

ERIKA ISOMURA: Here was our first number talk. This was on Monday.

MIA BULJAN: Oh God.

ERIKA ISOMURA: Where, yes, where I was curious to see -- because they had done that worksheet on Friday where they were working with the calculators and decimals. And I was curious if there was any transference between their understanding of fractions and decimals. And the answer was no.

MIA BULJAN: Yeah, that would be -- okay, so on Friday, they had this experience where they were, probably for the first time, multiplying, even with a calculator, with decimals. And they had done all this work on fractions beforehand and what the patterns were. You had just introduced $\frac{8}{10}$ can be written two different ways.

ERIKA ISOMURA: Right.

MIA BULJAN: And they were experiencing it, but then to turn it around and apply it on Monday is probably a stretch.

ERIKA ISOMURA: Yep.

MIA BULJAN: But super interesting to try. So how did you decide what numbers?

ERIKA ISOMURA: So, we started with these three: 20 times 10, 20 -- sorry, 2 times 10, 20, and they were fine.

MIA BULJAN: So start with what they know.

ERIKA ISOMURA: Then I asked them so, if I go backwards, 200 blah, blah, what would be next smaller? Two-tenths. But I -- and they said "two-tenths" but I wrote it as a decimal times 10. So, my hope was, since they knew it was a pattern they would see 3 zeroes, 2 zeroes, 1 zero, and they'd say two, and they didn't. They said 20.

MIA BULJAN: Right.

ERIKA ISOMURA: So, I left it and then I asked -- and they were able to generate the problems for me.

MIA BULJAN: Yeah.

ERIKA ISOMURA: Like they could see what would be the next problem. And they said "two-hundredths," and I wrote it as a decimal and then we put it out. And they said 2,000 and 20,000.

MIA BULJAN: So, based on how they described in the beginning, this idea with whole numbers around counting the number of zeroes, one, two, three, four. One, two, three, four. One, two, three. One, two, three. Like a lot of this they're making sense of it. It's just not mathematically correct, like, they are trying.

ERIKA ISOMURA: Yeah and they are trying to use their thinking about the patterns. So then we tried going back and I just wrote it out. Are those two the same? Do they look the same? And there was a lot of confusion there because they don't look the same but they were still not convinced that the answers wouldn't be the same.

MIA BULJAN: Yeah, well, that could happen, it happens.

ERIKA ISOMURA: So, there was that. And then we were talking -- we changed these into the fraction forms and just asked, does that answer make sense if that's the fraction form? So if this is my hundred pieces and two of them is that little bit, and I do that ten times, would I fill up 2,000 of these boxes?

MIA BULJAN: And they said no.

ERIKA ISOMURA: They said no.

MIA BULJAN: Okay, good, good.

ERIKA ISOMURA: But they weren't quite sure what that meant. So this is one of the ones where we actually pulled out a calculator. And we went back in the blue and we did it with a calculator and we double checked. So, check, yes, you were right. Check, yes, you are. No, you weren't, it was this. And then we just kind of let it sit there.

MIA BULJAN: Of course.

ERIKA ISOMURA: That was weird what happened there, not sure.

MIA BULJAN: So, in this one you did, you started it in the morning.

ERIKA ISOMURA: And then in the afternoon we went back with calculators.

MIA BULJAN: So, you didn't, so you left these sort of like, this sort of like -- these wrong answers, and you let it sit most of the day and then when you did your second math period, you came back in with the calculators and fixed the answers at least.

ERIKA ISOMURA: Right.

MIA BULJAN: Okay, and did they see these patterns? Like, did they recognize that the pattern was happening?

ERIKA ISOMURA: Yes.

MIA BULJAN: Do they see this as smaller than this?

ERIKA ISOMURA: They did. They really only saw the pattern up to the two. Those two they were still not sure how that worked in the patterns that they think they see.

MIA BULJAN: There's so many moving parts, like you really see, linking it to the fractions and then the notation and then the patterns. It's, like, no joke.