ERIKA ISOMURA: Yesterday's number talk Yeini came up with this brilliant thought of how...in this particular set with our two thousands divided by stuff -- these divided by a thousand, a hundred, ten, one -- and Yeini talked about how this divisor kept getting smaller. Did anybody notice how it got smaller? Like how we might go from a thousand to a hundred, to a ten, to a one, to a tenth, to a hundredth?

STUDENT: Oh!

ERIKA ISOMURA: Oh! Diego, what did you notice?

STUDENT: Divided by ten.

ERIKA ISOMURA: Ah, so divided by ten each time.

STUDENT: Yeah.

ERIKA ISOMURA: We really love tens don't we?

STUDENT: Yeah.

ERIKA ISOMURA: Tens are awesome. And then she noticed as how these got smaller by what we call a power of ten, our quotients were getting bigger -- two, twenty, two hundred, two thousand, twenty thousand, two hundred thousand. So can we add some detail to what Yeini said? How do we see these getting bigger?

STUDENT: Ten.

ERIKA ISOMURA: By ten again. So we got smaller by a power of ten and then we got larger by a power of ten. And Ran, you notice that that seems to happen when we keep our dividend the same? Okay. So then you guys had a question that you wanted to investigate in today's number talk. And you said you wanted to know what would happen with different numbers when we don't have all those zeroes. Like, you wanted to know about something like twenty-three.

STUDENT: Yeah.

ERIKA ISOMURA: Okay. And we actually have done something like that. We did a twenty-five a while back but I think we were a little overwhelmed, so it was a lot going on in our brains. So let's check in and see what happens when we start with something that's a twenty-three sort of number. And I think we're going to make it very similar to the two thousand, so I'll actually make it two thousand three hundred. Okay? So it's got that twenty-three, so it's not just zeroes. And we'll divide by...

STUDENT: A hundred.

ERIKA ISOMURA: I'll make it not so crazy. I think a hundred is reasonable, Jesus. Twen...two thousand three hundred divided by a hundred. Jerry?

STUDENT: Twenty-three.

ERIKA ISOMURA: So I'm going to use Yeini's pattern and not Ran's yet. So I'm going to keep the first place the same, and then I'm going to go down and make it smaller by a power of ten. So then think back how Yeini's pattern might help you predict or know two thousand three hundred divided by ten. Lizzie?

STUDENT: Two hundred thirty.

ERIKA ISOMURA: Does that make sense? We went down by a power of ten. Did we follow Yeini's rule to go up by a power of ten?

STUDENTS: Yes.

ERIKA ISOMURA: Hm. Two thousand three hundred divided by one. Federico?

STUDENT: Two thousand three hundred.

ERIKA ISOMURA: Two thousand three hundred divided by...?

STUDENT: Zero point one.

ERIKA ISOMURA: Ah, one-tenth. Zero point one I agree, I'm just going to call it one-tenth, though. Okay, so what would that be? Yeini?

STUDENT: Twenty-three thousand.

ERIKA ISOMURA: Is that still happening? We're getting smaller by a power of ten and we're getting larger by a power of ten?

STUDENTS: Yes.

ERIKA ISOMURA: Nice! Yeini, I think you discovered something super powerful. Two thousand three hundred divided by one hundredth. Antonio?

STUDENT: Two...

ERIKA ISOMURA: If you can't remember how to say it, you can just tell me what to write and then we can name it afterwards.

STUDENT: Two, three, zero, comma, zero zero zero.

STUDENT: Two hundred and thirty thousand.

ERIKA ISOMURA: Nice! Thanks for helping him. Two hundred thirty thousand. So is our rule still working?

STUDENTS: Yes.

ERIKA ISOMURA: You think it'll work if we go the other direction?

STUDENTS: Yes.

ERIKA ISOMURA: So bigger by a power of ten. So that'll be a thousand.

STUDENT: It's going to be...

ERIKA ISOMURA: Hold on. Give me a second to write the first part. So then we got bigger by a power of ten going up. So this will be getting smaller. So take a moment to think. Quickly turn to a partner. What do you think that'll be? All right, you think you're ready? Jesus?

STUDENT: Two point three.

ERIKA ISOMURA: Two and three-tenths. Agree or disagree?

STUDENT: Yeah.

ERIKA ISOMURA: Hm. Do we see Diego's idea of the zeroes and the moving decimal point? Maybe. That is actually correct. Did the pattern work?

STUDENTS: Yeah.

ERIKA ISOMURA: Was Yeini's pattern...was Yeini's pattern helpful for us?

STUDENT: Yeah.

ERIKA ISOMURA: Woo-hoo!

STUDENT: [Inaudible]

ERIKA ISOMURA: All right, nice! Okay, so we'll take a look at some more of these next week, but fifth graders, you have some work to do on your sort, your card sort. And fourth graders, you know what you're going to be doing, right?

STUDENT: Yeah.

ERIKA ISOMURA: Okay. Fifth graders, eyes over here.

Fourth graders, you can carefully begin to slip away. You're going to be adding two more sets. If you didn't finish your whole set yesterday, finish it. You already had a chance to talk and make some agreements, so finish that conversation and glue. And then you're going to add what we call place value cards. I'm not going to tell you what these represent, you're going to figure out for yourselves...would be a good place to have a conversation, and if you would rather do the blue set first, that's fine, these are expression cards.

STUDENT: Do we have to put them in the chart?

STUDENT: [Inaudible]

ERIKA ISOMURA: I don't know. One fourth of four. We studied that before in fractions. All right, so head out with your partners. I'll come around with these.