

## Transcript for Video Clip 4.2

Teacher/video ID:	Kawamura, 4.2_stella_GEN_kawamura_L3_c4
Content area:	Genetics
STeLLA strategy:	Variety of Student Thinking Lens strategies
Context:	In this video clip, students review previous investigations of genes that parents pass on to their offspring, and they predict what will happen when two black-billed duckos breed from a second generation of offspring.

### Video Clip 2

Time Code	Speaker	Discussion
0:00:01.3	T	So how does this result compare with the results of the crosses we looked at earlier?
0:00:09.7	T	What do you think?
0:00:10.5	SN	It kind of like, we had this big theory that “the traits don’t disappear; ooh, that’s totally right.” And then we all get the same thing.
0:00:19.6	SN	Except for—
0:00:20.1	SN	But they do.
0:00:21.4	T	So how does that relate to maybe that experiment right there where we have the organisms listed? How does this experiment relate to that one?
0:00:28.3	SN	This one relates to that one, and that one relates to this one, ‘cause we got two parents, and we had to experiment, like, what would happen, like, compared to each one.
0:00:43.2	S	So, like, I don’t know. I guess.
0:00:47.2	T	Tessie, what would you like to add?
0:00:48.9	SN	I think that’s true, what we’ve been saying how the offspring get a fake one, and a ... get one trait from one of the parents, because one of ... all of us had one black-billed parent.
0:01:02.9	S	And all of us had black-billed ducks. And so with what Kieran was saying, the gene didn’t disappear forever; it just didn’t ... they didn’t get that ... it didn’t ... it wasn’t dominant.
0:01:17.5	T	OK. Chloe.
0:01:19.2	SN	So if this means it ... Does this mean that if we bred our black-billed duckos, would they possibly have brown-billed ducko babies?
0:01:28.9	SN	Brown-billed duckos?
0:01:29.6	T	Is that your hypothesis?
0:01:30.9	SN	Yes.
0:01:31.3	T	You’re saying that the duckos you just built, you’re saying that it’s possible that they’re going to have ...
0:01:35.9	SN	Brown bills.
0:01:36.6	T	brown-billed babies?
0:01:37.8	SN	Yeah.
0:01:38.1	T	How many of you think that you may see some brown-billed offspring ...

0:01:41.7	SN	[Inaudible]
0:01:42.6	T	... from this set of duckos?
0:01:44.4	SN	Purple bill.
0:01:45.5	T	How many people think no way; we're going to only have black-billed duckos?
0:01:48.6	SN	For the whole [inaudible].
0:01:50.5	T	Andrew, why do you think only black-billed duckos?
0:01:53.9	SN	Because there's no cards that say brown billed, pretty much.
0:01:59.1	SN	It says—
0:01:59.8	SN	I got one.
0:02:02.4	SN	Since there's no more babies. Since there's no more black, right?
0:02:07.8	T	OK. Let's stop here for a second. I want you to think about Celia's claim. You all said that you believe Celia's correct. So let's talk about Celia's claim in relation to the duckos.
0:02:20.2	T	So we don't have any generation where we do. We have one, but we think that might've been an oops.
0:02:25.1	T	We don't have any generation with duckos with brown bills still present, so why doesn't it show up?
0:02:32.1	SN	Well, I don't know anything you could say about for this. Why does it show up? The other gene is dominant, so it took over. And ... but it's still there.
0:02:40.7	S	Can I say something about what ... why I think the brown ... why it'll be brown?
0:02:44.3	T	Sure.
0:02:44.8	S	'Cause on the cards, it said if ... if the gene is black, if there's no black, make it brown.
0:02:51.1	S	And since I think everyone has used all their blacks to make their black-billed duckos, I think that the next ones are going to be brown billed.
0:02:58.2	T	OK. What do you think?
0:02:59.2	SN	Well, going off of what Arion said, the black bill is the more dominant gene, and so it rules over the brown bills because it ... we said that ... 'cause it said unless it says do a black, then do brown.
0:03:14.2	S	But it always said black, if that makes sense.
0:03:17.6	T	I'm hearing a lot of Legos, and I think I asked for people to not touch Legos. Raise your hand if you heard that.
0:03:26.5	T	Thank you, ladies, for fixing that.
0:03:30.2	T	How many copies of the black-billed gene were needed to be present in order to end up with a black-bill offspring? Cody?
0:03:37.5	SN	One.
0:03:38.1	T	Tell me about that.
0:03:39.9	S	So the black bill was dominant, which means that you only need one. It's not like ... if we had 50 recessive brown duckos, they ... they most likely would have a brown-billed ducko offspring.
0:03:55.8	S	But in this case, since it's only one, and there's 27-27 dominant, then there's only ... it's only going to need one.

0:04:07.0	T	So on your card, you said the word <i>dominant</i> and you said the word <i>recessive</i> . On your card, did it actually say that the black was dominant?
0:04:14.2	SS	No.
0:04:15.0	T	No. Where ... Well, you guys told me that, but what did your card say that told you what had to happen? Haley?
0:04:21.9	SN	The card said that if there is a black-bill instruction, then let the brown-bill instruction be ignored.
0:04:30.3	T	Mm-hm. Want to add to that?
0:04:32.0	SN	And so basically, it ... you need ... you only need one of the black-bill gene, but you would out of it ... out of those two genes that they had,
0:04:42.3	S	you would need all of ... the two of them to be the brown-bill gene in order to get a brown-billed ducko.
0:04:50.4	S	So because with ... 'cause that means that there would be no black in there, and the only way that there would be a brown one there would be that if there was two of them.
0:05:02.1	S	But also going off of ... You could get a brown-billed duck later if the black-billed duck mated with a brown-billed duck; then there is a possibility ...
0:05:16.2	S	because remember, the black-billed ducks still [have] the recessive brown-bill gene in them.
0:05:22.7	S	So if he mated with another brown, like, a brown-billed duck, then there is a high possibility that there could ... that their offspring could be brown billed because there was two brown-billed genes.