ERIKA ISOMURA: So we have another math talk and this is another number string. We've been doing our number strings for a while. You will probably recognize a lot of it, but let's still show good manners. Quiet thumbs if you have something to say instead of shouting out. Right? Eight thousand divided by ten. Ruchita?

STUDENT: Eight hundred.

ERIKA ISOMURA: Okay, we'll just leave it. We may or may not agree, but we'll leave it for now. Sofia?

STUDENT: Eighty.

ERIKA ISOMURA: Adam?

STUDENT: Eight.

ERIKA ISOMURA: Eight divided by ten. Jesus?

STUDENT: Ten-eighths.

ERIKA ISOMURA: Ten-eighths? Okay. You want to disagree with your own answer? Why?

STUDENT: Eight-tenths.

ERIKA ISOMURA: Now you're saying eight-tenths. Which one and why?

STUDENT: Eight-tenths because you're cutting it (inaudible) pieces.

ERIKA ISOMURA: You're cutting it into the ten pieces?

STUDENT: Yeah.

ERIKA ISOMURA: So why do we want the ten in the denominator...denominator?

STUDENT: Because that's...

ERIKA ISOMURA: Rosa Linda would like to help you.

STUDENT: (Inaudible). Those are the pieces.

ERIKA ISOMURA: These are the pieces...where?

STUDENT: Um, in the whole.

ERIKA ISOMURA: In the whole. So using ten pieces from the whole thing. Okay. So Jesus revised his answer. That's fine, we can always revise. All right, eight-tenths divided by ten. Antonio?

STUDENT: Eight-hundredths.

ERIKA ISOMURA: Eight-hundredths. Again, we may or may not agree but we're going to leave it for now. And if I do eight-hundredths divided by ten, which I'm sure you all saw coming. Diego?

STUDENT: Eight one-thousandths.

ERIKA ISOMURA: Eight one-thousandths. Okay. And eight one-thousandths divided by ten. So, I'm expecting all of you to participate. Shyla, any thoughts? Lizzie?

STUDENT: Eight ten-thousandths.

ERIKA ISOMURA: Eight ten-thousandths. All right, take a moment to look at our string and decide if you are happy with all of our results, or if there's anything that you'd like to have us talk a little more about. Okay. We'll leave that for the moment. We're going to do a second number string. There may be some similarities, there may be some differences. We'll start with this one which we already know from Jesus and Rosa Linda. What about this? Alex?

STUDENT: Eight one-hundredths.

ERIKA ISOMURA: Eight one-hundredths. Up here! We've got eight one-hundredths there and eight one-hundredths there. Let's take a moment. All right, what about eight divided by one thousand? Rosa Linda?

STUDENT: Eight one-thousandths.

ERIKA ISOMURA: Eight one-thousandths. Also weird. This is eight one-thousandths and that one is too. Very odd.

STUDENT: Oh!

ERIKA ISOMURA: Ooh, something happening in your brain, Adam?

STUDENT: Yeah.

ERIKA ISOMURA: Yay! And eight divided by ten thousand. Jerry?

STUDENT: Eight hundred-thousandths.

ERIKA ISOMURA: Eight hundred-thousandths.

STUDENT: Wait, no. No, eight ten-thousandths.

ERIKA ISOMURA: Which one do you think?

STUDENT: Eight ten-thousandths. Eight over ten thousand.

ERIKA ISOMURA: Why? Why did you change your mind?

STUDENT: Uh, it's just...I looked at the pattern and it showed, like, the same...the denominator is the same as the...

ERIKA ISOMURA: Oh, so based on the pattern we're seeing, you're feeling like it's probably ten thousand? Okay, we like patterns. Patterns are a great way to help us see something we're not sure about. We can often use patterns to help us confirm what we think we know. Now, for the hard part. Well, might not actually be harder. Let's see. Ten thousand, one thousand, one hundred, ten. I think I might do eight divided by one. Dylan?

STUDENT: Eight.

ERIKA ISOMURA: Okay. Ten thousand, one thousand, one hundred, ten, one, one-tenth. How about eight divided by one-tenth? Quickly, whisper to a partner what you think it is. All right, any thoughts? Lizzie?

STUDENT: Eighty.

ERIKA ISOMURA: Eighty. Hm, interesting! Did anybody say eighty to their partners? Okay. Eight divided by...let's see. Ten thousand, one thousand, one hundred, ten, one, one-tenth, one-hundredth. Hm. Quickly, whisper to your partner what you think. Roberto, what do you think it was?

STUDENT: Eight hundred.

ERIKA ISOMURA: Is that what you whisper to your partner, or do you think it is something else? Something else? What did you guys think it was?

STUDENT: Um, we thought it was eight hundredths.

ERIKA ISOMURA: Eight hundredths. So this?

STUDENT: No, eight eight-hundredths. Eight and then eight hundred.

ERIKA ISOMURA: Oh! We'll put that a question. We'll have to investigate that further. Okay. So I do see some patterns. Now, here's my next question. Yesterday the fifth graders and the fourth graders began to do some work with calculators using a new type of number called decimals. And some of you have been very irritated with our number talks because you felt like there might be another way to say eight-tenths, and there might be another way to say eight-hundredths, or eight-thousandths, or so on. So does anybody want to talk about what they think maybe we could also write for eight-tenths? Another way we might want to write that down. Dylan?

STUDENT: Zero point eight.

ERIKA ISOMURA: Zero point eight. So not eight wholes but eight and that's the tenths place. Hm. How about this? What would that look like? How do we show that we want to volunteer our answer? Alex?

STUDENT: Zero point zero eight.

ERIKA ISOMURA: Zero point zero eight. So I still have eight but I'm not in the tenths place, I'm in the hundredths place. Oh, interesting! Is there another way to write this? Antonio?

STUDENT: Zero...

ERIKA ISOMURA: Zero...

STUDENT: point...

ERIKA ISOMURA: point...

STUDENT: zero zero eight.

ERIKA ISOMURA: Hm, is there a pattern happening here? We saw a pattern with our fractions, is there any kind of pattern we're seeing with our decimal representation? Turn to your partner,

what do you see? All right, coming back together. Eight ten-thousandths. Now that we're starting to write decimal representation, what would that look like? You can use patterns or you can use the decimal work we started yesterday. [Inaudible], what do you think?

STUDENT: Zero point zero zero zero eight.

ERIKA ISOMURA: Hm, interesting! So let's see. Not tenths, not hundredths, not thousandths, but eight in the ten thousandths place. Nice! Very cool! All right. So, obviously we can write these since we noticed that they're the matches, but for now we are going to be moving on to our work. So, fourth graders quietly slip out, fifth graders stay.