

KRIS ACQUISTI: Hi, I'm Kris Acquisti, math coach for Jefferson Elementary School District.

MICHELLE KIOUS: And I'm Michelle Kious. I'm a fifth grade teacher in Jefferson Elementary School District at Woodrow Wilson School.

KRIS ACQUISTI: What collaborative activities have your students experienced so far in this interpreting fractions formative re-engaging lesson?

MICHELLE KIOUS: Um, well, we did a pre-assessment at the beginning, um, which was a task where they had to place fractions on a number line, two fractions with a benchmark of one half. And, um, so that was the first experience they had. I noticed that they did have a lot of difficulty placing the fractions on the number line correctly, and most of the time they were focusing on just the denominator of the fraction, and using that relative to one half, placing both fractions to the right of one half. Um, and then we started off the actual activity by doing some work with whiteboards, um, having them draw different representations of fractions, and justify that their drawing represented the fraction. And yesterday we did, um, the first part of the card sort, which was sorting fraction cards and matching them with area models for fractions.

KRIS ACQUISTI: Okay, good. So what is your goal of today's lesson and then what will your lesson look like today?

MICHELLE KIOUS: Okay. Well, in general the goal for the whole activity is to have students, um, be able to recognize equivalent representations of fractions, um, and making sure that they do understand the part/whole concept as it relates to fractions. And then for today's activity, um, the focus is really on the measurement model or a number line model, and having them recognize that this is a different representation of fractional parts, um, that we use with measurement and that's used when we're doing number line, and seeing how that connects to what they've already experienced with, um, the matching fractions with area models, and how those two things are connected.

KRIS ACQUISTI: Okay. And what would your students say, write, show, or do to communicate their understanding, um, since we're focusing Math Practice 1 "Making Sense," Math Practice 3 "Constructing Viable Arguments and Critiquing the Reasoning of Others," and then Number 6 "Attending to Precision?"

MICHELLE KIOUS: So, when I thought about this, I was thinking about the first math practice, about making sense and persevering when they're solving a problem. I know a lot of the students have become frustrated when they see, um, a representation that they're not familiar with. So I'm hoping that they'll stick with it and use what they know to make sense of that situation, um, and not give up. Um, also kind of being patient with themselves and giving themselves a chance to, um, engage and look at what they do know to help them find an entry point into matching those cards. And then for the Math Practice 3 "Constructing Viable Arguments," um, they're going to be doing that through sentence frames. Um, they're going to be asked to justify a lot of their reasoning, so we're going to do some work on whiteboard first and I'm going to be asking them to justify how, um, what they've drawn represents what I've been asking them to draw and give a reason.

They're going to be doing some work with a partner where I'm going to also ask them to be, um, saying that these two fractions are equivalent and give a "because" reason why they're equivalent, and hopefully using some good vocabulary with that. And then they're also going to be asked to critique each other's arguments because they're going to be asked to either agree or disagree with their partner. And if they disagree, they need to give a reason why they're disagreeing, not just "I know that this is the right answer." And then for the "Attending to Precision," I'm hoping when they're working with this activity that they'll be using some precise vocabulary that we've worked on related to fractions. Um, hopefully I'll hear some of those words, equal parts, not denominator, numerator, equivalent, um, that they're precise with their descriptions. And I'm also hoping that because some of the cards they're asked to draw their own model, measurement model to go along with cards because there's not a match, so I'm hoping that they will try to be as precise as possible, um, with their drawings and not just, um, "It's about here." Have a reason for where they're placing, um, things along that measurement model.

KRIS ACQUISTI: Good. And what questions will you ask to push your students' thinking forward?

MICHELLE KIOUS: Um, so yesterday with the activity, I noticed a lot of misconceptions with fractions that were more than one whole, and so, and also I've noticed when they've done number lines or measurement models before that they have a concept of one half, but sometimes they don't even have the idea of why is this fraction more or less than one half. So I'm going to be, you know, when I go around questioning them about, "Does this represent more or less than half? How do you know?" Um, things like you know, "Okay, if you're going back to the fraction, it matches with this measurement model, what does the numerator represent? What does the denominator represent? How can you show me?" Um, how do you know that if you're making a drawing, how do you know that that matches with the fraction? And just kind of, if they're getting stuck, what do you know by looking at this card, looking at this measurement model? What do you know? What can you...how can you use that to help you get started? And then, um, also if some of the kids are getting stuck because sometimes they have a measurement model that looks like it's a certain fraction that they don't have, um, but they've matched it, what can you do with this model to show that it is equivalent to the other fraction that they're matching it with? What can you...maybe you can manipulate it, maybe you can use some, um, something to help you measure along, or maybe you can make some markings on the model. Um, so what can you do with the model itself? How can you interact with it and manipulate it in order to really prove that it is equivalent to one of the fractions?

KRIS ACQUISTI: Good job. I'm looking forward to the lesson today. Do you have any other questions or comments before we start today?

MICHELLE KIOUS: Um, I don't think so. Um, I am going to start with a warm-up activity that is kind of a re-engagement, um, with yesterday's misconceptions about fractions that are more than one whole. And then we'll go right into work with the whiteboards and then into the card sort

KRIS ACQUISTI: Okay, very good. Thank you.

MICHELLE KIOUS: You're welcome.