

## Transcript for Video Clip 3.1

Teacher/video ID:	Kawamura, 3.1_stella_GEN_kawamura_L3_c2
Content area:	Genetics
STeLLA strategy:	Engage students in analyzing and interpreting data and observations (STL strategy 4).
Context:	In this lesson on genetics, the teacher and students review their results from the first generation of duckos and discuss how to deal with unexpected results.

### Video Clip 1

Time Code	Speaker	Discussion
0:00:02.1	T	If you have a brown-billed ducko, stand up.
0:00:09.8	SN	A black or brown? Oh.
0:00:13.3	T	If you have a brown-billed ducko, stand up.
0:00:22.2	T	So Alyssa, you built a brown-billed ducko?
0:00:24.7	SN	Mm-hm.
0:00:25.4	T	OK. Do you have the instructions from that bag?
0:00:28.3	S	Yeah.
0:00:28.9	T	OK, can you read us the instructions, please?
0:00:33.6	T	What's another word from the instructions in your bag?
0:00:37.7	SN	Directions.
0:00:39.2	T	No, I'm not talking about the direction paper; I'm talking about the directions that ... the instructions that you put in the bag for the offspring.
0:00:48.1	S	Genes.
0:00:48.9	T	Genes.
0:00:50.3	SN	Traits.
0:00:51.5	T	Traits. I heard genes; I heard traits. The cards are the instruction, Alyssa, read to me your cards.
0:00:57.5	SN	I-I got two of the same. If there is no gene card that says to give the offspring a black bill, give it a brown bill.
0:01:05.6	T	And both of the cards said that?
0:01:07.0	S	Yeah.
0:01:07.3	T	OK, Arion, what did your card say?
0:01:09.9	SN	He told me to make a brown. I did it.
0:01:13.1	SN	[Inaudible]
0:01:14.9	SN	They said ... Well, we had two blacks, and then from the other bag, it said if you don't have a black card, make a brown. But we had black.
0:01:24.5	T	So should a bo ... So are you saying that both of your duckos should've been black
0:01:28.2	SS	Yes.
0:01:29.3	T	OK. So ... Yes, sir?

0:01:31.5	SN	We only get two brown bags, though?
0:01:34.1	T	That's a good question.
0:01:35.2	SN	No, I had a black one, and she had a brown one.
0:01:37.6	SN	That still shouldn't have happened.
0:01:42.2	T	So we're going to say ... So we have one brown-billed and ... Who is missing?
0:01:46.8	SS	Sawyer.
0:01:47.5	T	Sawyer, is he the only one missing?
0:01:49.4	SN	I think so.
0:01:50.8	T	So then that means we have 26 ... Well, but I'm here. So it's 27.
0:02:00.4	T	All right. I need everybody to put their duckos down.
0:02:05.4	T	And everybody take a deep breath in. Blow it out.
0:02:12.4	T	OK. I know Legos can take us into a different realm, but we need to still be a little bit calmer.
0:02:22.1	T	I'm going to ask for you to leave your duckos where they are, leave your bags where they are, and come up close to the projector 'cause you'll go back to where you are in a minute.
0:02:29.5	T	But come on up close to the projector.
0:02:33.9	E	[Inaudible]
0:02:56.5	T	So ...
0:03:00.7	T	Your card that you pulled out of the bag is equivalent to a gene, and a gene is equivalent to instructions.
0:03:09.2	SN	Mm-hm.
0:03:10.5	T	So although we don't have a bunch of cards in our bodies, we do have genes. And those genes give instructions to our body to say that's what we're going to be
0:03:22.4	T	So in this case, which gene is dominant?
0:03:25.3	SS	Black.
0:03:26.2	SN	The black gene.
0:03:27.4	T	We have the black-billed gene is definitely dominant. Which one is recessive?
0:03:37.2	SN	Brown.
0:03:38.2	T	Allie.
0:03:38.7	SN	The brown bill.
0:03:39.8	T	The brown-billed gene.
0:03:42.7	T	OK. I heard many of you state that Alyssa's brown-billed duck should not have ... ducko should not have happened. Now who can explain to me what they are thinking about that? Chloe.
0:03:54.9	SN	Well, this is specific for me and Rowan. But the cards ... We realized that the cards from Rowan's bag didn't have stripes, and the cards from mine did.
0:04:02.2	S	So at one ... at one point we messed up and ended up with two nonstriped cards in my bag, so we had to switch that 'cause we knew it wasn't right.
0:04:08.8	S	So I'm ... I'm just going to guess that that's what happened to them.

0:04:11.2	T	So by accident, maybe, things were put in ... and sometimes with science experiments, do things ma ... Do we get mistakes in science experiments
0:04:19.4	SN	Mm-hm.
0:04:19.8	T	So what do scientists do when we have a result that we're not, like, not quite sure of? What would be the next step be, Hannah?
0:04:29.4	SN	Do it again.
0:04:30.3	T	Yeah, do it again. And how many times do you think a scientist would do the same experiment? Turner, what do you think?
0:04:36.7	SN	At least three.
0:04:38.8	T	At least three? What do you think?
0:04:39.9	SN	One hundred.
0:04:41.0	T	At least 100?
0:04:42.3	SN	No.
0:04:43.1	SN	As many times as possible.
0:04:44.2	T	As many times as possible?
0:04:45.6	SN	Yeah, as many times as needed to get the information you need.
0:04:49.8	T	As many times as you need?
0:04:50.1	S	[Inaudible] absolutely, like—
0:04:52.4	T	To make sure it's absolute?
0:04:54.0	S	Mm-hm.
0:04:54.6	T	So let's think about Thomas Edison for a minute. How many times did he—
0:04:57.7	SN	Ten thou ... over 10,000.
0:04:59.1	T	Over 10,000 experiments on his lightbulb, yes?
0:05:02.1	SN	Yes.
0:05:02.6	T	So something to think about. Sometimes when we do experiments, we do have mishaps and mistakes. So ultimately, we were hoping that all of these duckos were going to end up with black bills.