

Transcript for Video Clip 8.3

Teacher/video ID:	Anderson, 8.3_stella_SEC_anderson_c4
Content area:	The Sun's effect on climate
STeLLA strategy:	Make explicit links between science ideas and activities (SCSL strategy F). Link science ideas to other science ideas (SCSL strategy G). Highlight key science ideas and focus question throughout (SCSL strategy H).
Context:	In this lesson about the Sun's effect on climate, students are working with a model of Earth's orbit around the Sun to understand why it's summer in North America when it's winter in South America. At first they don't know about the consistent tilt of Earth's axis toward the North Star, but this idea is introduced during the activity.

Video Clip 3

Time Code	Speaker	Discussion
0:00:00.9	T	And all that is good. However, we noticed on our models when we were making them that that tilt ...
0:00:08.3	T	the groups were basically ... the tilt could go this way, or we could make the tilt grow ... go this way, but we were noticing when the ... we do this or we do this, what's always facing the Sun?
0:00:19.2	T	Kelsey.
0:00:20.0	SN	North America.
0:00:20.6	T	North America's always facing the Sun.
0:00:23.5	T	And that doesn't seem to jive with our data, because we're asking the question of "Why is it summer in United States, in North America, when it's winter in Brazil?"
0:00:33.2	T	Well, it seems like it's always winter in Brazil and always summer in North America, right?
0:00:37.6	T	So some information that we need is the orientation of our tilt. Seems like that would help quite a bit.
0:00:45.4	T	So on this particular representation, everybody, we've got a great little object right over there. It's called the North Star, OK?
0:00:54.8	T	Good thing about the North Star is it's always in the north. It's always north. And I put it in the north of the room right back up over there, OK?
0:01:06.6	T	So like our model, everybody, that right there is going to be your orientation for your orbit. And the Earth's tilt or axis is always tilted toward the North Star.
0:01:20.3	SN	What?
0:01:21.2	T	So when you're doing your models today, if you can look really quickly at the axis here, it's always pointing in that North Star direction.
0:01:30.7	T	So you're going to go back, and you're going to get back into your models again. You OK, Carlos? You can get a drink if you need it.
0:01:36.6	T	OK, watch out for the easel over there.
0:01:41.0	T	So when you get back into your models, I'm going to give you another period of time, everybody, and I really need you to focus on the same question, summer in North America, summer in South America.

0:01:50.8	T	But I need you to follow those few rules, OK? You're going to be looking at [orbital] position[s] 1, 2, 3, and 4.
0:01:58.6	T	And you're going to orient your axis to point toward the North Star at all times. At all times.
0:02:06.3	T	Does that make sense? Does anybody have a question about what I mean by it's pointing toward the North Star?
0:02:10.0	T	For example, is this right now pointing toward the North Star?
0:02:13.7	SS	Yes.
0:02:14.7	T	Is this pointing toward the North Star?
0:02:16.6	SS	No.
0:02:17.6	T	This?
0:02:18.2	SS	No.
0:02:19.0	T	This?
0:02:19.5	SS	No.
0:02:20.2	T	This?
0:02:20.7	SS	Yes.
0:02:21.2	T	[Earth's axis] always should be pointing toward the North Star. So find a ...