Transcript for Video Clip 3.1

Teacher/video ID:	Griffin, 3.1_mspcp_gr.2_matter_griffin_L2_c4–c6
Content area:	Properties of matter
STeLLA strategy:	Engage students in analyzing and interpreting data and observations (STL strategy 4).
Context:	In this lesson on properties of matter, students observe what happens after heat is removed from melted substances (ice, chocolate chips, and crayons). In clip 1a, students discuss their observations of the chocolate and crayons. In clip 1b, one student describes why cooling causes substances to change from solids back to liquids. In clip 1c, students discuss whether the ice melted at a higher or lower temperature than the other substances and why this might happen.

Video Clip 1a

Time Code	Speaker	Discussion
00:00:05	T	So I heard lots of good ideas—I mean, from Michaela's side—that she thought that this would turn back into—
00:00:09	SN	[Inaudible]
00:00:13	T	I'm just going to wait. Thanks.
00:00:15	T	She said that this was going to turn back into a solid because she noticed that it was sticking just like the crayons had stuck. Is that what you had said, Michaela? OK.
00:00:25	T	So let's see. Very carefully. Let's see. Is it as much of a liquid as it used to be?
00:00:34	SS	No.
00:00:35	T	No. So what is happening to it?
00:00:36	SN	It's turning solid.
00:00:37	SS	Solid.
00:00:38	T	Turning back into a solid. Who has an idea? Why is it turning back into a solid? Haley, what do you think?
00:00:44	SN	'Cause it's getting colder.
00:00:46	T	'Cause it's getting colder. So there's less … there's less heat. All right?
00:00:52	T	All right. Come on, ice cubes. Let's look at crayons. What has happened?
00:00:57	SN	They turned into a solid.
00:00:59	T	Turned right back into a solid. Sarah, what did you want to say?
00:01:02	SN	It looks like a candle, like—

Video Clip 1b

Time Code	Speaker	Discussion
00:01:04	T	Rowan, what did you want to say?
00:01:05	SN	I just realized—

00:01:07	T	Oh, Rowan, I'm sorry, 'cause I have friends who are being rude and who aren't listening to you. OK, good. Can you try that again?
00:01:14	S	I just realized what is … If they're turning colder, that's why … that's how they're getting … that's how they're sticking, like getting colder.
00:01:23	T	OK. So they're getting … so by getting colder, it sticks together more?
00:01:28	S/T	Mm-hm. / So it turns from a solid back into a liquid? I mean, it turns from a liquid back into a solid?

Video Clip 1c

Time Code	Speaker	Discussion
00:01:35	T	So who has noticed what has happened with our ice? Finally. Marquese, what happened?
00:01:39	SN	It melted all the way.
00:01:40	T	Ooh, it melted all the way. OK? So let's see.
00:01:48	T	Oh. I just need to be patient. OK.
00:01:50	SN	Have patience, Ms. Griffin, patience.
00:01:55	T	OK. So … maybe that was right. OK. So who has an idea of whether or not the ice melted at a higher temperature or a lower temperature?
00:02:09	T	Mmm. My friend Haley.
00:02:11	SN	Higher, because you turned [the heat] up to 300.
00:02:14	T	OK, so higher because I had to turn [the heat] up in order for [the ice] to actually melt.
00:02:19	SS/T	Yeah. / OK. What do you think, Amelia?
00:02:22	SN	Lower, 'cause ice is freezing.
00:02:25	T	OK. 'Cause ice is freezing. Sit up, please, Graham. Riley.
00:02:29	SN	It's about the same.
00:02:31	T	OK. Is it about that? OK. I … I want you to sit down, and I want you to talk loudly.
00:02:37	S	All these … all these things are all [inaudible]. And …
00:02:40	T	Sit down, honey, so people can see.
00:02:41	S	they can all melt and freeze.
00:02:44	T	OK. So you noticed a similarity between these three … three things, that they can all melt and they can all freeze.
00:02:50	T	OK. So this temperature right now of the water is 63 degrees.
00:02:57	SN	Ooh. That's low.
00:02:59	T	Hmm.
00:03:01	SN	I know what happened.
00:03:03	T	What do you think happened? My friend [inaudible].

00:03:05	SN	Even though you turned [the heat] up to 300 degrees, the ice is still a very, very cold solid. So it … even though you turned it up to 300 degrees, it might not be even close to 300 degrees or 100.
00:03:21	S	Because it's such a cold solid, even that … even though it's in a … like 200 degrees more than it, it will still stay under 100.
00:03:36	T/S	OK. / Because it's too cold.
00:03:38	T	Because it's too cold.