FRAN DICKINSON: As we get close to the end of our lesson today, I want to focus on that pictorial representation. And I've asked a couple of learners to come up and talk about where they are right now. How they're thinking about… Learner B's work, that's what I think Christina and Callie, you guys were working on Learner B? So Callie and Christina are gonna come up and talk about Learner B.

STUDENT: There's 11, and this is… patterned in 11. So he would, or she, would add, like 3, or like 4, for every, like… for 11. Does anyone get what I'm saying?

FRAN DICKINSON: Well, ask for a question. Does anyone have a question for these guys?

STUDENT: How did you come up with the, the 4?

STUDENT: This 4? Well, it says on the picture.

STUDENT: We're not sure about that.

STUDENT: Well, well I think it was because of the black button, and he just added 1.

STUDENT: Well, we did the same thing, but we thought that, if you see that in the middle of all the buttons, there's the middle button and surrounding it is 3 other buttons? So it's like you've got those 4 buttons in the middle. And then as you go around, it's sort of like a rainbow? And then there's like the colors that go like this, and then there's 4 in the middle and then 3 buttons and 3 buttons.

STUDENT: Well, as you can see here, we think that the person is thinking of it like this, where there's the 4 in the middle, and on the sides there's the 3's. Then the 3's like that. And see, this is just 4, and this is 4 plus 3. So. That's how we were thinking of it.

FRAN DICKINSON: Questions for Kelcey and Maddie?

STUDENT: Abraham?

STUDENT: If that? You know, so, it's… pattern 2? There's, um, the new ones are changing? But in pattern 4? It's not changing? It's like, the orange ones I see are the ones that are changing… But if, in pattern 4, the changing ones already changed, wouldn't they be the same?

STUDENT: I just, um, pretty much thought of it the same way they did. But we were thinking because, we didn't think about it …because I think this is what we had discussed earlier, when we had a conversation like this, is that it didn't start with the 4. But as far as we know, it could have. So, what we were thinking is that the 4, are the ones that are staying the same, because those are the ones that have been there the entire time? They're not the ones, like… 'cause if it had started with just the 1 in the middle? Then the 3 on the sides would be oranger, orange.

STUDENT: I kind of like disagree on how you think that the other one, that pattern 3, the ones that are changing…From pattern 2, those three orange ones change from pattern 1… 3? are changed… are changing. But with pattern 3? Um. These 3? Are from here. So it doesn't change. I think that these are the ones , are changing.

STUDENT: Well, like, what Robby said, this is sort of like the beginning and this is like the main beginning that started it all. And then these are the things that are sort of being added on.

STUDENT: Like, are only the 3 outside changing? Because they're the same from pattern 2? You're, for pattern 3 you're not adding 6. You're adding 3.

FRAN DICKINSON: So. What I hear Maddie and Kelcey saying is that they're recognizing this four, as a constant 4. That when this learner says 4 + 3, all these repeated 3's, that there's a 4 all the time, in each of the stages. And they're denoting, or showing us, the groups of 3, by drawing these shells in their picture.

STUDENT: I was just gonna say, that we weren't thinking about it, you know, how Eric was thinking about it, we were thinking about it how Learner B was thinking about it,

FRAN DICKINSON: I gotcha.

STUDENT: But then, he said something that kind of changed my mind.

FRAN DICKINSON: Interesting! I've just gone around and handed index cards to each of the tables. I'd like you to write down just one comment or one question on those index cards for me. And they're gonna be your ticket out of the door. So let's just take a moment to reflect.

STUDENT: You want our names?