Video Supplement

Norms for Watching Video (if not using your own)
- Speak from the "I" perspective. For example: "If I could rewind the tape and ask students a question, I would ask…"
- Be inquisitive, not judgmental. For example: "I wonder what might happen if," instead of "the teachers should have…"
- Justify your ideas and conjectures based on the video clip, and not other parts of the lesson that you didn't see. For example: "I think that the student understands...because in the video they…"
- Focus on how what you learned from the video might help you implement this (or similar lessons) with your own students.

School Context
- School Type: Suburban Public High School
- School Demographic Information (approximate):
  - Students of color: 60%
  - Free and reduced lunch: 65%
  - English language learners: <5%
  - Students with special needs: 15%

Lesson Context: Summer School Program
- Subject: 8th grade Mathematics: Preparation for Algebra
- Unit: Slope and equations of lines
- Number of students in class: 12
- Lesson duration: 4 days per week, 50 minutes
- Prior preparation: This was week 4 of summer school of 2021, aimed at deepening content knowledge for students to prepare for future algebra coursework. Students have completed recent work on sloped triangles using Desmos and in-person.

Video Context

Students have been given a subset of the cards to match (E, F, I, & L removed) to culminate their week of revisiting slope and equations of lines– a unit developed during the pandemic school year with 2 days of instruction per week. During this shortened summer lesson, the students did not have the opportunity to complete the pre-assessment, and the instructions to fill in the blanks after making a match were not given. The teacher is circulating around the room, providing support while the video highlights the same two students working through the matching activity.

Discussion Questions
Formative Assessment: *Do classroom discussions include my thinking? Does instruction respond to my thinking and help me think more deeply?*

1. What are the different ways that students appear to understand and misunderstand specific mathematical ideas?

2. As a teacher, what questions might we ask or moves might we make that respond to students' thinking and help them to think more deeply about the big mathematical picture?

Video Transcript

Legend		
T	Teacher	Per and within dialogue
S1 – S2	Students 1 - 2	Per and within dialogue
C	Class	Per and within dialogue
[ ]	Actions/Non-verbal	Dialogue
{{x}}	Sounds like	Dialogue
{{}}	Inaudible	Dialogue

1 S1: 0:00 I can't do this. I need to write down something.

2 S2: Okay, so this is-- the X is 0 and the Y is 3. So...

3 S1: ...you start at the origin. So there's no Y-intercept in the equation.

4 S2: Right.

5 S1: Okay. So you start at-- so you don't-- so you're going over 3, up 6. Up 6. So the Y-intercept-- or the slope is 2, right?

6 S2: 0:30 2, right? Slope of 2.

7 S1: I'm guessing. So A is-- Okay. So is there anything else that you see that's 2?

8 S2: Well, these go with one of them, right? We have to put these--

9 S1: Probably.

10 S2: Okay. So these both have a slope of 2.

11 S1: Has a slope of 2.

12 S2: And has the equation {{}}

13 S1: And has the equation {{}}

14 S2: 0:57 Right. So which one goes with the..

15 S1: Okay, yeah, so one of those has to-- okay, so how you would do it-- this is what I did yesterday but I wish I could write on paper. Remember how we used one of the equations on the line to go with-- so we subtracted. Do you remember? Do you not remember [laughter].

16	S2:		Yeah.
17	S1:		Yeah.
18	S2:		Right. Okay.
19	S1:		So I forgot. Do we use the first equation? No, wait, I don't think it really matters.
20	S2:		Yeah, I don't think.
21	S1:	1:33	It's 20 and 36.
22	S2:		36.
23	S1:		No, because that's not half. So that's not on the line. So if you do this again, so if you put 10 and 23, 0 and 3
24	S2:		Oh, wait. So, yeah.
25	S1:		Yeah, right.
26	S2:		It would be this--
27	S1:		It would be this one. I'll erase this first one. But this one's also 2.
28	S2:	2:02	Right. So-- well, it might be one of these ones. It would be one of these ones, because this doesn't have a-- this one doesn't have a slope.
29	S1:		I think the three of these cards go with the three of the word cards. You know what I mean? So... passes through 0, 3, and-- here, I can just do the math, I guess. 4, 7, 0, 3, 4... 4. So it's 1. Is there anything that says 1?
30	S2:	2:33	Right, okay. So which one did I just find? This one's 1--
31	S1:		Okay.
32	S2:		So if we subtract, that would be 36. And then I think it's..
33	S1:		4 and 7-- yeah, right? 32 and 32?
34	S2:		32
35	S1:		Or-- 32. My bad. This marker, Jesus. All right. Which one is this again?
36	S2:	2:57	That's 1. That's 1. That's 1.
37	S1:		Okay. So--
38	S2:		Okay.
39	S1:		Okay. If I do this again, so this is a negative slope. So 3, 9-- whoops. 4, 7 is negative 1, 2. So the slope is 2 over negative 1, which is negative-- negative 2. Right?

40	S2:	3:41	Right.
41	S1:		Okay. I'm getting it.
42	S2:		Negative 2, okay {{}}
43	S1:		Okay. So which one? So it's not this one--
44	S2:		It's not this one, because this one has a slope of 2, so--
45	S1:	3:59	Well, let's figure out these two and then we know-- passes through 4, 7, and 1, 1. So 3, 6-- so this one-- yeah, so this one would go together and then these two.
46	S2:		Okay. Cool.
47	S1:		I can erase these.