

MIA BULJAN: When something is complex, like rational numbers, we see a lot of, I'm going to explain it to you, I'm going to lead you down this single path, I'm going to explain it to you, I'm going to explain it to you, you're going to practice what I say, I'm going to explain it to you, you're going to practice what I say, I'm going to explain it to you. And what we see often is very little lint, to use her term. Like, very little sticks from those kinds of explanations. Which we know because if it doesn't stick from 4th to 5th, and it doesn't stick from 5th to 6th, and they're trying to do ratios and proportional numbers and it's just not working. They don't have anything to hang that on, right? So tell me a little bit about when you saw Rosa Linda and Federico struggling, you talked about drawing pictures. And you were walking -- you were walking them through this story. Can you talk a little bit about that explanation that you gave?

ERIKA ISOMURA: Yeah, so we do -- almost all of the lessons that we do, like formal lessons, are embedded in a story. And that means that because they get attached to the story, there's a character, there's a situation. They remember stories. They don't remember -- do you remember the day we talked about these numbers?

MIA BULJAN: Right.

ERIKA ISOMURA: But they do remember, you know, Cari's birthday cake problem, they do remember passing out candy. They do remember the Jesus problem versus the Camila problem. So when I can put it back into the story and maybe change the context just enough to suit the numbers we're working with that day, but it's still attached to that story, it makes a lot more sense to them, because then it's nothing new. It really isn't. It's the same thing with this little twist. And at this -- again, a lot of that is because at this point in the year we've done it so much that they're used to it. And so they'll call out to each other, "Remember, it's this story." And so for those two, they were working with division and they got confused about how division works. They were thinking ...

MIA BULJAN: Well, because it was a whole number -- it was 3 divided by 100. Can I just remind Mark what it is?

ERIKA ISOMURA: Mm-hmm. [affirmative]

MIA BULJAN: So it's 3 divided by 100, and they talked about dividing with the biggest, the 100, versus with the first, the 3. And they kept coming up with -- they basically said, like, well, it's either 30 or it's a third. They were like, we don't know what it is because is it -- they were interpreting it as 100 things divided between three people, or three things divided among 100 people. Like they couldn't -- they couldn't get the context for it.

ERIKA ISOMURA: Right. So I felt like that was a place to step in and just say, "This is the way it works. It's not a choice here. Multiplication, yes, we have choices. Addition, we have choices. Subtracting, no, it goes in a particular order. Division, no, you have to go in a particular order." They -- you know, they were -- so I'm not really good at saying, "Here are the rules, you must follow them." And they know that. So when I come down and say, "These are the rules that you must follow," it's a little bit tricky because that's not how I teach. And so when I say that they're kind of like, "Really? Are you sure because ..."

MIA BULJAN: Are you trying to trick us again?

ERIKA ISOMURA: Right. So I felt like that, they -- even though I said it, I didn't feel like they were convinced, so I wanted to talk them through it. And also because I knew that if they could get that and really make sure that their understanding of division worked, then their idea, the big idea that was the important idea, the small divided by the large equals a fraction ...

MIA BULJAN: Which is what they were really wrestling with.

ERIKA ISOMURA: Right, that would be settled. And then I could use their work to push to the rest of the class, and the rest of the class would have that big idea in a very manageable, kid-friendly-worded way, because the kids came up with it. So I felt like that was a time where I really needed to dig back into what we were doing and go back to some of those problems. And we've done, we've done -- you have three and you're passing out to 100 people. We've done we have three and everybody's going to get 100 of something. We've done both models. So I was going to go with one, but then I thought it would probably be better if I let them choose which one they want to make into a story. And some of our number talks, and probably the hardest number talks we do ever, are the "tell me a story." And we actually do that. We'll throw out problems and we'll say, "Tell a story that this could happen in." So again, that's something they're very used to. I'm a big fan of anytime I see numbers that I'm not sure about, I'm going to make it into a story because then I have something concrete and physical to hold onto in my brain, and so that's something we do all the time.