

TRACY SOLA: The culminating activity of the measuring mammals with the three giraffes, uh, Jeffrey, George, and Jerry, was interesting because I gave them one cube, and I told them they could use any strategy they wanted. And what I was really looking there, for there, is to see if they could use iterative measurement. Having only one cube, they couldn't make the cube train, which would have been easy. They had to either use the cube multiple times, or create some other method. And, and we saw several things happen. We saw that, uh, two students did that. They took their cube, and they tried to be very precise. They drew a line at the bottom where the giraffe started, they would place a cube, draw a line at the top of that cube, and they kept doing that and doing that, and they were very precise.

TRACY SOLA: Another group wanted to use that idea but didn't know how to keep track of where the cube had been and where to put it next. And they finally devised the system of putting a pencil on top of the cube, and then holding the pencil in place and moving the cube up one, and then moving the pencil up one, and they kept doing that. And, uh, so, of course, not realizing that the pencil added some height. And ... Or really not thinking about that, or maybe that was okay. Maybe that was our unit of measurement, you know, cube-pencil. Um, but it came out different than just cube-cube-cube. So, that was something to think about because if, uh, you know, they're using cube and pencil, it's two, things of two different length combining to make nonstandard measurement, which is fine. But, um, to think about doing that intentionally.

TRACY SOLA: And then, the third group, um, decided there had been a lot of talk about a number line, and they decided to make a number line. And so, they just started stacking numbers, writing numbers from the bottom, one, two, three, four, five, six, just up in a vertical line. And many of them drew a line, and then, uh, wrote their numbers next to the line. And, um, I think the thing that happened that made it ... Well, one of the hallmarks of nonstandard measurement is whatever your unit of measure is, it stays the same. And so, they were writing numbers all different sizes. And so, I don't think they were really in a place to realize yet, or in that short period of time, that all the numbers had to be exactly the same height for that to work. So, that's just that idea of scale on a number line that is also, I think, um, a, a standard in, in subsequent grades. It's not as standard now.

TRACY SOLA: But, uh, but it was interesting to see them trying to make use of a number line to figure out that problem. And I don't think, even though the two large giraffes were essentially about the same size, some of the students got, you know, 19 for one and 12 for the other one, or something like that, and that didn't seem to bother them. So, so, just stacking up numbers and feeling like they had done their job, that seemed kind of, like, where they were in their development. And so, there're a lot of interesting places that we could go from here with those pieces of work.

TRACY SOLA: So, the other interesting thing that happened in this lesson was, my plan had been to give them one cube and have them use it, um, iteratively. And then, to give them more cubes, and have them stack cubes and see if their iterative measurement, uh, matched their, their cube train measure. But wh-- I changed my plan mid-lesson, because when I saw that some kids were using a number line were, weren't using cubes at all. I didn't wanna force the

lesson in a certain way because they were using a strategy that they had invented for themselves. And most of the class did that. And so, I didn't want to negate that strategy as valid, so I just decided not to go in that direction and to talk about all the different strategies we saw, and because that's where the kids were.