

Transcript for Video Clip 3.1

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Content area:	Water cycle
STeLLA strategy:	Engage students in analyzing and interpreting data and observations (STL strategy 4).
Context:	In this series of lessons on the water cycle, students were given two glasses of water, one with ice and one at room temperature. They observed water droplets form on the outside of the ice-water glass. In this video clip, one small group of students is discussing with the teacher their observations and ideas about where the liquid water on the outside of the glass came from and why or how it got there.

Video Clip 1

Time Code	Speaker	Discussion
0:00:01.3	T	So there was ... so the big ideas, whether we're going to think of it as fog or whatever ... there was water on the outside of this glass [containing ice].
0:00:08.7	SN	Mm-hm.
0:00:09.3	T	But not on the outside of this glass.
0:00:11.2	SN	Yeah, that—
0:00:11.3	SN	Because that glass isn't cold enough.
0:00:12.8	SN	There's water on the outside of the glass.
0:00:13.4	T	Why?
0:00:14.5	SN	Because there's no ice.
0:00:15.3	SN	That one has the ice cubes in it.
0:00:16.9	SN	The glass with just one.
0:00:18.1	T	What does the ice have to do with it [the water on the glass]?
0:00:19.5	SN	The ice is frozen water.
0:00:20.0	SN	It's frozen.
0:00:21.3	SN	It's melting.
0:00:21.4	SN	It's like [inaudible].
0:00:23.7	SN	And that's like ... ice is steam or—
0:00:26.3	SN	It's like—
0:00:26.7	SN	It's not steam, but it's like—
0:00:28.7	SN	It's like—
0:00:29.2	SN	when the—
0:00:30.4	SN	The freeze. Free—
0:00:33.5	SN	Frozen.
0:00:35.0	T	So there's ice, but ice is solid water. You're telling me there's liquid water on the outside [of the glass]?

0:00:42.5	SN	Yeah, because the—
0:00:43.0	T	How would the ice make that happen?
0:00:44.0	SN	'Cause the solid ice is melting.
0:00:45.0	SN	Well, it's cold enough to put—
0:00:46.8	SN	And it's really cold, so you know how, like, you know how you get your hand wet usually and you, like, touch something really cold? That's sort of usually what it is. Like, like this.
0:00:57.8	T	But the ice is on the inside of the glass ...
0:01:00.2	SN	I know it's—
0:01:00.4	T	And the water's on the outside ...
0:01:02.2	SN	'Cause it's so cold that it just, like, (stir up?).
0:01:04.4	SN	If the soda's cold enough, there's the same kind of fog on the side [of the can].
0:01:09.0	T	Has anybody else noticed what Alyssa said? That happens with soda cans, too; maybe in the summertime?
0:01:13.0	SS	Yeah.
0:01:13.8	T	If the soda's really cold, it happens on the outside.
0:01:15.1	SN	Oh, I know what, I know what. Because the room—
0:01:19.6	SN	If it evaporates.
0:01:19.8	SN	is— The room outside, like, surrounding it is warmer than the [glass], making it ... what's the word?
0:01:30.3	T	Evaporate?
0:01:31.2	SN	Not evaporate per se, but it just makes, like, kind of a reaction between the ice and the air, so it makes it kind of have that effect with the water.
0:01:44.2	S	I think, anyway. I'm not sure.
0:01:47.2	T	So we have this idea of the ice—
0:01:48.3	SN	Oh, there's fog. Oh, maybe that's why this doesn't have water on the outside, 'cause it's room temperature.
0:01:52.2	SN	Oh, it's wet, it's wet.
0:01:53.7	SN	Oh yeah, 'cause it's ... even without the ice, it's still room ... that is probably room temperature 'cause it's adapted to the temperature when it was sitting.
0:02:03.1	SN	Mm-hm.
0:02:03.5	T	So the reason there's water on the outside ... it has something to do with that ice making it colder.
0:02:07.4	SN	Vapor.
0:02:08.8	T	What about vapor?
0:02:10.8	S	[Inaudible.]
0:02:14.0	T	Well, Gunnar's putting an important vocabulary word out there. What could water vapor have to do with it [the water on the outside of the glass]? I'll give you this clue.
0:02:20.1	T	Water vapor is an important part of the solution of this question, OK?
0:02:23.9	S	OK.

0:02:24.4	T	So I want you to think about ... now there's—
0:02:25.3	SN	So it's water va-vapor and not fog?
0:02:28.0	T	Well, there's water vapor around this [room-temperature] glass and around this [ice-water] glass. But for some reason, we're only seeing liquid water, not water vapor, 'cause we can see it, right?
0:02:39.1	T	There's liquid water on the outside of this one [the ice-water glass], and vapor plays a really important role.