

## Transcript for Video Clip 3.1

Teacher/video ID:	Potter, 3.1_stella2-04-potter4-L4_C1-2
Content area:	Earth's changing surface
STeLLA strategy:	Engage students in analyzing and interpreting data and observations (strategy 4).
Context:	In this lesson on Earth's changing surface, students engage in activities ("tasks") that help them think about weathering.

### Video Clip 1a

Time Code	Speaker	Discussion
00:22:24.7	SN	Yeah. Or an earthquake might shake it, and then the earthquake might make the boulder go down on the mountain.
00:22:32.6	S	See. That could be an earthquake.
00:22:36.5	SN	Or this one's rock could be, like—
00:22:38.0	SN	Then this piece, this piece, cut on the bottom, like, knocked off this. Here.
00:22:45.6	S	Because it hit the ground.
00:22:48.0	SN	Maybe this boulder [has] been, like, somewhat like right here, and just, like, rolled off.
00:22:53.5	S	Then it, like, grew into it.
00:22:57.0	SN	Yeah. 'Cause maybe there was, like, a plant crawling [growing?] in the water, and then it got— That crack was already there,
00:23:05.4	S	so it was split in half a little. There it is. Wait.
00:23:10.4	S	Then this was skinnier, and then it got fatter and fatter and fatter.
00:23:13.8	SN	OK.
00:23:16.6	S	[inaudible] how those ... how these things compare to a mountain. Because mountains are made of rock,
00:23:20.9	S	and, um, mountains have trees on them.
00:23:32.1	T	So what were you gonna say?
00:23:33.8	SN	What I think is gonna happen to the rock ... It will probably get older than it is now,
00:23:39.2	S	and it will probably break. But I also think that mold will grow on it, because it's been there for a long time.
00:23:46.7	S	And, um, the mold might cover the whole rock, and it might blend in with everything else, so you probably won't even see it.
00:23:54.0	T	OK, so do you agree with him that eventually that rock's gonna break and split apart?
00:23:57.6	S	Yeah.
00:23:58.1	T	OK. So now the big leap is ... So how does that go back to our focus question of Can mountains reach outer space?
00:24:04.4	T	How does what you're seeing here might apply to a mountain?
00:24:07.4	T	So I want you to think about that and see if you can answer it. OK?

00:24:26.3	T	So what's happening?
00:24:29.2	SN	Our [pictures] describe what happened in the 10 years.
00:24:31.3	SN	What I think is that this was the [inaudible] ... the picture when they took in 1999,
00:24:35.1	S	and the picture ... and the person that took this, he came back in 2009 and took it again.
00:24:41.0	T	So what do you see going on in the picture?
00:24:43.3	S	That this was a lot bigger than that.
00:24:45.6	T	OK. And we had talked about a little while ago that the person taking this picture was just farther away from the rock.
00:24:51.4	T	And the person taking this picture was a lot closer.
00:24:53.8	T	We're looking at ... 'cause our focus question is, Can mountains grow tall?
00:24:58.0	T	So we're trying to figure out if ... could this ... what's happening here?
00:25:02.9	T	Like what do you think is going on in the picture?
00:25:05.9	T	Why would a scientist take a picture of that?
00:25:08.8	SN	A scientist would take a picture of that to ask students and wondering if they could find the differences between the two rocks.
00:25:17.8	T	OK. So what is the [difference]?
00:25:19.1	SN	The difference is that one [picture] was taken closer, and it didn't have any grass in it, and it has a little water in front of it.
00:25:25.1	T	But look at the rock. What's going on with the rock?
00:25:27.6	SN	The rock was cracked open, like, around the middle.
00:25:30.8	T	OK. That one's cracked open too.
00:25:32.0	SN	And then when it's closer, you [can] kinda see the—
00:25:36.0	T	What do you think? You're awful quiet.
00:25:38.2	T	You're letting these two talk. What do you think? What do you think [is] going on?
00:25:40.3	T	Why would a scientist take a picture of that rock?
00:25:43.6	SN	To discover, like ...
00:25:45.9	T	To discover what?
00:25:47.9	SN	What's happening?
00:25:49.6	T	So what is happening? What's happened in the span of 10 years?
00:25:54.4	SN	The tree grew more.
00:25:56.2	T	The tree grew more. What would be your evidence for that?
00:25:59.7	SN	The tree doesn't go down here, and [in] this picture, it does go down.
00:26:05.1	T	So you see ... you see ... you know what she's saying?
00:26:06.6	T	That in this picture, the tree kinda stopped right here, 'cause this is just a crack in a rock.
00:26:10.3	T	And here the tree fills up the entire crack.
00:26:17.7	T	So that tree is growing through that rock. Would you agree with that, Selena?
00:26:21.8	T	So that's pretty much what's happening.

**Video Clip 1b**

<b>Time Code</b>	<b>Speaker</b>	<b>Discussion</b>
00:30:22.2	SN	When the plates collide, they must rupture the ground above it and break it up. How mountains are created.
00:30:28.0	S	Like some of them.
00:30:30.8	SN	Some forms around ...
00:30:32.8	SN	They shift around, and you get piles.
00:30:32.8	SN	Uh-huh.
00:30:35.2	SN	Awesome!
00:30:39.7	SN	So that's how more and more rocks are created, and that's where dirt comes from! Awesome!
00:30:44.8	SN	Yep.
00:30:45.8	T	You need to get through two more pretty quickly. Hurry up.
00:30:51.1	T	OK. So whatever you do, work faster.
00:30:56.2	T	How many investigations have you gone through?
00:31:01.8	SN	When we first counted this, there was five, and now there's six, and these ... and we think that's how more and more dirt
00:31:08.8	S	and more and more rocks are created.
00:31:11.4	T	That'd be a good idea. I think that's a pretty good ...
00:31:15.7	T	pretty good observation, I would say, because you have evidence to support that. Because you had how many to start with?
00:31:20.0	SN	Five.
00:31:20.9	SN	Six.
00:31:21.6	T	Five, and you've still got five. But what's ...
00:31:24.5	T	Well, one, two, three, four, five, and then what are you counting as six?
00:31:27.8	T	Oh, I see. So you got a smaller one ... chunk off from somewhere. A bigger one, right?
00:31:31.8	T/S	So what's the force work ... what's the force working on that? [inaudible] [The student is apparently questioning whether to call that new broken-off piece a <i>rock</i> .]
00:31:34.4	T	Well, you gotta make that decision. If you wanna—
00:31:37.7	SN	I don't think that's a rock.
00:31:38.8	T	So here's a question: If you walked outside, and I asked you to collect rocks, would you collect these as rocks?
00:31:45.6	T	So you're gonna have to make that decision, OK?
00:31:47.6	SN	No, I would pick that up probably.
00:31:50.0	T	So what do you think [is] happened as you were shaking it
00:31:52.6	T	to make these five rocks turn into six?
00:31:55.5	SN	'Cause they were crashing into each other.
00:31:57.3	SN	Grinding up and—
00:31:58.5	T	They were crashing into each other?

00:31:59.7	SN	And then that is how sand formed.
00:32:01.8	T	So you made sand ... by rocks crashing into each other.
00:32:06.2	T	Is that what I'm hearing?
00:32:06.7	SN	Well, yeah, because when [the rocks rub] against each other, the friction rubs off like some of the ... the outer crust of that,
00:32:16.6	S	and it turns into sand.
00:32:19.5	T	OK. That's a ... good evidence. Make sure you note that.