

BECCA SHERMAN: So before we move to other people's ideas, let's just see. We don't have to go into this, but does anyone else have ideas on this subtracting thing? Yes?

STUDENT: I think it's like subtracting because, um, 4 times what can equal 10, 10 thousand? Then you could put the 4 in the other way for division.

BECCA SHERMAN: You want me to do this kind of division like that? Okay. So then, that. And where would our question mark go?

STUDENT: Then, where the question mark would be? On top of the 10,000.

BECCA SHERMAN: Okay. So what operations did you compare here?

STUDENT: Um, like.. what's the most closest number to 4 to what, it would be...

BECCA SHERMAN: Oh, you're ... so you're doing the division right now? Okay. I want everyone to think about.. we made, so we just made a comparison here. Is this subtraction? It's a different operation. What operation is that?

STUDENT: Ooooh!

BECCA SHERMAN: What operation is that one?

STUDENT: Multiplication.

BECCA SHERMAN: Multiplication! And then what operation is this one?

STUDENT: division.

BECCA SHERMAN: Division! So, this is how multiplication and division are connected. So, great. We see a connection between ... to multiplication. So we're gonna leave this idea for now, Ronald, and we'll come back to it. Keep your picture. We're gonna look at that another time. This idea, we'll see if we learn more about later. A couple more ideas, and then we're gonna try a little mental math. What do you want to add?

STUDENT: Um, um, division is like... 8, like, 16 divided by 8 is 2, and then 2 times 8 is 16.

BECCA SHERMAN: Okay, so you also see that equations, we have our four equations for our fact families, and you see how they're connected? So I could actually draw it like this, our fact families, we were doing 16, 8, and 2. And then we know that this is one of our division statements, and you said 8 times 2 is one of our multiplication statements.

STUDENT: Yeah.

BECCA SHERMAN: Okay. Anyone think that they can get this idea of equal groups in there? And maybe take a number like 100 and divide it into some equal groups? See what we do with that? What were you gonna say?

STUDENT: Like, um, 100 div, divided by 50 will equal 2, and 2 times 50 will equal 100.

BECCA SHERMAN: Okay, so we have our fact families again. So. Can we use the words 'groups' in here? Can we see some equal groups?Ron?

STUDENT: 2 groups of 50 equals 100.

BECCA SHERMAN: Okay, and how could we use that in our division statement? 2 groups of 50...that was like our 2 groups of 9, so that's multiplication, can we... can we use that word groups for division? Or equal groups? You guys think? What if I started with a smaller number, like...How many do I have up there? How many dots? Show me.. ha ha. Show me on your fingers. That's a funny one, right?

STUDENT: No!

BECCA SHERMAN: You had to flash...all right. How many... how many are up there? Want to tell us? Can you see how many are up there?12. Okay. So there are 12 up there. Someone show us, think about equal groups. Try and make some equal groups out of that. What do you see?

STUDENT: Uh... 4 and 4 and 4.

BECCA SHERMAN: 4 and 4 and 4? So there's... here's a group of 4, and here's a group of 4, and here's a group of 4

STUDENT: Yeah.

BECCA SHERMAN: So we started with 12. And we divided it into how many equal groups? I mean, how many were in each group?

STUDENT: 4?

BECCA SHERMAN: 4. So we divided it, and then we had how many groups?

STUDENT: 3.

BECCA SHERMAN: 1,2,3 groups. Cool. Could someone do it a different way? What's a different way.

STUDENT: Okay, 12 divided by 3?

BECCA SHERMAN: Okay.

STUDENT: Equals 4, because 4 times 3 is the same thing, and 12 times 4 is the same thing.

BECCA SHERMAN: So if I found 3 dots, I could circle them, and then circle 3 more, and then circle 3 more and circle 3 more, and we'd have 4 groups. 1,2,3,4. Okay. One more way? Gosh! You guys. Do you have another way?

STUDENT: Mmm hmm. I looked on, um, on that one? And I go, and I went down one time? And then that was 4. And on the top? I circled it, and 4 times 3 equals 12.

BECCA SHERMAN: Oh, so you circled 4, but you circled, like... this?

STUDENT: And then 4 down.

BECCA SHERMAN: Oh! You looked at it like this... 3 and, by 4?

STUDENT: Mm hmm.

BECCA SHERMAN: Cool. So you saw that multiplication and division. Oh my gosh. Okay. One more, and then, we want to do a math problem! Whoop! This is math, too. Wait, we heard from you. Go ahead. What do you got....

STUDENT: 12 divide by 6 equal 2.

BECCA SHERMAN: Say it again?

STUDENT: 12 divide by 6 equal 2.

BECCA SHERMAN: Okay. That picture got kind of messy. Let me redraw our 12, 1,2,3,4, 1,2,3,4,1,2,3,4. Um, where would you like, where do you see the 6?

STUDENT: On the top 3, and the bottom one.

BECCA SHERMAN: The top 3 and the bottom one?

STUDENT: Yeah.

BECCA SHERMAN: Ooh, you're making this hard for me. No, I can do it. Top three... and the bottom 3. That's 6!

STUDENT: It's a c!

BECCA SHERMAN: That is a c!

STUDENT: You could make a line at the two tops of the 3. No, no! Make a line with the marker!

BECCA SHERMAN: Make a line with the marker. How about

STUDENT: Yeah, right there, no!

STUDENT: Yeah, like that! Like that! Like that!

BECCA SHERMAN: Okay, so that's 6, and that's 6. So 12 divided by our equal groups of 6, how many equal groups do we have?

STUDENT: It looks like a e!

BECCA SHERMAN: Oh, now we're distracted by our picture! It's worth a thousand words! You guys have so much to say about it!