

MIA BULJAN: So if this is a formative assessment lesson ...

ERIKA ISOMURA: Mm-hmm. [affirmative]

MIA BULJAN: Okay, so you talked about some strategies that you liked. One was Rosa Linda's strategy. Her group ...

ERIKA ISOMURA: Of writing it.

MIA BULJAN: Her partnership wrote it out. So really concretely attaching this to fractions, and then even equivalent fractions. Really full circle on this idea of fractional numbers.

ERIKA ISOMURA: Diego's group taking things and talking about cakes again.

MIA BULJAN: Okay, so connecting it. So connecting it back to these anchor activities that you've had. I don't know if you were there for that but I'm sure it's on video. It's Jerry's group here. So this, where -- first of all, I love that he wrote  $.30$  here, and they're still connecting it to this. But when they got to this one, his explanation to his buddy was, "Look" -- I'm going to do it just like him -- "No, look. If you take the 3 away -- if you take the 3 away, you've got 10 tenths. That's one. And then you have three 10s." And I think this idea of decomposing fractions like that is so enormous. And he may be the only kid that I heard talking like that or inventing this strategy. So when you talk about this as a formative assessment lesson, you as a teacher knowing your class, the thing that you want to tell everybody right now, there's a couple of things that you already mentioned. How do you fold in something like that, that's so powerful and helpful that ...

ERIKA ISOMURA: So we actually have worked with that idea a lot. Jonathan's group that in the corner, they also were talking about the idea of making wholes. So we like wholes. We like referencing the whole thing.

MIA BULJAN: I can't even ...

ERIKA ISOMURA: Right. So there was a group that talked yesterday about 54, well 50 tenths would make 50, so that's five 10s. So that would be five wholes. And then I have the four. Then other groups were talking about things like, well this is two-tenths away from a whole. And this is only one-tenth away from a whole, so that helps me with -- and that was on the first day, which was me with them. And so there were some groups talking about relationships between -- like how far is it from the unit of one?

MIA BULJAN: Right, well these are huge ideas. You have some groups doing it. How do you push that out to the whole class? Like what's your strategy for that?

ERIKA ISOMURA: My thought is -- well what I usually do ...

MIA BULJAN: I love that, my current thinking ...

ERIKA ISOMURA: My current thinking is we would come back and, you know, just kind of talk about some of our problems in areas that were feeling a little tricky. Then people who feel like, "Oh no, I think we've got some ideas around that," they would go back and we will often write on our posters. You know, like things to clarify for other people. And then we do a gallery walk. And then we come back and we debrief. "That was really helpful because, that was not so helpful because. Hey, when I saw this it made me think about blah, blah, blah." And that -- and then from there, usually I'll pull some and we'll do what we call our investigations. And we'll investigate that idea and see -- we talk a lot about "is it a math trick?" It just happened to work that way. It's not mathematically valid. It just, you know, was weird how it worked that way.

MIA BULJAN: Coincidence.

ERIKA ISOMURA: Right, or can we do it enough times in enough situations that we feel like, yes this is truly mathematically valid, and I can use this anytime I see it.

MIA BULJAN: So that's really practice eight when you start saying like, "Does this always work? Does it sometimes work?" Like when you talk about generalizing that way, you're really getting into the math practice that's around, like, when do these patterns, you know -- for what set of numbers are these valid versus not valid? And so -- do you ever talk to them about that? Or do you just hold that as you're designing your unit in your activities?

ERIKA ISOMURA: The math practices? Or ...

MIA BULJAN: That idea. I know you want to push them towards generalization. I mean, that's ...

ERIKA ISOMURA: I'm not sure. What we often say is, we literally will say, "Do we think this is a trick or do we think this is true math?" And we'll go through and we'll sometimes, we'll say, "No, that was a trick. That's funny, and how that worked." And there might be some other times where that works. Okay, cool, yay, funny, you can go play a trick on a friend with math.

MIA BULJAN: Right.

ERIKA ISOMURA: Or this is something and we have posters that come up from time to time of our rules that we make. And so we have a decimals rules ...

MIA BULJAN: That happened on here.

ERIKA ISOMURA: ... poster where one of our rules about decimals is when you have a small number being divided by a bigger number your answer will be a decimal. You will have a decimal in that answer.

MIA BULJAN: Right.

ERIKA ISOMURA: And then they were working on something else with this about where -- they still haven't quite gotten the language, but I think what they're working towards is if you have something divided by something smaller, but the smaller number's not a factor of the bigger number, you're going to have wholes and a decimal remaining, like a decimal left over.

MIA BULJAN: That's a very specific finding.

ERIKA ISOMURA: Yeah, they've been messing with that. There's a little group of them that have been messing with that lately. So they want to make it into a rule, but they don't have the language down, and they don't have, kind of like, it firmed up enough in their own brains to put it on the rule poster.

MIA BULJAN: To convince people, yeah.

ERIKA ISOMURA: But they're -- they were working with that yesterday with these specifically. You know, these two. Of something about, well these are bigger and I know I'm going to get a whole *and* something. There's something about, I can tell right away if I'm going to get a whole number *and*.