FRAN DICKINSON: The next step in the lesson, you're gonna have to to split up in your tables. All right? In your table groups, you're sitting with four folks, with this exception. We'll work on that. One side of your table, working in pairs, should really dig deeper with Learner A, and the other side of the table should dig deeper with Learner B. I'll let you guys decide which one your partner and you will work on. So I'll come around and give one copy of the Learner A worksheet and the Learner B worksheet, and you guys can figure this out on your own. But the next step is for us to dig deep by looking at multiple ways of representing how these learners are thinking about this task.

You'll notice that on all of the tables, I've left you guys with square tiles. The square tiles will really come in handy, I think, for some of us as we are puzzling with the pictorial version of this pattern. So what I mean by that is, I want you to draw a picture. I want you to draw a picture of how Learner A or Learner B sees this pattern growing. So I'm just going to throw on the overhead here, a copy of the worksheet for Learner A, and you'll see that the first step is to do a pictorial representation, so a picture. I want you to play around with the tiles, and sketch out what you see happening in those first three patterns, but I want you to pay attention to color-coding. You're free to use those tiles like I said, or markers if you need them, I can make those available as well. All right. I'll give you 30 seconds to kind of divvy up the work as far as who's gonna do Learner A and who's gonna do Learner B, and then I'll check back in with you. 30 seconds

STUDENT: So how I think that he did it. So say that's like the middle button, the black one. And then, so, 1,2 …3…4…5…6…7…8…9…. 10… 11. Wait. 1,2,3,4,5,6,7,8,9,10,11. 1,2,3,4,5,6,7,8,9,10,11.

STUDENT: I think the way that, um, the person was, Learner B was thinking, was that there would be a 3 for every, like…There was, like, so there was 11 3's…

STUDENT: Wait, so, 3. So for this one you have to do like a black dot. Right next to it.

STUDENT: So that's staying the same and this is the pattern.

STUDENT: Yeah. It'd be like that. And then pattern 2 would be like …

STUDENT: It's funny, because pattern 3 goes 3 like this.

STUDENT: Yeah. Same with a pattern on your shirt. It's a pattern.

STUDENT: Okay. Verbal representation. Describe in your own words how Learner B sees the pattern growing. Make sure to mention what is staying the same, and what is changing.

STUDENT: Okay, so…

STUDENT: Staying the same…I don't get how he gets the 4!

STUDENT: Well, I think that he counted, like 1,2,3,4. And then he did the 3 1,2,3, 1,2,3, 1,2,3.

STUDENT: Wait. How do you get the 4?

STUDENT: I think he went like, um, the middle thing is 1,2,3,4.

STUDENT: Oh….

STUDENT: 1,2,3, and then 1,2.3. That's the pattern of 11. So there's 1,2,3,1,2,3,1,2,3.

STUDENT: Get it?

STUDENT: Mmm hmm.

STUDENT: 1 has to be added to each line, and then plus 3, until we got up to 11.

STUDENT: Not 10?

STUDENT: Till they got up to 11.

STUDENT: 4, 10—now I get it!

STUDENT: Yeah. So they, basically, kind of like Level 1.

STUDENT: What's staying the same and what's changing. Okay.

STUDENT: It would add 3 each stage. 3 more each stage.

STUDENT: So it started with the 4.

STUDENT: Yeah.

STUDENT: And it keeps getting bigger, oh, okay. That makes a lot of sense.

STUDENT: You're messed up.

STUDENT: Okay. So, we got this. Red ones explain the new ones, and the blue ones show the old ones, and the one before, and the one before…

STUDENT: And the one before. And so it shows that for all of them, it could be shown like this, but I don't know. Plus the center.

STUDENT: But, um, but it's proved wrong.