

ERIKA ISOMURA: Look at this problem. Where do we want to start our thinking? Federico said start at the beginning, which is three, but now he says we own one hundred things that we're going to pass out, or share, or divide with people. Which one is it? Do I have three things or do I have a hundred things?

STUDENT: A hundred things.

ERIKA ISOMURA: I have a hundred things? And then from there I've got three people standing with a hand out saying, "Can I have? Can I have? Can I have?"

STUDENT: Yeah.

ERIKA ISOMURA: Yes?

STUDENT: Yes.

ERIKA ISOMURA: Okay. So if I have a hundred things and I pass those out to those three people, how much would each person get?

STUDENT: Three-hundredths.

ERIKA ISOMURA: Three-hundredths? But those are itty bitty little bits? Hm, I think this would be a good place to draw. So, can I borrow your notebook?

STUDENT: Yeah.

ERIKA ISOMURA: So the problem says three divided by one hundred. Okay. And when we've been working with our division, we've been saying little stories. Right? So this story is "I have." So here's me. What do I have in this picture or in this problem?

STUDENT: Um, you have a hundred of...

ERIKA ISOMURA: So I have this and I'm going to ignore the three. Okay? So I have a hundred things. We're going to set that problem aside for a second. And let's do this problem over here. Two divided by one. What do I have in that problem?

STUDENT: Um, one.

ERIKA ISOMURA: I have two or one?

STUDENT: One.

ERIKA ISOMURA: I have one thing?

STUDENT: Yeah.

ERIKA ISOMURA: Okay. So that's not actually how division works. So the denominator: if you're thinking in terms of fractions, this is the denominator.

STUDENT: Oh yeah!

ERIKA ISOMURA: But when we're talking about division that's written as a division problem and not as a fraction, what we really should be thinking is, this is what you start with: I have two things and either somebody's going to...one person is going to get a share, or I'm going to pass out one at a time to people. I can think of it either way. So do you want to give everybody a share or do you want to talk about counting how many people...actually, let me say that again. Do you want to talk about how many people get something, or do you want to pass out everybody gets one? So another words, do we know the people or do we know the parts they're getting?

STUDENT: The parts they're getting.

ERIKA ISOMURA: Okay. So everybody gets one.

STUDENT: Oh, no!

ERIKA ISOMURA: I have two things. You can have one. So here's Rosa Linda. Because I have two things and everybody gets one, so here's Federico. And you get one because that says I have two and everybody gets one. So Rosa Linda got one and Federico got one. So how many people got a share?

STUDENTS: Two.

ERIKA ISOMURA: Two. Now over here I have three. This is what I have. Okay? And we're going to pass it out to...we're going to give everybody a hundred. Can I give everybody a hundred things if I only have three? Can you get a hun...wait, I need ninety-seven more. You're going to have to cut these up into itty bitty little bits. Then I can count those itty bitty little bits and give you a hundred itty bitty little bits. And then I can maybe give somebody else a hundred itty bitty little bits. But right now, I can't pass out a hundred things because I only have three. And if I'm cutting these up into itty bitty little bits, my answer can't be a whole number because I don't have enough. If I have to cut this up into itty bitty little bits to make sure that I get a hundred things, what am I calling those kinds of numbers where there's just the little bits?

STUDENT: Fraction.

ERIKA ISOMURA: The answer is going to have to be some sort of fraction. Okay? So if we look at your two answers, you said, "Maybe you get thirty of these balls, but I don't have them. Or if they get some sort of fraction, they get little bits." Which answer makes more sense, the whole things or the little bits?

STUDENTS: Little bits.

ERIKA ISOMURA: So which answer makes sense in Federico's, the thirty or the zero point zero three?

STUDENT: Zero point zero three.

ERIKA ISOMURA: I don't know if it's right or not, but I know that that seems to make more sense. Okay? So beginning number shows how much basically you have and then that's your passing out. And if you can't pass out a hundred whole things then you're going to have to pass out a hundred little bits. Okay? Maybe use that and check and see. If I have seven wholes, can I pass out a bunch of little bits?

STUDENT: Yeah.

ERIKA ISOMURA: Yeah, you could. You could cut that seven whole into a bunch of little bits and you could pass it out to people. If I have four wholes and I want to pass out to everybody gets ten things, do I have enough for everybody to get ten whole things?

STUDENT: No. It's supposed to be a fraction.

ERIKA ISOMURA: And there you go, you have a fraction. So that's one way to just see if it makes sense. And then after we know it makes sense then we can double check if our numbers match. Okay? All right. Check the rest of yours. See if those make sense.