

00:00 The next part is comments from the observers.

00:02 And if you remember, the one question they wanted us to focus on was that one:

00:06 Where we're looking at the labels for the ratios or in the sentence.

00:10 If you observed a group and would like to share something that you observed, and give feedback to the team, that would be great.

00:20 One thing that I thought, first I keyed right into it because it was so interesting to me.

00:25 She put "12 beads," and then they went and they counted every single bead, and they put "over 81."

00:32 12 over 81 was their rate, or ratio. And I tried to keep an eye on her and see, because they didn't label, okay, maybe if she had labeled it she would have made more sense out of that.

00:45 That it wasn't per the time, or that she didn't include anything about the time.

00:49 And then all of a sudden, I looked back over, and I talked to a couple people who were also observing with me, and she had changed it. 00:57 Like it had just made more sense to her, and all of a sudden she put, I think she labeled it as well then, right?

01:02 Well, at that point, her partner, Sammy, said, oh yeah, you've got to label that.

01:09 She had, she goes, "I think it's over 30," and Sammy says, "Yeah, you've gotta put b over s. To label it beads and seconds."

01:16 At that point, they were kind of correcting each other, that they needed to be labeled.

01:20 At the way they got the 81 was they counted all the beans?

01:22 Right. Right.

01:23 So it was a fraction of the beads. What fraction did they put on the rope, or on the string?

01:28 But it was interesting that that happened pretty quickly///

01:32 Yeah, it was just, like instantaneously, somehow it didn't look right to her. Something. Or maybe she overheard some of the conversations from the other groups.

01:39 I don't know.

01:40 That was exactly what happened. They were finishing up, and they were at that point, where she'd only put 4 beads on her string,

01:47 And they were in the arithmetic of, "Now, how do we figure out what this ratio is. If there's 81, but you had 12, and I have 4,

01:55 Because they didn't really have 12 to 81, they had 12 beads on a string, and 81 other beads.

02:01 Okay.

02:02 They didn't really count the total beads. And then they realized that they hadn't done that.

02:05 And she started looking around and went "Oh! We should have time..." It was just like that. "We should have time." And they switched what they were doing.

02:13 Right there.

02:15 And then Joe talked about, like, are these three, are they all ratios? And someone said, "Yeah, they're all ratios."

02:24 Then some students said that it's not, only the first one is a ratio. And then you did say that, okay, the unit is important.

02:31 You have to write something after the number to make it make more sense out of it.

02:36 So maybe they were using that into the activity? Because the 600 over 15 was done before the activity.

02:44 Could be, they might have. It's my assumption they might have taken that into their activity.

02:49 Sammy, who were comparing each of their, rice totals. So it was 16 to 11. I got 16, you got 11. 16 to 11 then is our ratio.

03:02 So ... yeah. So there were a couple that were ... not clear on the ...

03:13 And the definitions didn't go, you know, typically I would spend more time trying to ferret out the clearer definition of rate.

03:26 I think in one of the classes I taught something similar to, had come up with something like the number of items over a measurement, or something like that.

03:39 A comparison of two different measurements, or something like that. And so you're working with a little bit more meat when you, but there was nothing for them to really hold on to.

03:49 So I could see, yeah, there would be a few people that would go off track.

03:53 Alex, I believe, and Alex was the born leader. He was in charge and in control, and he accepted that title willingly.

04:01 She said, "You're going to be in charge because I'm not the smartest."

04:03 And actually, then, she started working with her partner across from him. And when they were doing their recording, whether it was beads or rice,

04:11 They were writing their ratio as 4 over ? 7 over ? They weren't sure what they were recording. They just knew that they had to record that 4 or that 7.

04:21 And then after, I think, the second activity, um, I think it was Tyler, he said, "No, you have to change it, it can't be a question mark. It's the number of seconds."

04:33 Once they put the labels on, then it made sense what the ratio was gonna be.

04:36 And they changed their question marks to "over 10 seconds" because that was their denominator.

04:42 It's easier with groups because you have people to help you. That was nice. But they were having a disagreement when they were talking about the rate.

04:49 About how fast you'd been going. He said, immediately, it was 3.5 over 1.

04:55 And Allie was insisting that it was 7 meters per 2 seconds because she "didn't want a fraction on the top." She didn't want a decimal on top of the fraction in the numerator.

05:06 She was real clear that she didn't want that. She was still uncomfortable with that, the rate being 3.5.

05:17 This concept of fractions versus rates and ratios, I know the percent, when we're asking for the definition, they keep coming to the "tip percentage."

05:25 Like that is what this rate is going to be. And just, giving students a chance to struggle with that, and figure out what each one really is, to apply it to problems,

05:37 I think that's really meaningful, and that's one thing you would get out of this. I wish I'd seen the last 15 minutes, but you'd get out of that conversation.

05:44 When you're saying "Who's the fastest?" Talking about the unit rate even more in depth. Why is it okay to have a decimal in this case?

05:52 So I loved how there were many different opportunities to bring in all the different things that the kids have thought,

05:59 And finding those misconceptions at the beginning, because I know you said this is the beginning of this unit, this is the beginning of the discovery.

06:05 So I really appreciated seeing this, and seeing what kinds of ideas kids come in with.

06:10 And I shouldn't be, because I've seen it over and over again, as Becca and I put this lesson together, we really wanted to emphasize terms for the units.

06:23 In as many ways as we could, and that's where the whole sentence thing came in. Let's put it in words, let's put it in a sentence before we put it in a ratio.

06:30 And the number of kids that were writing down the rates without terms, it didn't—so, and it was equal, or easily equal to the first iteration of the lesson,

06:47 When we didn't stress putting the terms down, it was just naturally writing down fractions with no words next to them,

06:54 Even though we tried to really stress that. So they still really struggled with writing terms down.

07:00 The idea that this was sort of a beginning place to think about it, so that they would have something to refer to.

07:09 So as they learn future, more formalized ways of thinking about rate, they could go, "Oh yeah, it's like when we counted rice. It's like

when we were stringing the beads."