

ANTOINETTE VILLARIN: Tomorrow when they come in, we'll talk about things that we're starting to consider and add on to that poster of considerations when you're finding matches, and kind of revisit where they left off on. Should I take a set of cards that they've matched, and discuss that in the same way that we discussed G2 and G6 as a good starting point?

CECILIO DIMAS: I think that's a good starting point -- and/or talk about non-examples. So in periods earlier today, we did look at non-examples as part of the...part of the slide where we had those four graphs. And I wonder if...if you revisit...maybe that's...maybe that's also another way to revisit. The graph-sorting activity tomorrow would be to go back to that one slide and have them discuss non-examples.

ANTOINETTE VILLARIN: Because we didn't do that in this period, and I realize that, and I think that was very valuable in the morning class when we did that. So, yeah, I think that would be a good starting point.

CECILIO DIMAS: However, one thing that we did do for fourth period that we didn't do for other periods was the recording sheet. So can you talk about the difference that you saw with the class as a result of introducing the recording sheet?

ANTOINETTE VILLARIN: So I think, when we did it in first period, I had students just record on their whiteboard their answers, and there was no justification. So I felt like a lot of them were just kind of walking around saying, "This is what I got. What did you get?" rather than, like, "This is why I got it," and "This is how I got it," and "How did you know?"

Whereas this time around, the dialogue was really focused on how they were getting it. On the back, I don't know how many of them were actually recording the ones in differences, but I think they were just really getting some valuable discussion in fourth period, when they were at least comparing what they had written down, and having something that you can actually look at and compare.

Because I think with the cards all over the place and no reasoning behind it, unless you had a one-to-one pair that you could talk to a person that was staying to defend their answer and it was available, it was easier to do. But when there's like three or four, it was easier to just kind of look at what you had. So I felt like it was, like, a nice concrete thing to have. And I think I'm going to take it to first period tomorrow.

CECILIO DIMAS: Okay.

ANTOINETTE VILLARIN: And have them record the information.

CECILIO DIMAS: So you had mentioned in our planning sessions that you're a little bit ...what you were anticipating students being able to do with the equation portion of the matching activity, that you were anticipating that there's going to be struggle.

ANTOINETTE VILLARIN: Yes.

CECILIO DIMAS: So how are you going to proceed forward with the equation cards with this particular group tomorrow?

ANTOINETTE VILLARIN: I think...okay, so when we get to the prism cards, I think that'll take... that'll...that'll bring a new dimension if you want to say to, like, the whole multiple representation. And I think they're going to find value in seeing that and seeing the rate of change, and there maybe a couple of changes, I think once they see the prism, that they may shift around some of the graphs that they're seeing if they don't think...if they weren't as confident in their answer.

The equations, I think I'm going to give it to them and see what they do and walk around. But what...I feel like if I see kids not matching and not knowing exactly what to do, I may have to stop. And I think what I'll do is I'll stop and take one of the cards and write an equation down, and ask them what the T represents, what the H represents, and what that might mean using the same language that we had on the posters.

Like, "Okay, so if I tell you we have zero seconds, can you tell me on this equation and not the graph what it tells us?" And I'm hoping that that will lead into some connections between the initial value and the starting value, and what they might see when I plug in a value for zero for the starting situation, what that might mean for the constant -- this constant that stays the same.

CECILIO DIMAS: One of the things that we didn't talk about in the pre-observation session before today's lesson, was the color coding that you did as part of the re-engagement. So I'm thinking right now, when you were working with multiple representations prior to this lesson as part of this unit, you were having students color code the context of the story as it was visible in the table, as in it was related in the graph, and then the equation. So I wonder if you were to bring color coding back tomorrow...

ANTOINETTE VILLARIN: And introduce a third color...maybe a third color to do the initial value or what they're seeing?

CECILIO DIMAS: Yes, so that they could see the relationship between the prisms that are being represented in the picture in the diagram, but also with the graphs and then now with the equation, so that they can follow that strategy that you have, or use a strategy that you've introduced earlier about color coding the parts of the different representations that are similar.

ANTOINETTE VILLARIN: Yeah, I think that would...yeah. I'm thinking of that when I introduce it. But I think what I'm going to do first is give it to them and see what they do, and then do as a just-in-time...just-in-time kind of support and intervention, is to maybe do that. Like say, "Okay, so we have a graph here." And I may even just use the cards, like, put the cards up. "We have an out graph -- a graph representing a top prism, a graph representing the bottom prism. Here's what the prism looks like. And now here's an equation. Let's highlight what we know." And I think if we do that, it'll...yeah. I'm excited now...the next steps.