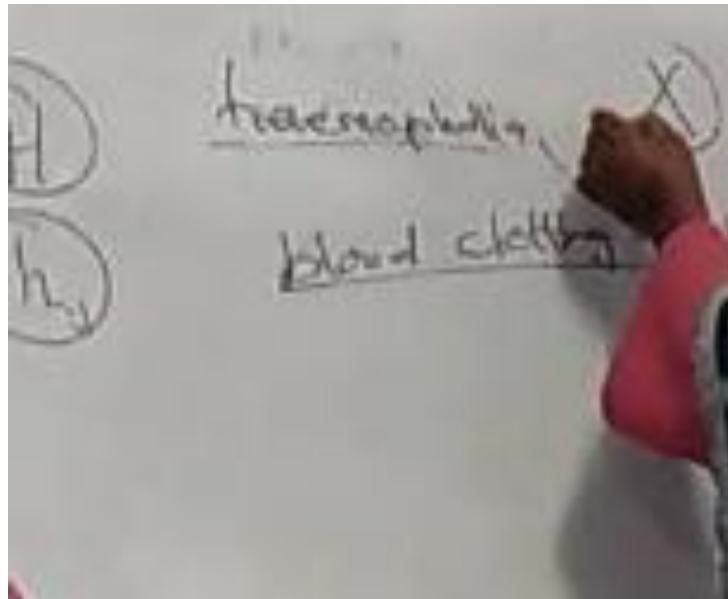
50. So, we have this ehh...woman, AGAIN I want to emphasize this; that ehh...always ehh will affect again the ehh...the ehh...X chromosome...



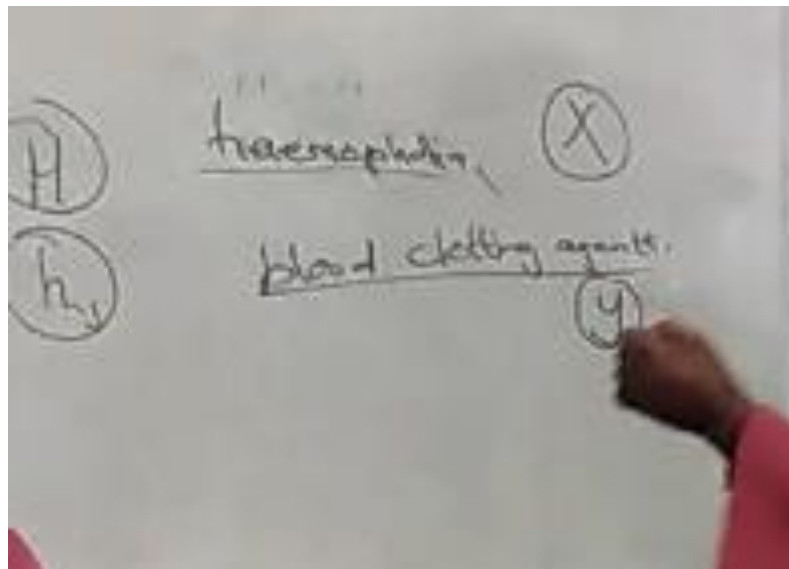
...not the ehh...the Y chromosome.



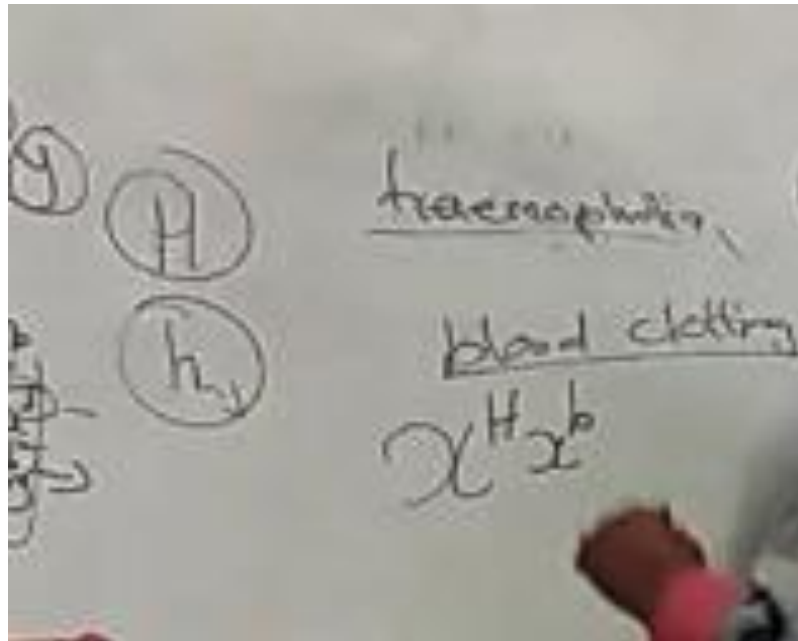
51. Haemophilia will affect ehh...X ehh...chromosome...



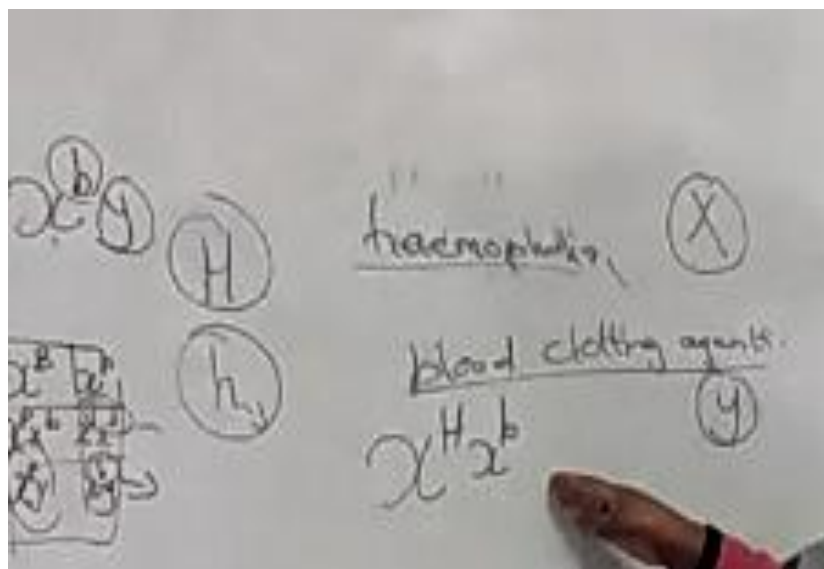
...not the Y ehh...X chromosome.



52. That is why again in our crossing we are going to have this woman who is a carrier of the haemophilia that will have the X and capital letter H and X with a small letter h.



53. That is what ... that is ehh...heterogeneous...



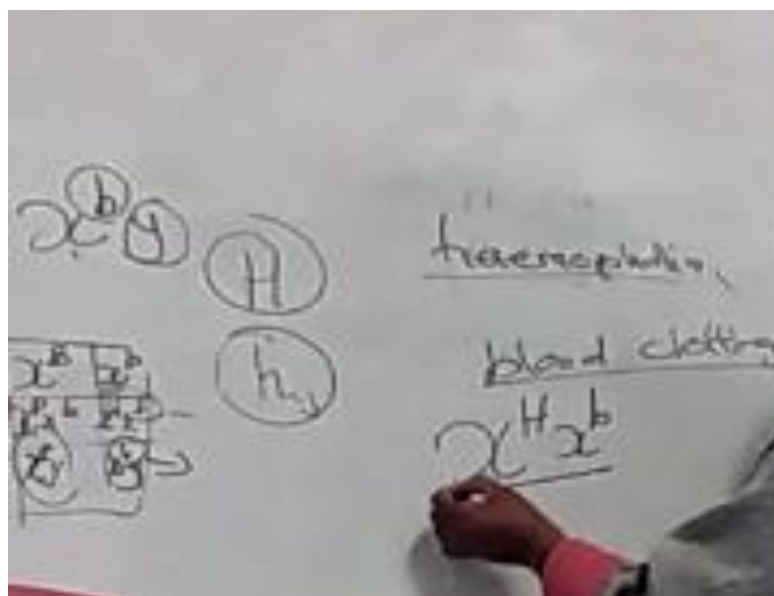
... because she is doing what?



54. What? -- already normal but she is carrying what ... this is recessive ehh...allele, you understand?
55. You understand people?
56. I do not have to shout like a priest here, it is not Sunday...if you do not understand you raise your hand.

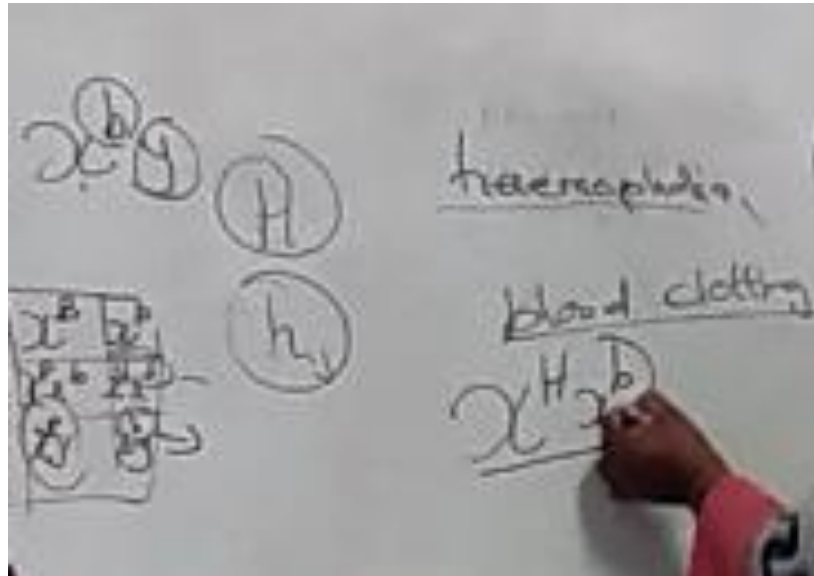


57. So, eh...this woman here is eh...is $X^H X^h$ normal...



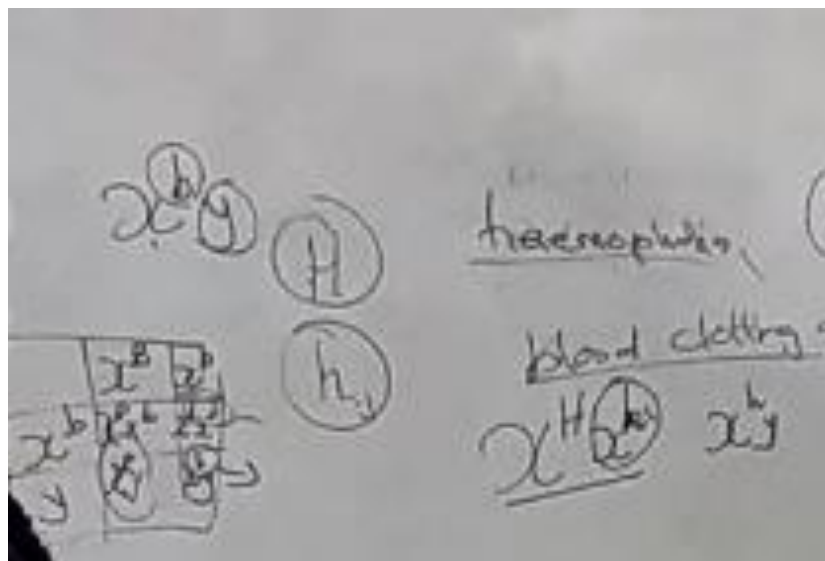
...but still carrying what, the eh recessive allele [underlining]

58. The small letter.

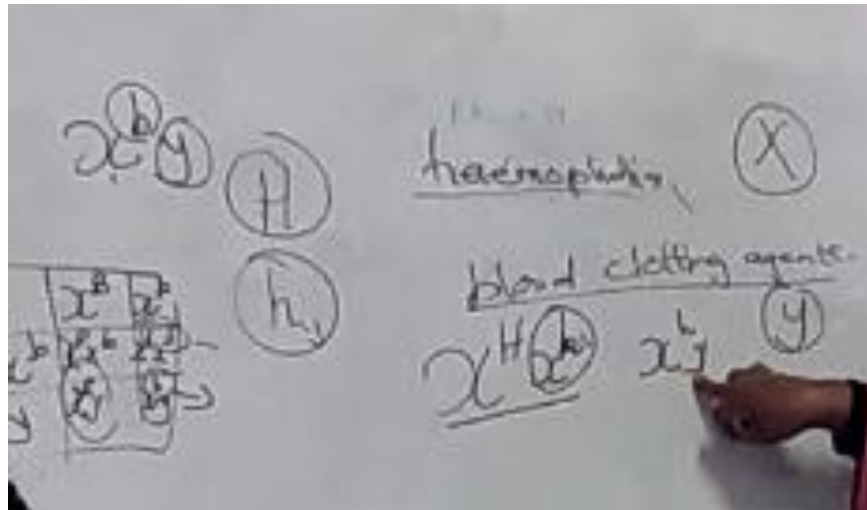


59. Then we have, it is not b it is the small letter h [encircling]

60. Then we have this male that is X^h and Y...

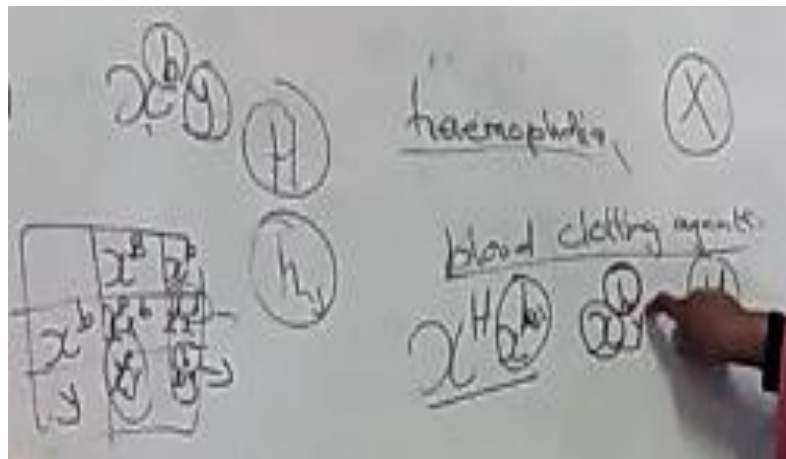


...X small letter h and Y and this tell us that the man is what?



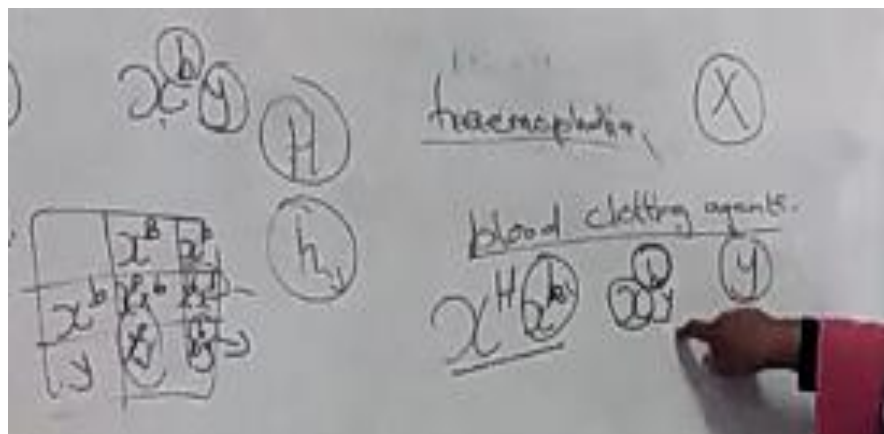
... is ehh...haemo— philic because he is doing what?

61. He is carrying this ehh...recessive allele on what... on the X ehh...X chromosome...[pointing]

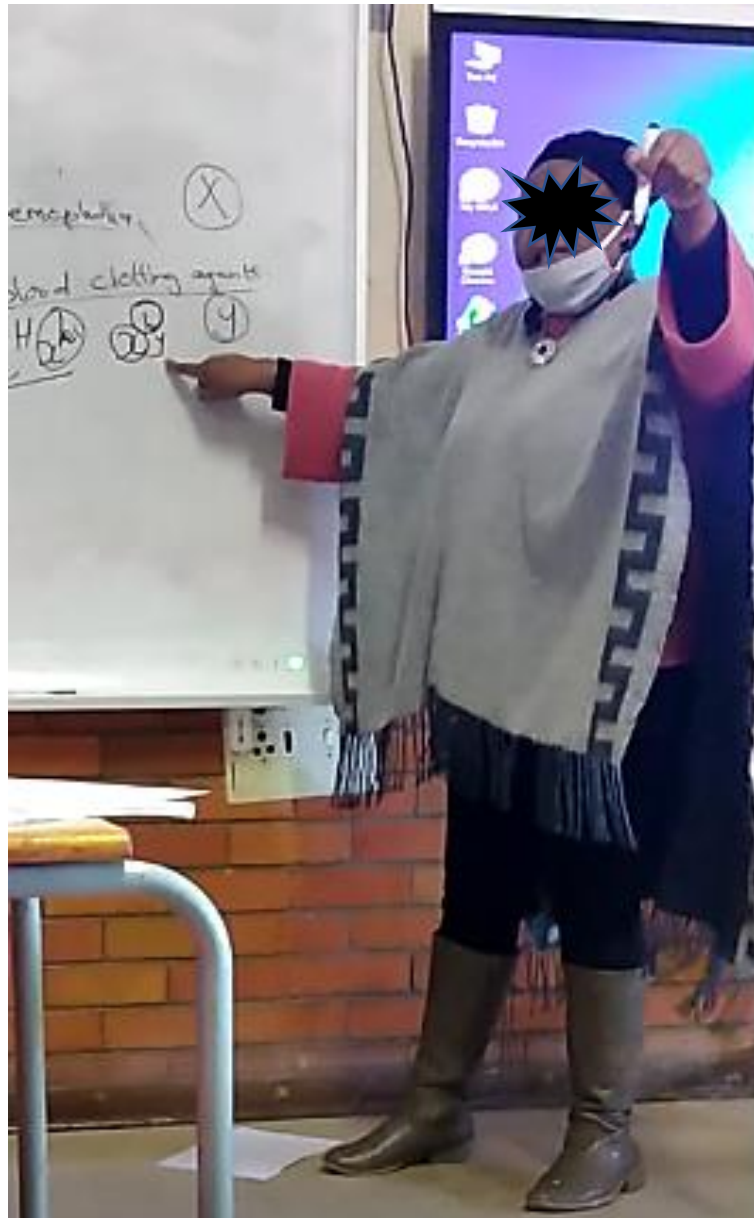


...not on the Y chromosome [pointing].

62. Wallace! The man is carrying the recessive ehh...h that is the haemophilia and Y...



...that ehh...X chromosome that will not be affected...

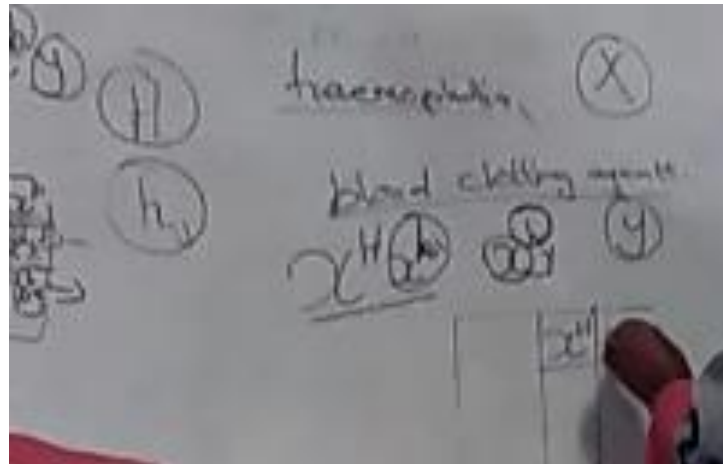


...by ehh...the haemophilia.

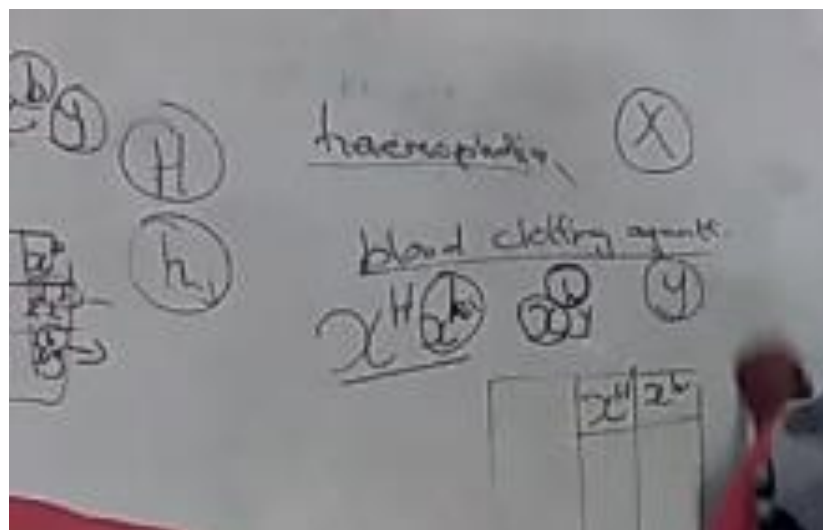
63. So, that is why always in your examination, they will be asking you that ehh...why ehh...the mother, neh!
64. Why ehh... (the mother) why the mother will be the one who will be ehh...transferring this ehh...haemophilia ehh...to ehh...the son, neh?
65. Why ehh...the mother Thulani, ehh...being the one who will ehh...transfer ehh...this ehh haemophilia ehh...to the son.
66. It is because ehh ...or not the father who will be the one transferring ehh...this haemophilia ehh...to the daughter or the son.

67. We cannot say that neh...the reason being what ehh...we have what...this affects only the X chromosome not the Y ehh...chromosome.

68. So, if we are doing now the ehh...crossing again the what...the X^H ...

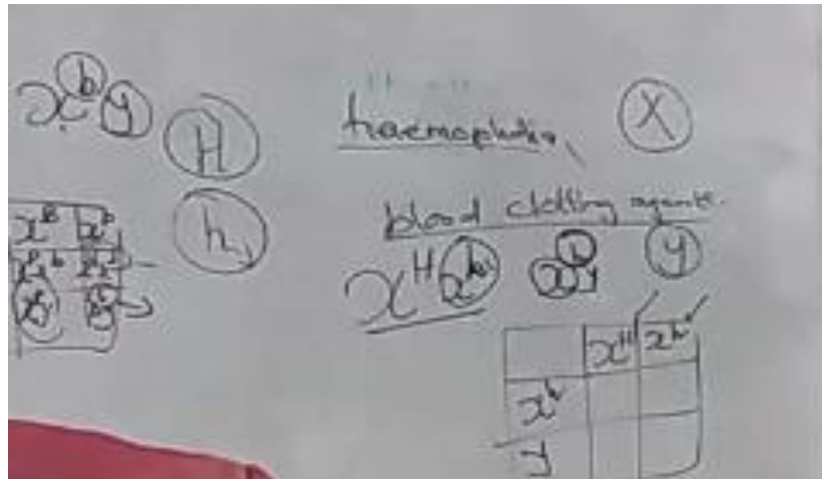


...and the X^h with ehh...the recessive...

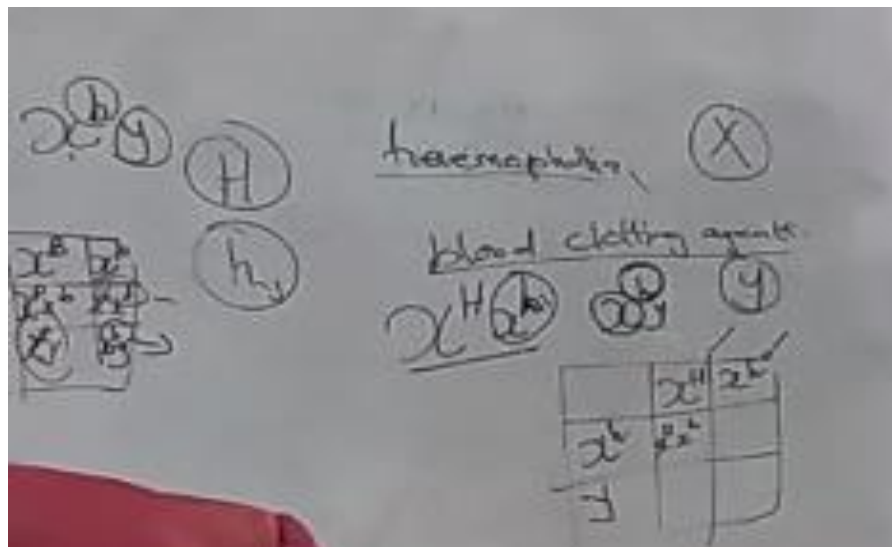


...X dominant and X recessive.

69. Then ehh...here we have the X with the recessive allele and then the Y ehh...chromosome.



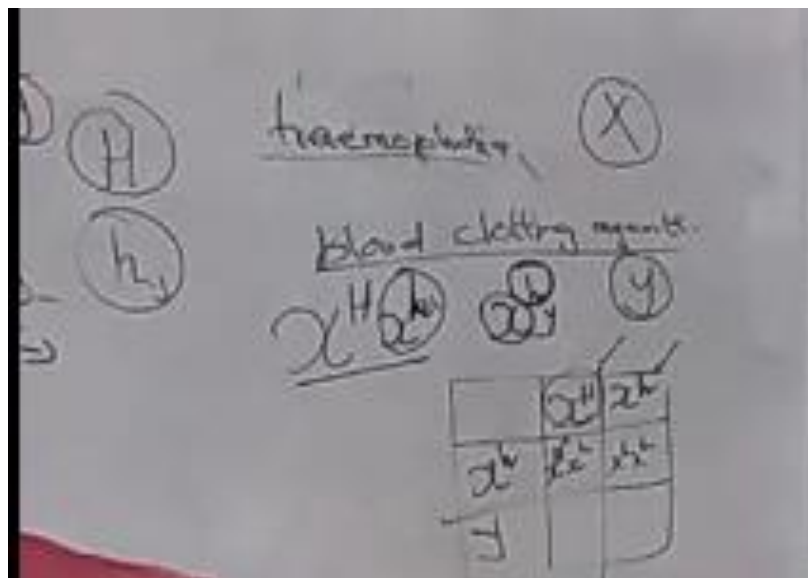
70. So, we have what ... eh...this eh...woman again who is what the haemo— eh...philic and then we have here...



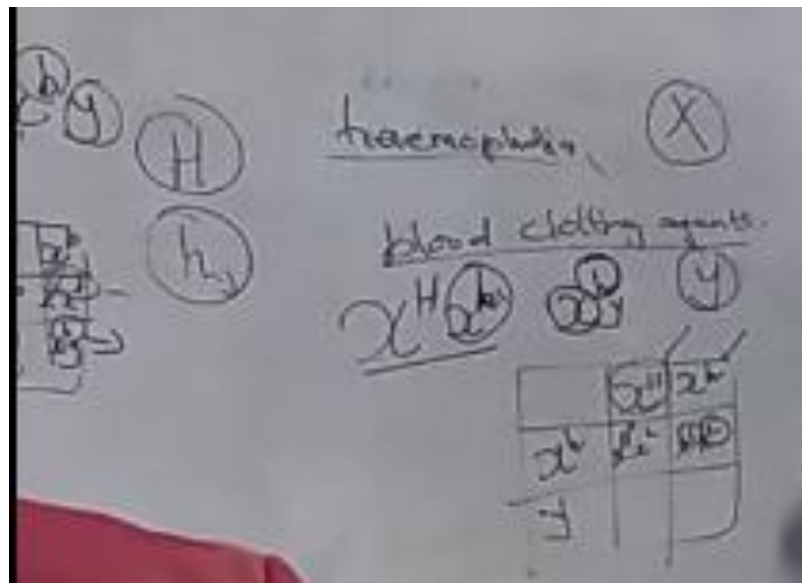
...I mean this one, who is dominant neh, who is non-haemophilic because of what...because of the capital letter H.



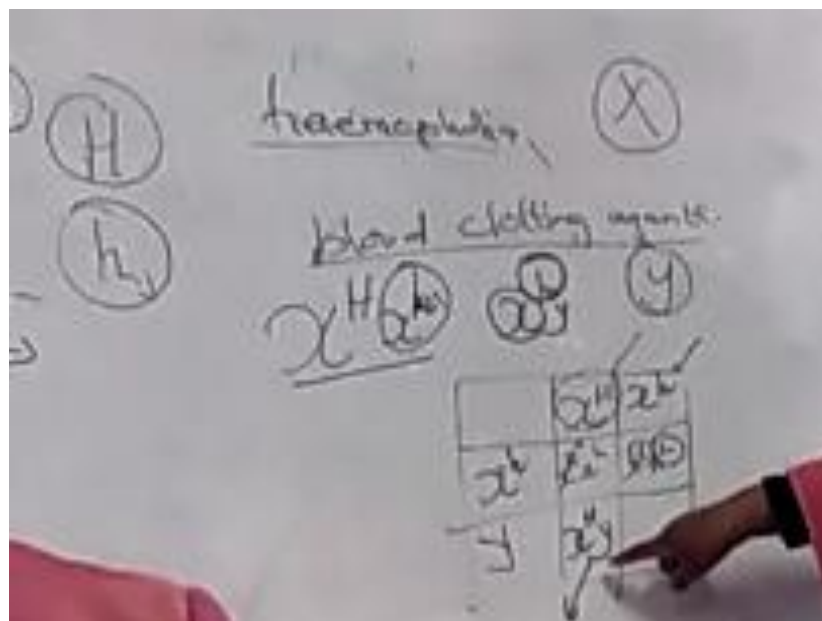
71. Then we said that ehh...the woman is what?
72. Is normal... the woman will be normal because of what ehh...the dominant trait that is the haemophilia.
73. Then we crossed this one and then we have a girl ehh...who is what?



74. Haemo— eh...philic because we have what?
 75. We have a small letter h and a small eh...letter h.

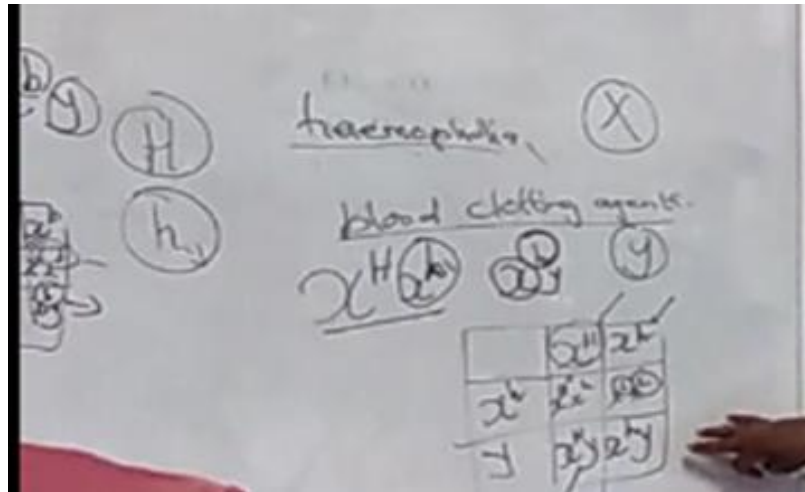


76. And then we have this one here that is X^h Y...

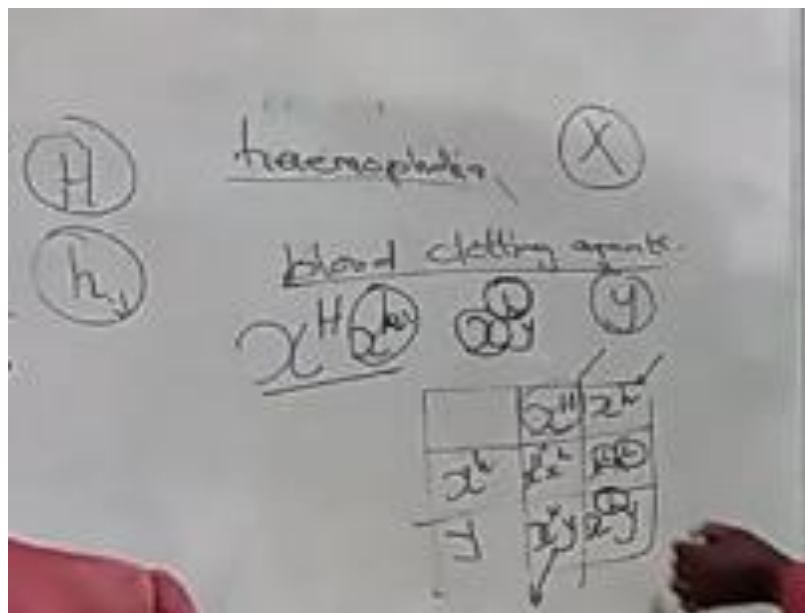


...can you say this male here is haemophilic?

77. Ls: No!
 78. Mrs. Letsiba: No! Neh! Very Good!
 79. This man here is not eh...haemophilic, this man is normal.
 80. Then we have X^h and Y.



81. Then we are going to say that this eh...man is what?
82. Is haemophilic, why?
83. Because eh...he is carrying what?

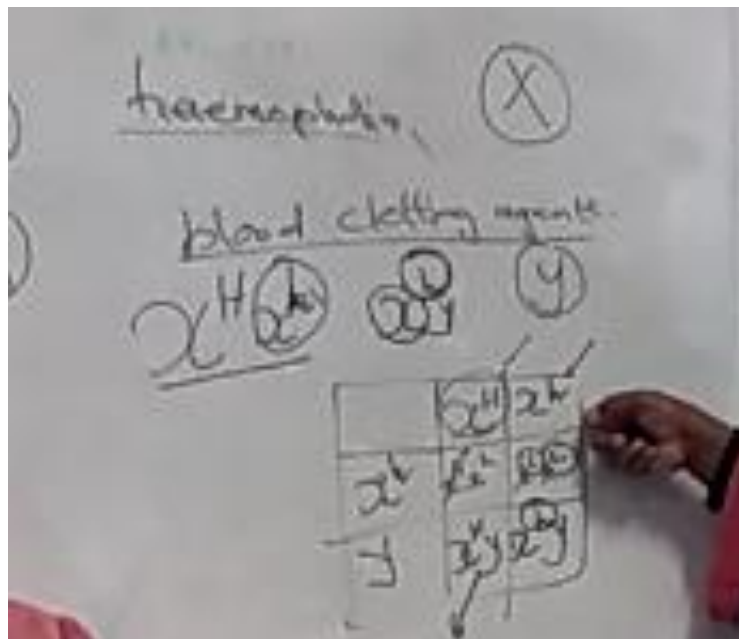


84. Ehh...the eh...recessive eh...allele that is what?
85. That is the small letter h, you are going to—



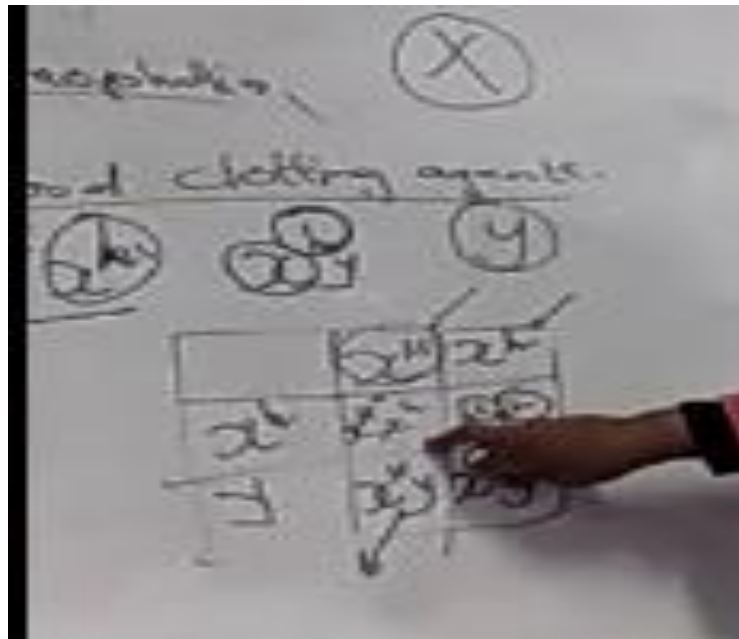
...remember I gave you the worksheet last ehh...week neh?

86. I have a question on the crossing of ehh...on this ehh...haemo—
ehh... haemophilia, are we okay?

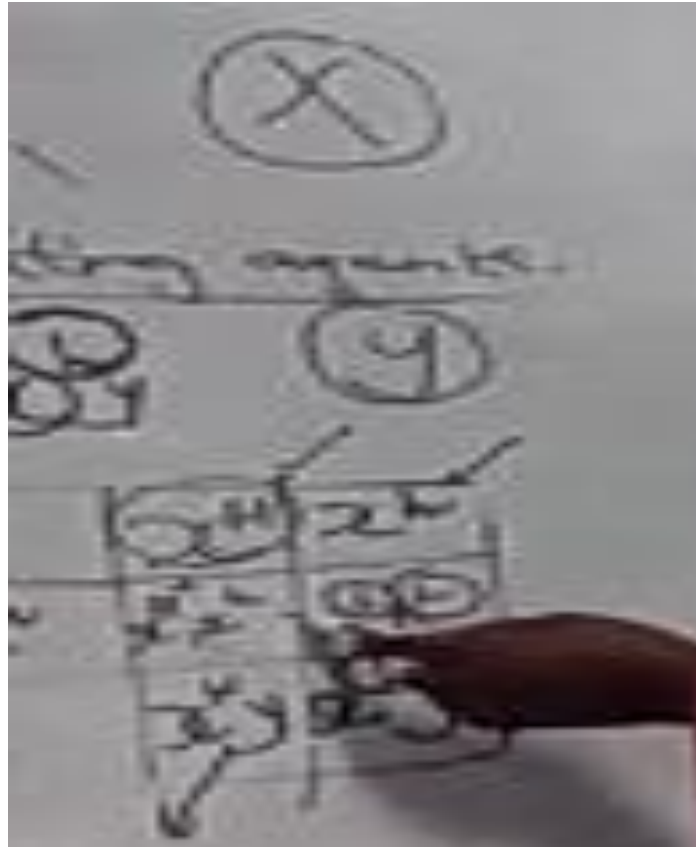


EPISODE 5: HAEMOPHILIA AND EXAMS

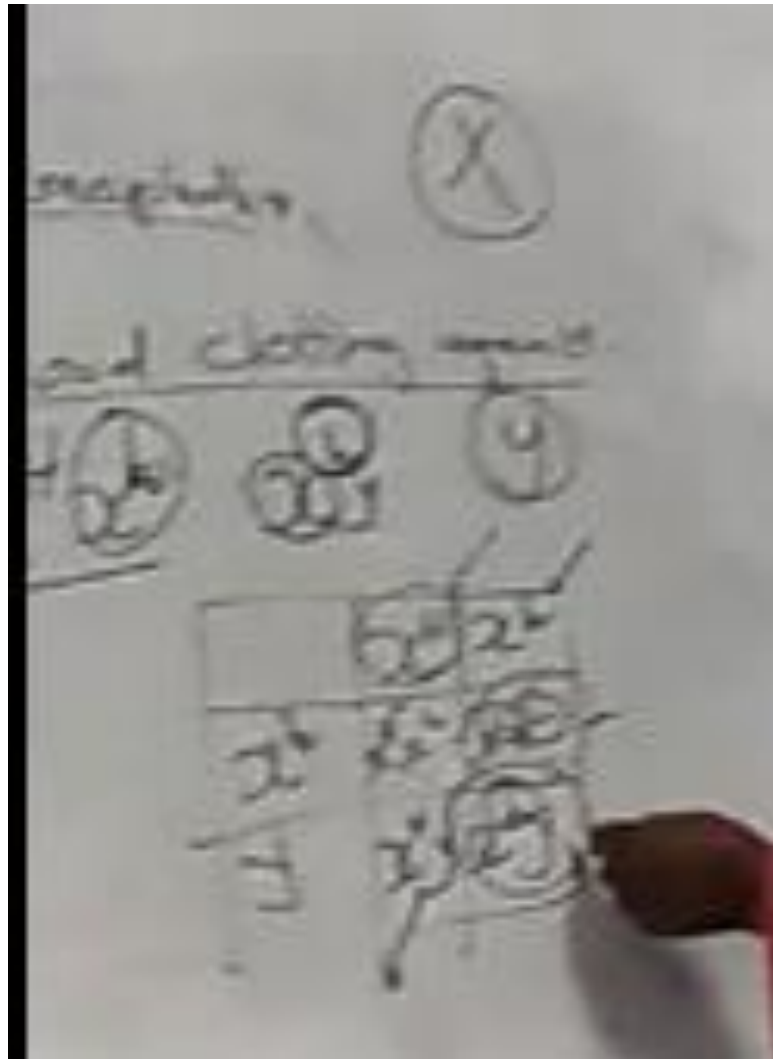
87. When we get this question where you have to cross as I was telling the other class that sometimes the examiner will not tell you that you have to do a crossing neh!
88. They will just say to you that give the phenotype like in the phylogenetic tree that is the family tree.
89. What we just have to do, is to give the phenotype and the genotype.
90. My advice to them was that, ehh...please just on the side just ehh...even on that ehh...question paper neh, just quickly do your crossing and immediately you are done with the crossing then you are able to say that okay child A here is what?



91. Is ehh...is normal?
92. How many normal?
93. How many are haemophilic?
94. Then we have how many ehh...daughters that are haemophilic?
95. We have one daughter that is ehh...haemophilic.



96. And how many sons are haemophilic?
97. Then you know that you do not have-- you have only one eh son that is what?
98. Ehh...haemophilic.

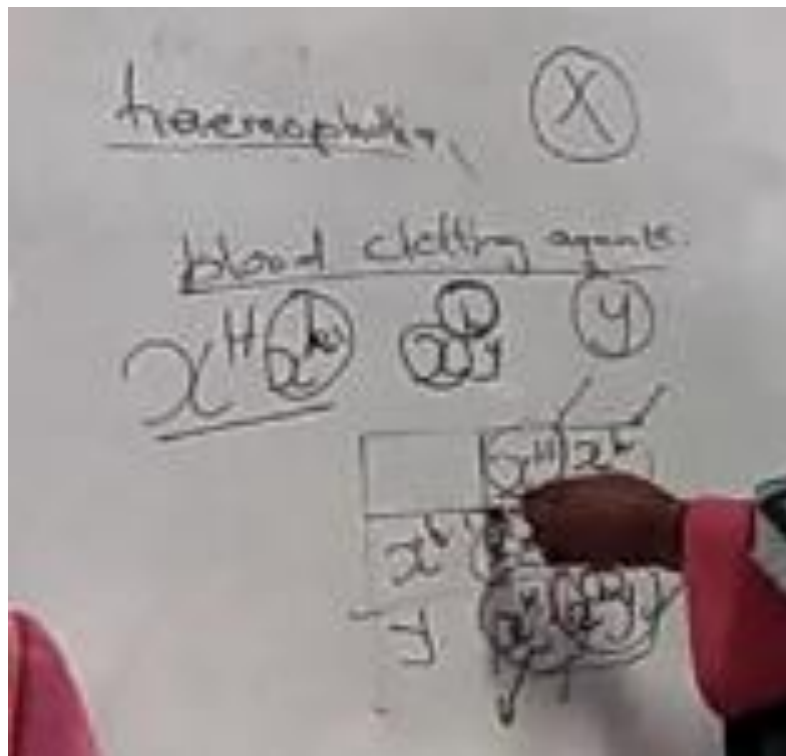


99. How many are normal males that are normal?
100. Then you know that you have this male here, that is ehh normal...



...because of-- Siyanda...allele because of the capital letter H.

101. That is what the ehh...dominant neh and then how many females that are normal that are not ehh...haemophilic then we have ehh...the ... we have only one that is what ehh...normal because of what ... this capital letter H neh!



EPISODE 6: HOUSEKEEPING

102. Can I continue?
103. Ls: Yes!
104. Mrs. Letsiba: We understand this neh!
105. So-- but then when you do those activities that is when I will see that people understand because ehh...we are not in the tribal ehh... authority meeting where people are lazy to talk.



106. When one major says, yah you know I was thinking that we can do one, two and three then everyone says YEESSS we can!



107. Kanti [IsiZulu for yet] there are still some other options that people can eh...use so, we are moving on.

EPISODE 7: PEDIGREE DIAGRAMS

108. Eh...genetics 'Sex Linked' and then in your worksheets that I gave you—I do not know if some of you have tried to answer those eh...pedigree diagrams that is eh...the family tree.
109. The pedigree diagrams that is the family tree.
110. So, eh...during December time you know people are saving, come December they will be buying lots and lots of food.
111. Because they know that they are going to have eh...this gathering.
112. They are going to have a gathering, where you have a family from Thuwa-Thuwa, you are going to have eh...another family that is from eh... KwaThema, we are going to have another family that is from eh...New Castle neh!



113. So, when there is this gathering...



...at home you will hear old people, your mother, your grandfather saying that we CAN— NOT continue neh!



114. We cannot continue this gathering because we are still waiting for
sah...for someone from Mpumalanga.



115. Your Uncle will be coming from Mpumalanga then we must wait for him.

116. So, it is what?

117. It is the family tree,



...remember ehh...Gregor Mandel when he started the-- this ehh...theory of genetics, he was using what ehh...the pea ehh...plants, neh!

118. So, then here are genetic pedigree diagrams or the genetic lineages.

119. How are we related?



120. Ehh...someone will say, no my auntie from somewhere.

121. Sometimes at home...



...when you are doing something, they will tell you that they are not surprised your auntie used to do that neh!



122. Or they used to say to you that ehh-- but you ask yourself ahh ... man here is my Mother, here is my Father...



...but I am light in complexion.

123.

Both of them are what?



124.

They are dark in complexion.

125.

So, what are they going to say to you.

126.

That ehh...no, you have inherited ehh...this ehh colour from your great, great grandparent neh!

127.

You have inherited this from your great, great ehh...mother.

128.

So, that great, great grandmother you do not even know but then in your family, your dad, your mom will tell you that no, you do not have to worry.

129.

When is that gathering, when all these ehh...families sometimes we even find people buying some T-shirts stating that we are the clan of MngomeZulu!

130. Ls: [Laughter]
131. Mrs. Letsiba: Written here [showing back]

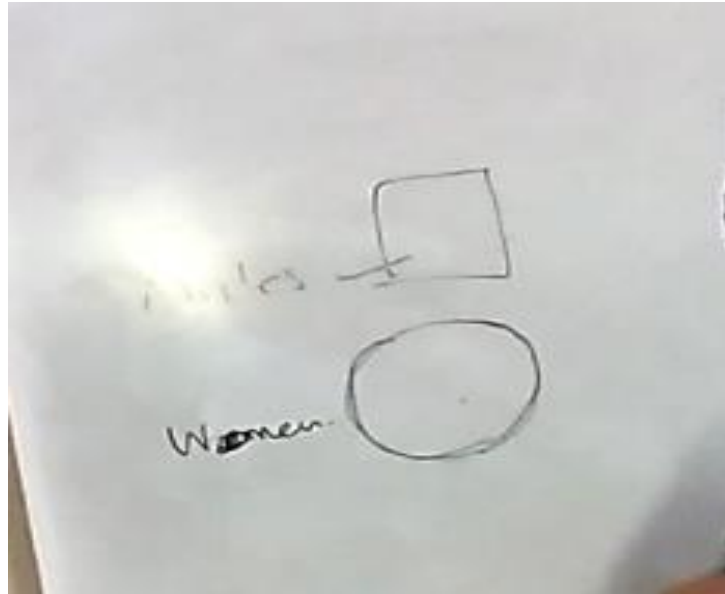


- and whenever you are going home, you are wearing that T-shirt that says we are the clan of ehh...MngomeZulu.
132. And again, you find that ehh...even that MngomeZulu who is your ancestor, you do not even know him, but they will tell you that ehh...this is your eeh...family tree.
133. You understand, in genetics ehh...lineages we are talking about inheritance.
134. So, we are having people ehh...the square...



...we also have ehh...the ...ehh the circle.

135. You sometimes the examiners they can be very tricky neh!
136. Instead of giving you the ehh...the pedigree ehh...diagram with the key, they do not just give you they key neh, because they just want to find out if you really understand that the square represents what...and the circle represent what...NEH!
137. Ls: Yes!
138. Mrs. Letsiba: So, we have ehh...this square here that will always represent ehh...males.
139. When you just see, or they did not give you [silence] key. And then you see the square just know ehh... Indoda! [IsiZulu for male] males neh!
140. Ls: [Laughter]
141. Mrs. Letsiba: And then you have this one, the O or the circle neh?
142. Ehh...the circle then you know that ehh...this ehh...circle bafazi [IsiZulu for women] neh, this is ehh...women.



143. It represents the ehh...females.

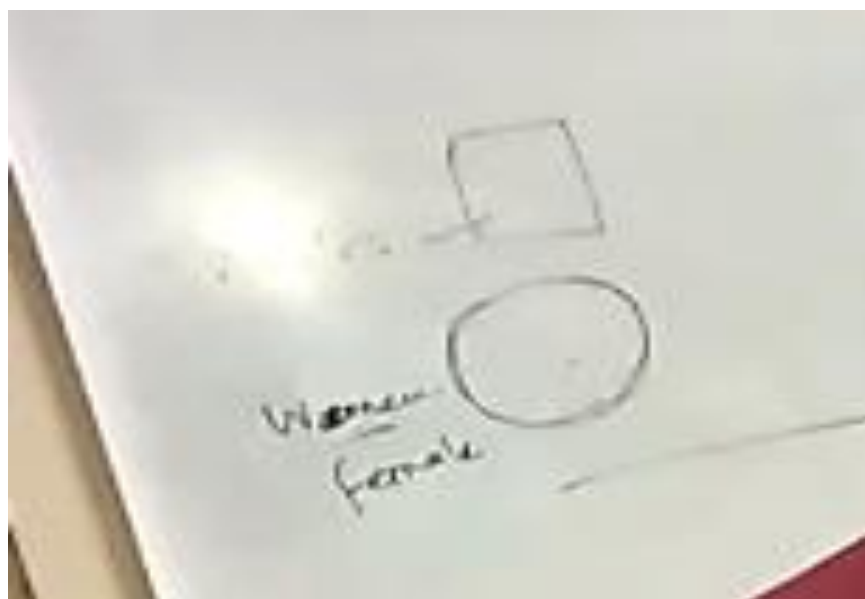
144. So, ehh...madhoda [males in isiZulu] that is square [showing with hands]



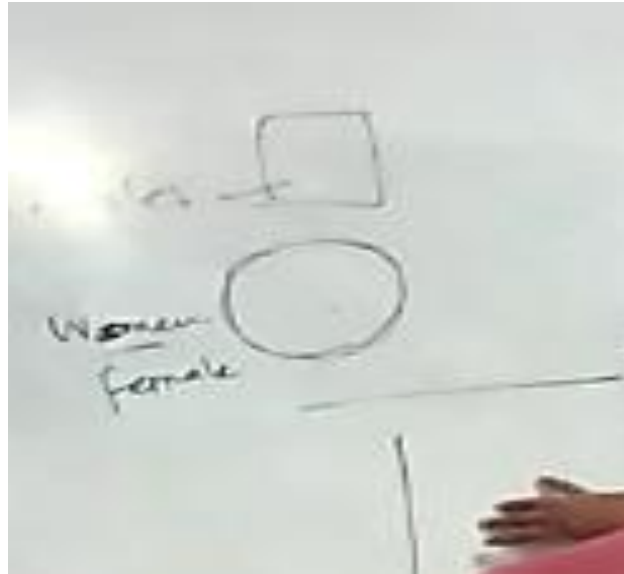
...and then females that is what?



145. Ehh...the circle.
146. The other thing that you have to know, is that we have horizontal lines...



147. Then we have the vertical lines...



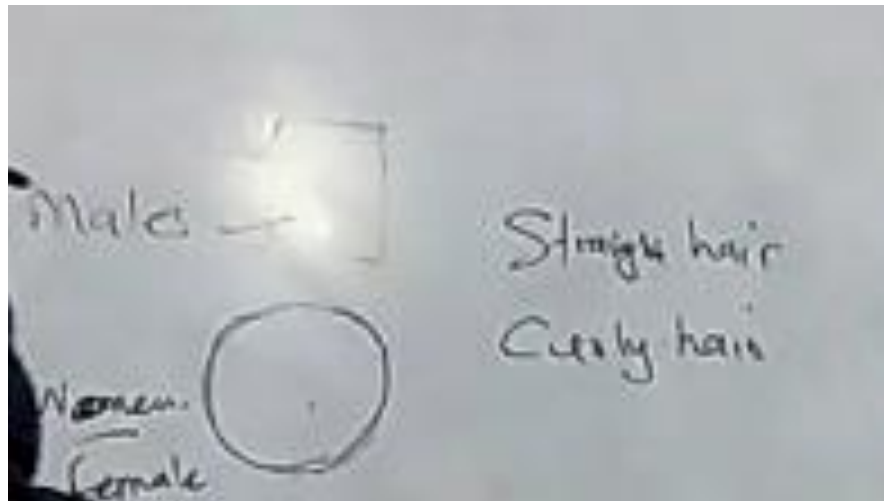
148. You understand...because one needs to understand what we will get in our examinations.
149. So, I do not want to see anyone crying when you are writing, the invigilators are there and then they come to me reporting you ehh...are crying because of the phylogenetic tree, ehh...they do not know which ones are males and which ones females.
150. And the other thing that you have to know, we have the vertical line here.
151. When you see the vertical line, know what we are talking about.
152. What... the couple, we are talking about...the couple.
153. Ehh...the couple neh!



154. And then we will have the what?
155. Vertical line.
156. When you just see ehh...this ehh...vertical line, just know that we are now talking about what offspring or the ehh-- neh!
157. Ls: Yes!
158. Mrs. Letsiba: For example, we have ehh...Daniel.
159. Ehh...Daniel is having the what ... the straight... [demonstrating]



...ehh hair.



160. I think it is better we switch off the heaters because people are sleeping.
161. Ls: [Laughter]
162. Mrs. Letsiba: It is very hot now neh?
163. I am very far from the heater, but I am feeling it. [Inaudible]
164. Ls: Laughter
165. Mrs. Letsiba: So, we have this male with ehh...the straight ehh hair neh and then we have ehh...this woman with curly ehh hair.
166. [Drawing on the board] So, Daniel when you go out and you are at Eastgate, then you came across this ehh...girl that you love so much.
167. Ls: [Laughter]
168. Mrs. Letsiba: Why you love her is because you have been attracted by what... by the type of the hair that she is ehh having neh!



169. That you know what...my children are going to have curly hair
ehh...my ehh...children...they are going to have what...curly
ehh...hair.
170. So, it is you...



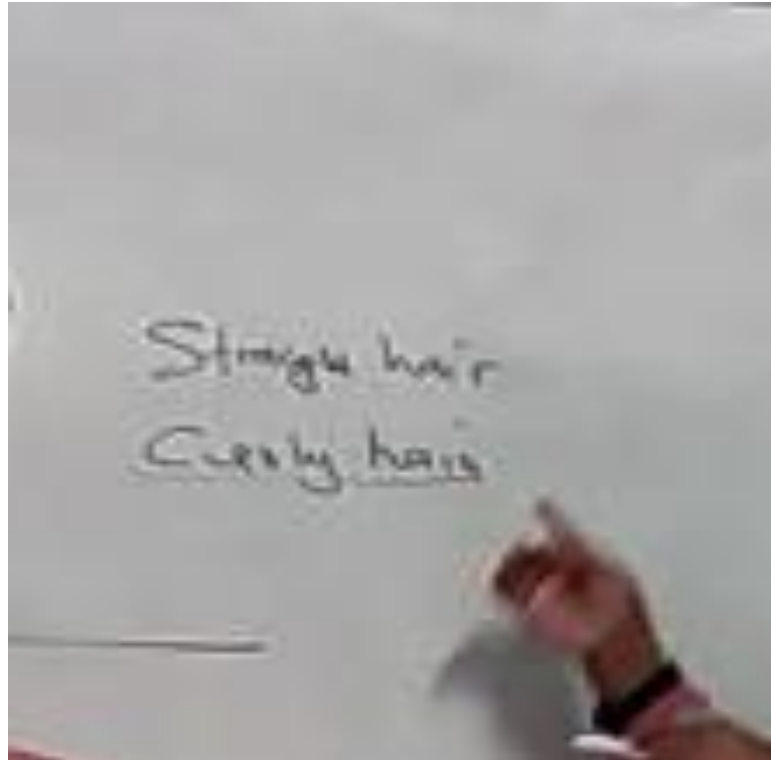
...and ehh...Nomsa...



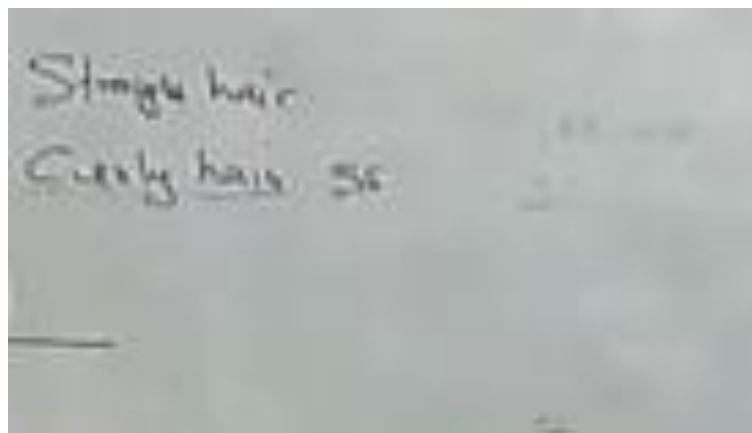
...neh!

171. Ls: [Laughter]
172. Mrs. Letsiba: It is Daniel and Nomsa.
173. Ls: [Laughter]
174. Mrs. Letsiba: So Nomsa is having what ... ehh... curly hair.
175. And we are saying that ehh...this ehh...curly hair of ehh...Nomsa is what?
176. Is the recessive one so we represent that with a what... a small letter sand the ehh...here is ehh...Daniel with straight hair that we have S and the capital letter S and the small letter s that is what... hetero— ehh...zygous.
177. Remember you took that from somewhere Daniel from your parents neh.

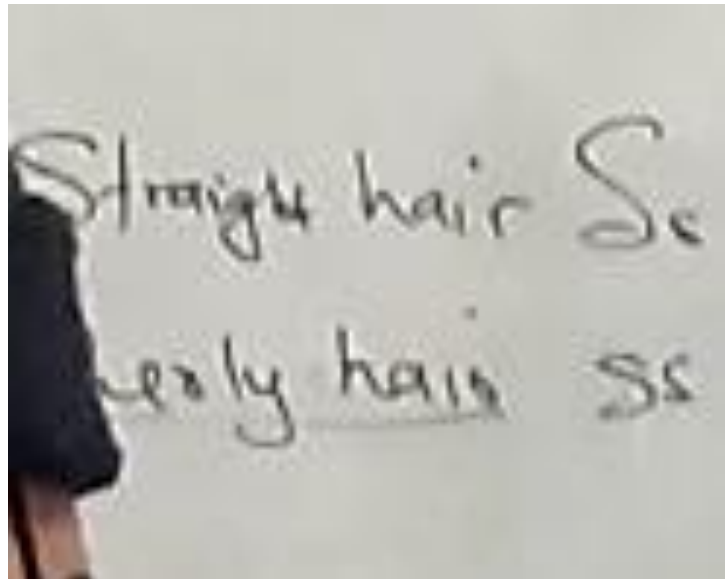
178. But then you have what this recessive allele neh.
179. And then here is Nomsa Adamson!
180. Ls: [Laughter]
181. Mrs. Letsiba: With ehh...curly hair.
182. Then as time goes on, then you decide to have ehh...kids so, it is going to be Daniel [writing, drawing square with straight hair] and then [silence] Nomsa [drawing a circle] with curly hair.



183. Ls: [Laughter]
184. Mrs. Letsiba: And we are saying that this curly hair is what...is the recessive one.

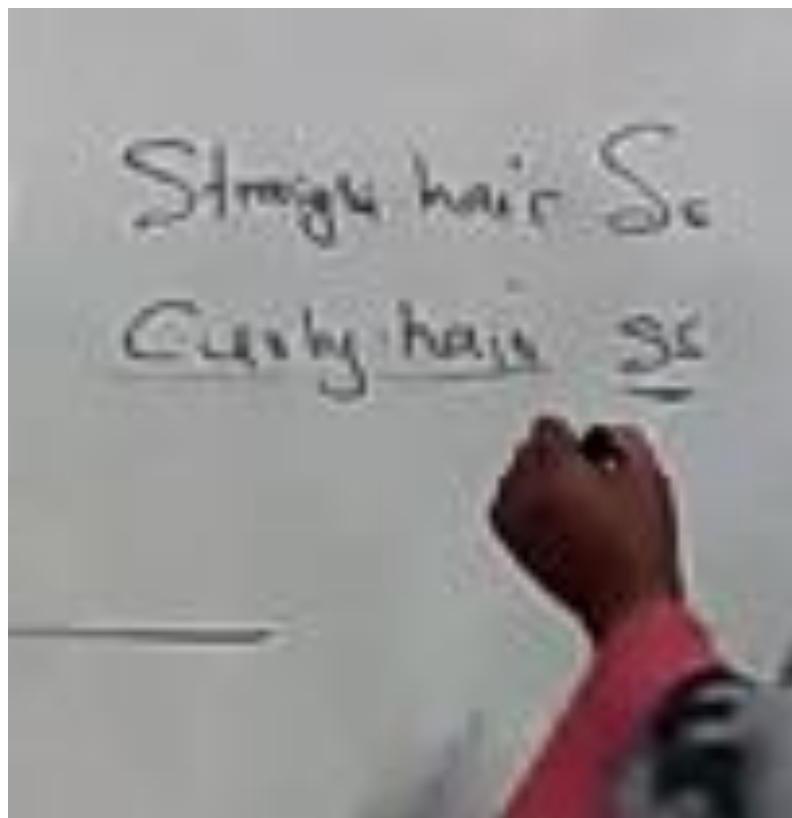


185. So, we represent that with what...↓with a small letter s neh...and then here is Daniel with what S and a small letter s...that is what HETERO ehh...ZYGOUS.



186. Remember you took this ehh...Daniel from ehh...somewhere neh...from your parents, but then you have what...you have this ehh...recessive allele.

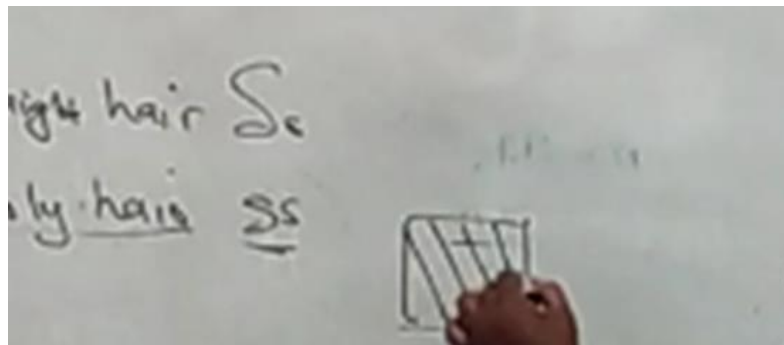
187. And then here is ehh...Nomsa [inaudible]



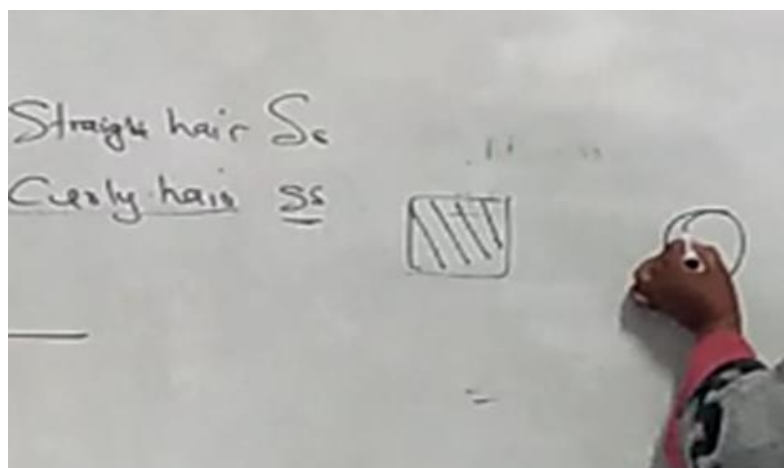
188. Ls: [Laughter]

189. Mrs. Letsiba: ...with ehh...curly hair neh.

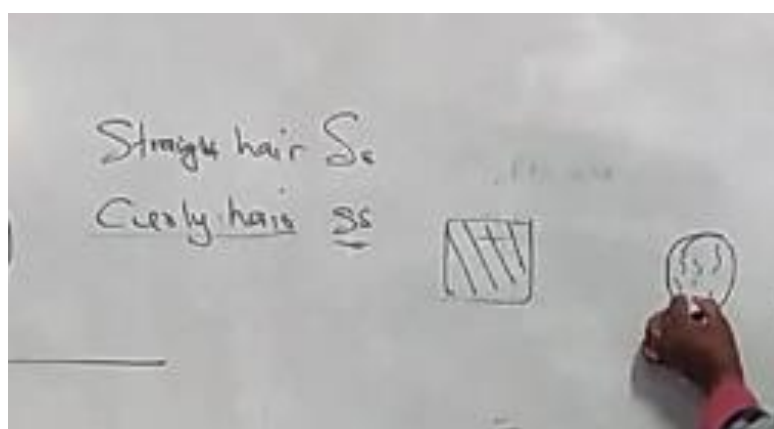
190. Then ehh...as time goes on, you decide to have children neh. So it is going to be what...Daniel here neh...



191. Ls: Daniel and then ehh...Nomsa...



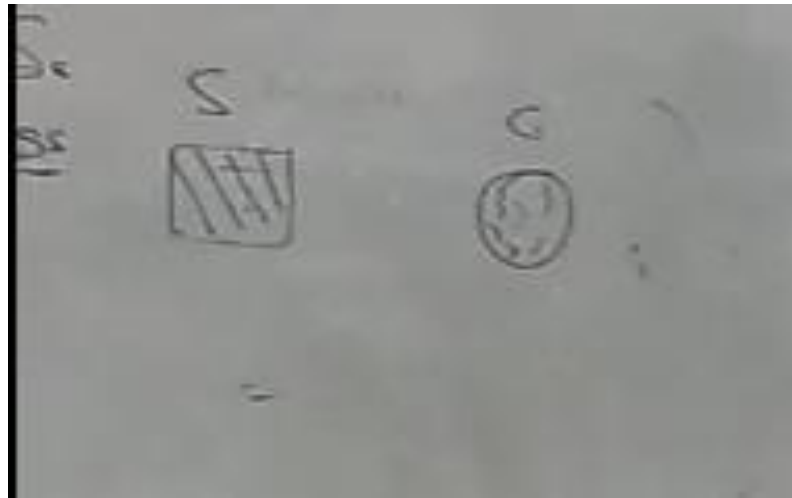
...with ehh...curly hair.



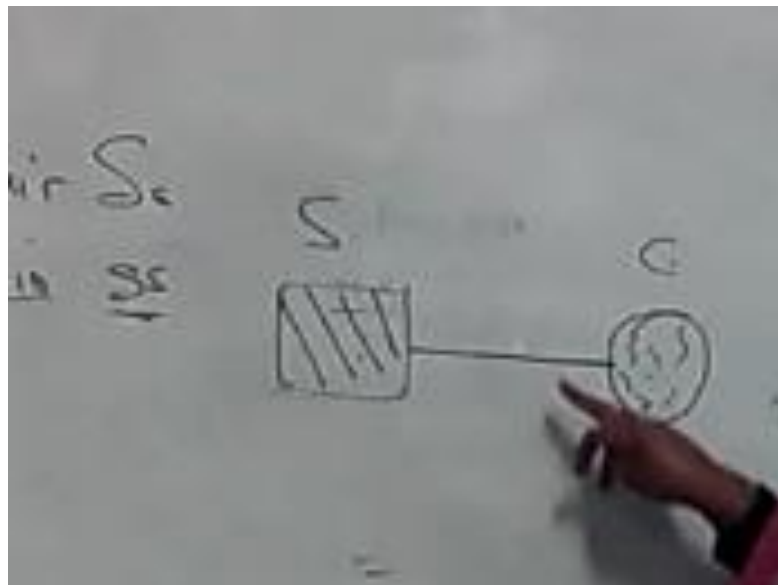
192. Ls: [Laughing]

193. Then immediately we are saying that ehh... ↑Hope can you keep quiet.

194. So, then what is the phenotype?
195. The phenotype?
196. The phenotype will be ehh...straight and curly hair...



...and then those two because it man-- I mean wife and husband will have this line here... [showing the line] this horizontal line here.

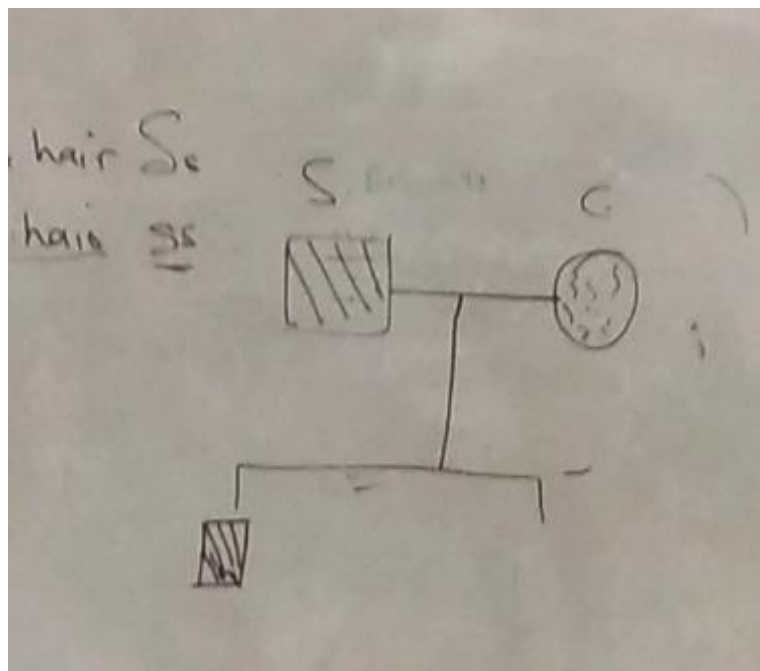


197. That will show that Daniel and Nomsa they are now man and wife and then he is carrying with ehh...the Long and hair I mean straight hair.
198. And the other one is carrying with the ehh...curly hair.
199. Then they decide ehh...that ehh...we are going to have ehh...eeh... children...then we have what people this vertical line here neh.



200. So, then they have ehh...three children.

201. The first one will be Mpho [drawing on the board]
...that will be represented by ...



202. Ls: [Laughter]

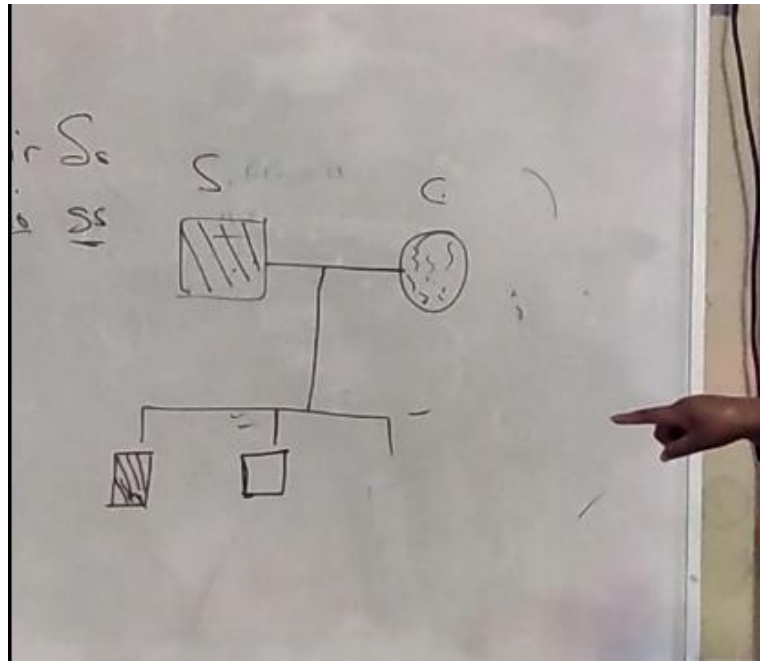
203. Mrs. Letsiba: By the square to show that Mpho is a male.

204. Unless otherwise you do not know yourself.

205. Ls: [Laughter]

206. Mrs. Letsiba: And we have ehh...the 2nd child neh!

207. So, our second child is Billy.

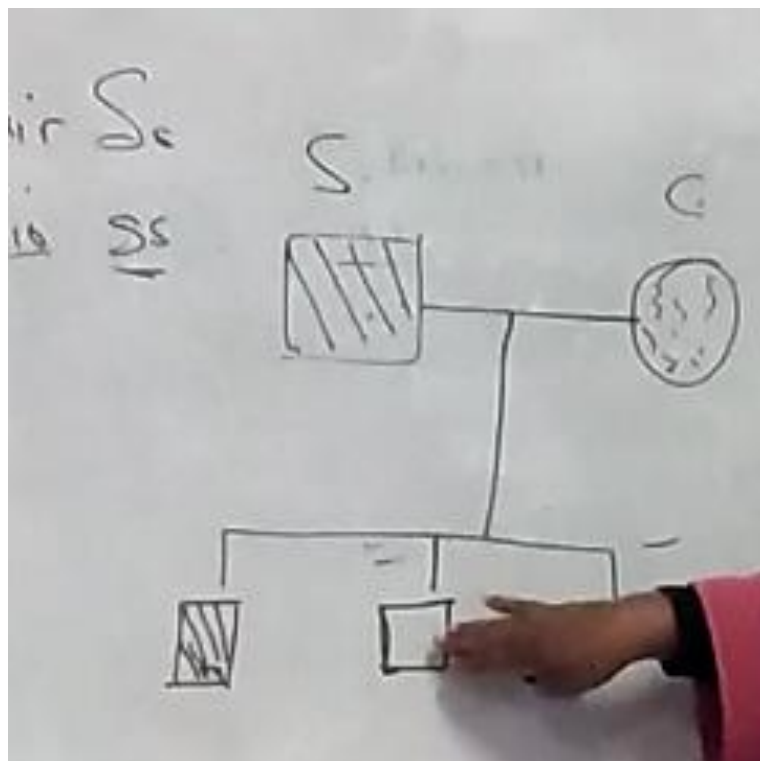


208. Ls:

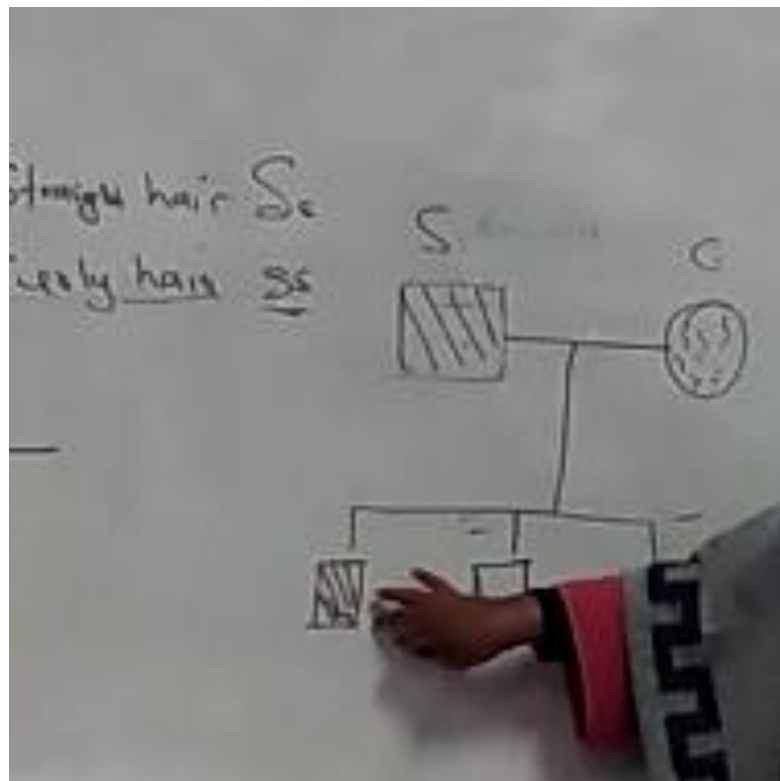
[Laughter]

209.

So, Billy here can you see that ehh...this block is empty...



...and this one ehh...here is ehh...shaded.



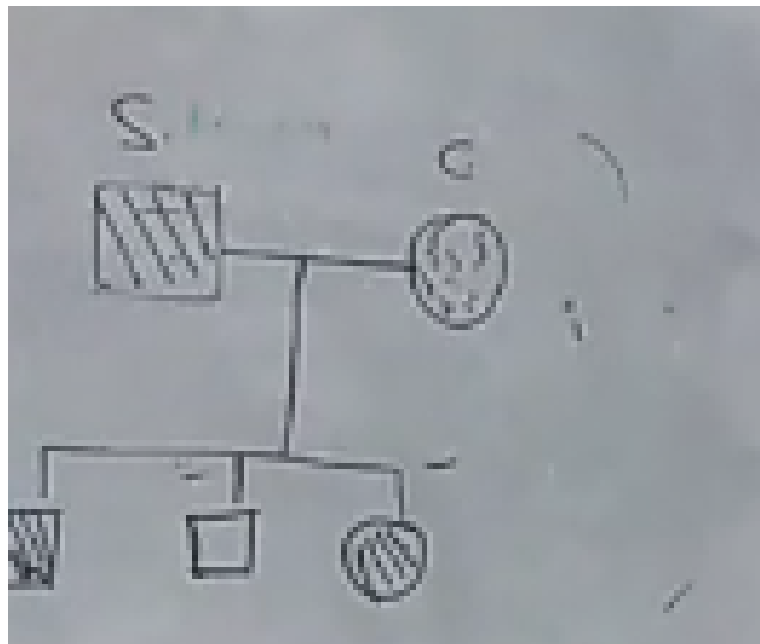
210. Mrs. Letsiba: And then they have ehh...the 3rd ehh...child neh!

211. So, our 3rd child is Ofentse, Ofentse is a girl [drawing circle on the board O]



212. We are going to use the what... the circle.

213. But then↑Ofentse is having what ... straight hair.



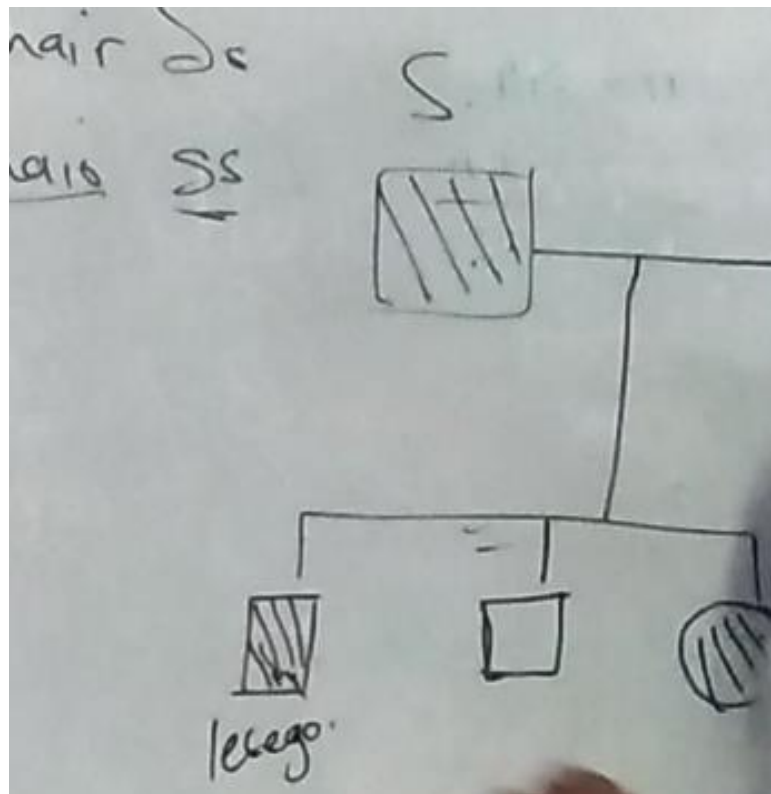
214. They have three ehh...neh.



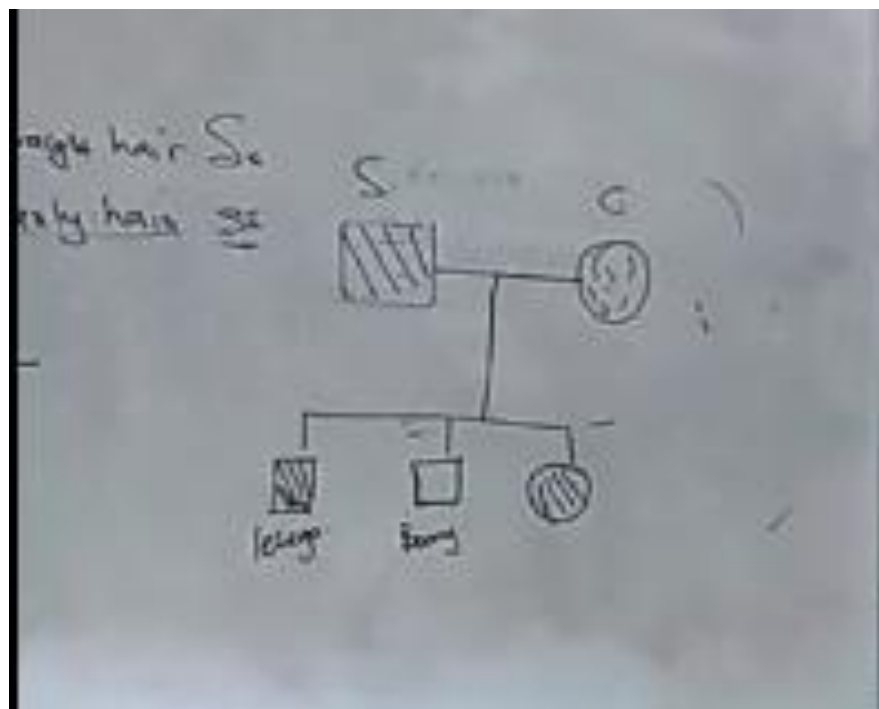
215. That is ehh...the first one is who?

216. Ls: Mpho

217. Mrs. Letsiba: Mpho neh!

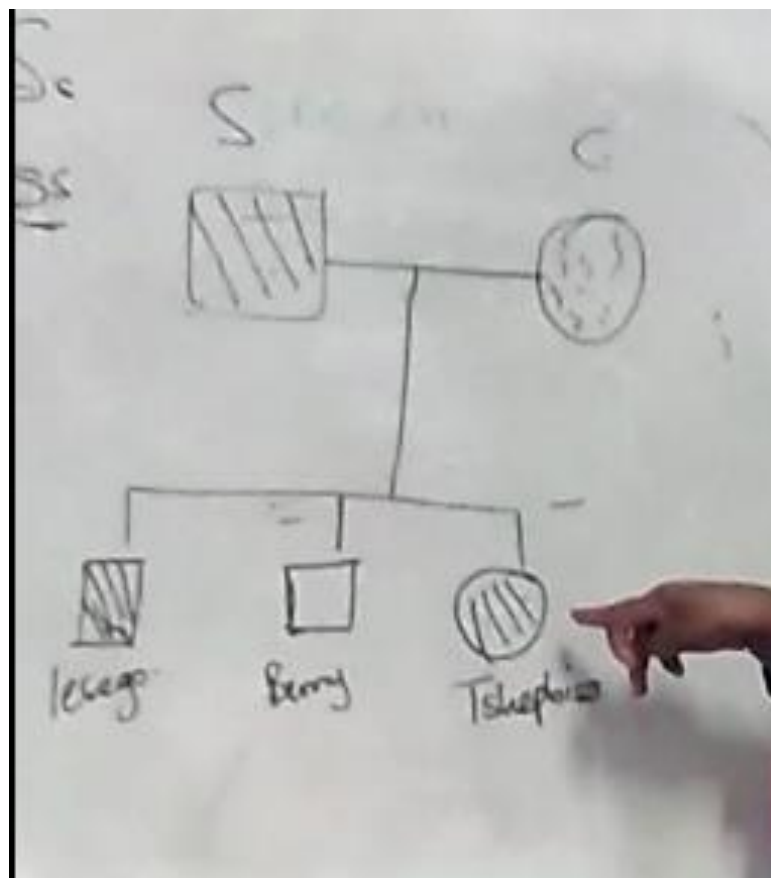


218. They were so excited and decided that rather we name this child Mpho neh!
219. You are sort of a what, a blessing nyana, [little in IsiZulu] and then we have Billy here...

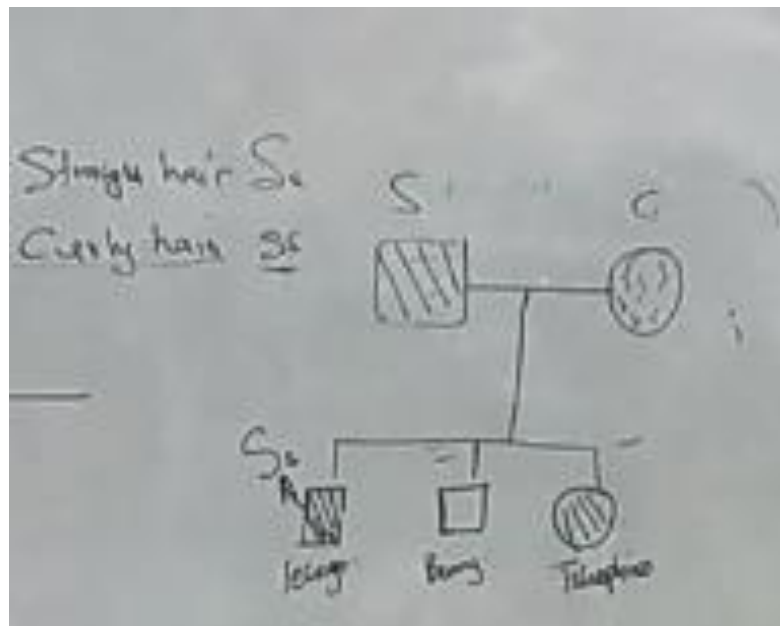


220. Ls: [Laughter]
221. Mrs. Letsiba: ...and then Billy is not having ehh...the straight hair.

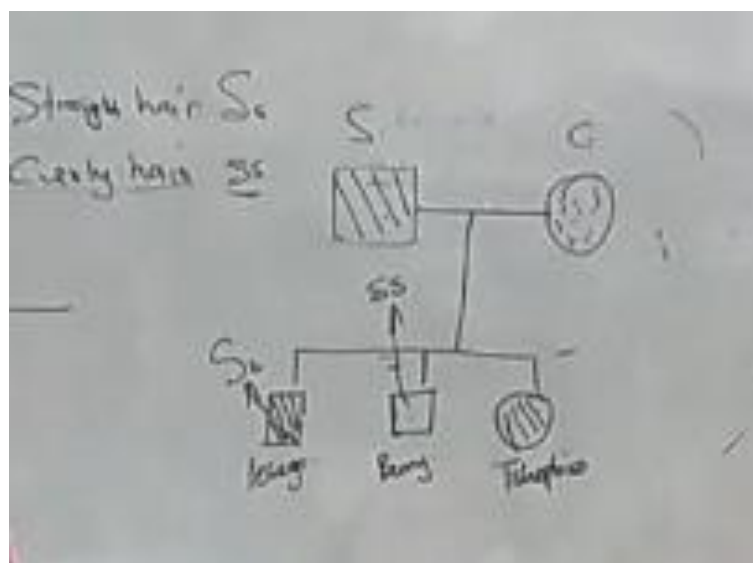
222. Billy: [Complains]
 223. (No! I am not talking) about Billy in this class.
 224. Ls: [Laughter]
 225. Mrs. Letsiba: And I am not talking about Mpho from this class and I am not talking about eh...Ofentse in this class.
 226. I am talking about people that I see coming to school.
 227. Ls: [Noise]
 228. Mrs. Letsiba: So, I just want to make you understand this neh.
 229. And then we have this eh...3rd child here that is Ofentse [writing on the board] we have Ofentse.



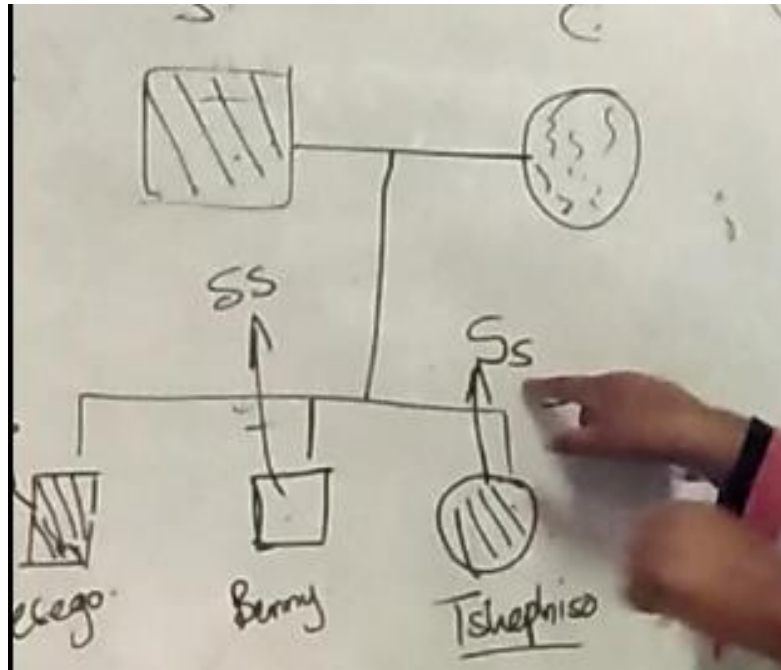
230. Ofentse is having what?
 231. The straight eh...hair.
 232. So, if they are saying that you write the phenotype.
 233. If you have to write the phenotype sometimes this one hour is ((short))— so, we write their eh...genotype neh.
 234. This one will be what S with a small letter s...



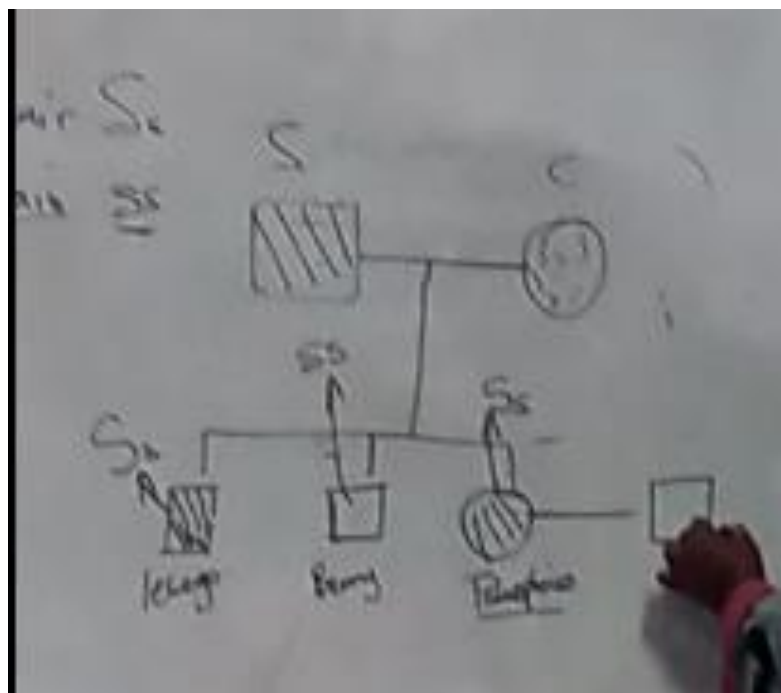
...and then we have Billy [inaudible] who is having the curly eh...hair from the mother so his eh...genotype will be what, the small letter s...



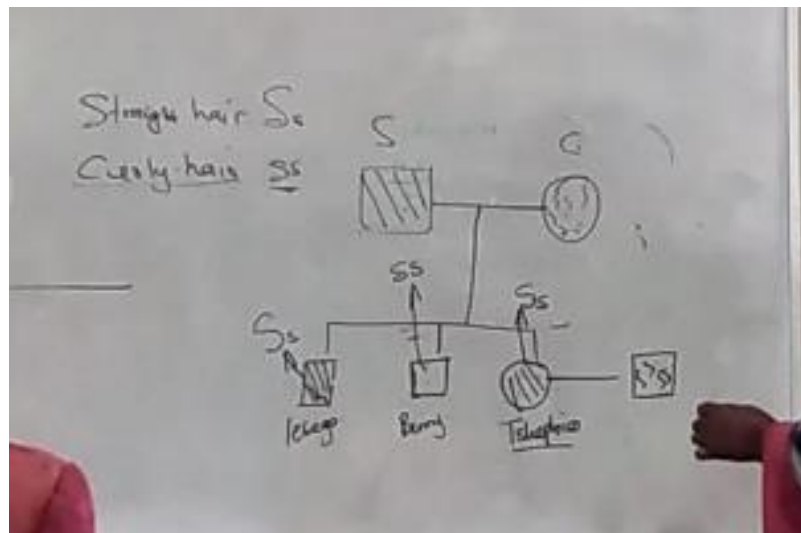
...and then we have eh...Ofentse with straight hair that will be the genotype...it will be big S and the small letter s.



235. Then as they are growing ehh...Ofentse then decides to get married to Siyanda.



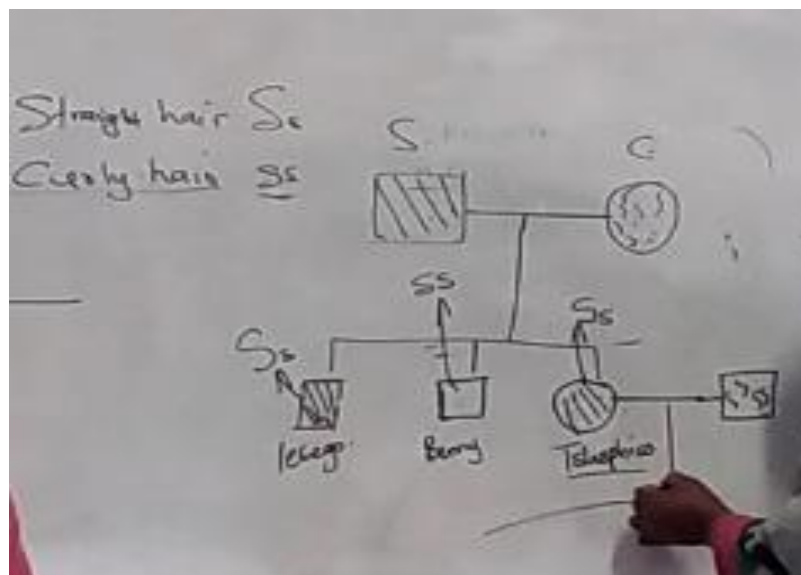
236. Ls: [Laughter]
 237. Siyanda. Then we have Siyanda here and then Siyanda will have what ... the ehh...the curly hair...



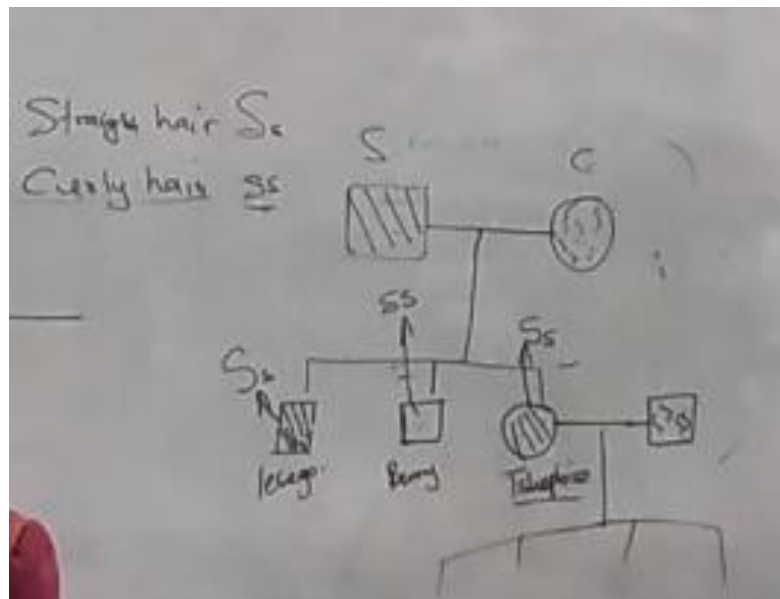
...and they got married.

238.

Then they have children...



...can you see ehh...that it is what...it is a family ehh...tree.



239. So, we have grandchildren, great grandchildren until such a time that we are busy celebrating slaughtering that cow to say that ehh...ehh...bariki bamang? (What are they saying? in SeTswana)
240. Ls: [Shouting Nomsa]

END