ROBIN EVERAGE: All right. So here is your next part. Using just the 12 that you have for the area of 12, create all the other ways you can find that area of 12, just using those. Now, you are more than welcome to re-use your tiles into whichever way you want. Draw out the outline of that shape. I want your, um, math equation for area and the math equation for perimeter also.

ROBIN EVERAGE: So find all the other ways you can show me the area of 12. Got it? All right, go for it. Keep going now, find another way to find the area using those 12. Use these blocks again. You can put them up there and arrange them how you want to to make—create another shape with the area of 12.

STUDENT: Does it have to be in a rectangle?

ROBIN EVERAGE: You tell me. Every end needs to be touching, I need that. Please.

STUDENT: So we can do it here right now, it can be fancy, because we did that last time. We don't have to do it right there. How about we do it right here?

STUDENT: Let's do it up, like, right here.

STUDENT: I can't reach that, though.

STUDENT: Then you scoot up. Look at it.

ROBIN EVERAGE: Remember when you're creating and assessing with your partners, use your math words.

STUDENT: That's two columns. A, and then these—

STUDENT: And this one goes right here. And this one goes right—

STUDENT: What? I don't get that, no, no, no, no. [laughter]

STUDENT: That's another rectangle.

STUDENT: We take it over here.

STUDENT: She said it doesn't have to be a rectangle, as long as the sides are touching.

STUDENT: It's a square. That's a square.

STUDENT: All right. So let's copy it down.

STUDENT: I'm gonna copy this side. Can, can I do that side?

STUDENT: No, because you did—

STUDENT: Let me just do one more side, I just want to do one side. Let me do one side.

STUDENT: It's over here, it's over here.

STUDENT: Oh my gosh, you ruined the rectangle. It's three, um, squares. It's only three squares.

STUDENT: I'll go four, and then three.

ROBIN EVERAGE: How is that one different from that one?

STUDENT: Because it's three.

ROBIN EVERAGE: What do you mean?

STUDENT: Like, um, instead of—

STUDENT: The three on the top and bottom, that's—

ROBIN EVERAGE: So what do we call those threes?

STUDENT: Um.

ROBIN EVERAGE: What would be the math—no, what would be the math word with the rays that we can call those threes?

STUDENT: Columns?

ROBIN EVERAGE: Huh?

STUDENT: Columns.

STUDENT: Columns are those.

ROBIN EVERAGE: So the three would be what?

STUDENT: The columns.

ROBIN EVERAGE: So over here, you are saying there's three columns. What are you saying over here?

STUDENT: That there's four rows.

ROBIN EVERAGE: Okay. Now find a totally different rectangular shape you can create with the area of 12. Use these again. You can move them. Manipulate them however way you want to do, but build me something up.

STUDENT: We can add onto them?

ROBIN EVERAGE: No, only 12. Area of 12.

STUDENT: Okay.

ROBIN EVERAGE: So you have to start all over. You cannot build this shape again. What other shape could you build to show?

STUDENT: We could do two, bottom row six. Do you want to talk about what stays on this side? On the sides?

STUDENT: You could do it like that. Ah. So that would, would—that one.

STUDENT: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12. We've got 12.

STUDENT: Okay.

ROBIN EVERAGE: Do it over there, [inaudible], okay?

STUDENT: We have to hold and make the rectangle. Like that.

STUDENT: So now—

STUDENT: Yeah, but then now, the sides are equal to the, the blue.

STUDENT: What is that?

STUDENT: Twelve is next to it, I guess.

STUDENT: What is this number?

STUDENT: Wait, can't, can't we just do that?

STUDENT: It's different, though.

STUDENT: No, it isn't.

STUDENT: Yes, it is.

STUDENT: We should do it this way.

STUDENT: It's different. Technically, all of them are the same. Okay.

STUDENT: P equals—

STUDENT: It's perimeter equals four—

STUDENT: No, 16. Wait. Six, and six, and the sides like that. You go—no, 16. Yes. Wait.

STUDENT: What are you doing?

STUDENT: Seeing what's wrong.

STUDENT: That's 8 plus 4 equals 12.

STUDENT: No, 12 plus 12; 24.

STUDENT: That is not 12.

STUDENT: Twenty-four. That means that P is wrong.

STUDENT: What?

STUDENT: Equals 12.

STUDENT: Wait. How did you get 24?

STUDENT: Look.

STUDENT: Oh, because you add the six and the six—

STUDENT: That, that's 12 plus 12.

STUDENT: 12 plus 12 equals 24.

STUDENT: Four—there's four, and then there's 20. Okay. We got to do a different one. If we just tilt this one up—so it's easy to do it right here.

ROBIN EVERAGE: Prove it. If you think you can, prove it.

STUDENT: Let me see if it's that. That's not what we put together.

ROBIN EVERAGE: Wait, you have to do the other side.

STUDENT: Kind of sloppy, kind of rough, because of—

STUDENT: Where's the [inaudible]?

STUDENT: I agree with you because—I agree with you because that's just like this switched around, so I agree with you.

ROBIN EVERAGE: So what are you guys doing over here? Explain what you got so far.

STUDENT: So we did it in different ways and different ways.

ROBIN EVERAGE: What do you mean different ways? Give me some math words instead of, "Different ways."

STUDENT: It's like, um—

STUDENT: We did different arrays.

ROBIN EVERAGE: How?

STUDENT: Switching them. Like, if this is, like, um, two, um, columns and, uh, six rows, then this is two rows and six columns.

ROBIN EVERAGE: Huh, okay. Finding out the—so finding the area and the perimeter there? Okay. Can you do me a favor? If you were saying that this one is, um, two—what did you say, two what?

STUDENT: Two and six.

ROBIN EVERAGE: No. What did you call the two? Did you say rows or columns?

STUDENT: Two—it'd be—two on columns.

STUDENT: It'd be two columns.

ROBIN EVERAGE: Yeah. So can you—underneath the two, could you write, "Columns"? And then underneath the six you would write—

STUDENT: Rows.

ROBIN EVERAGE: And then label that one over there. And then [inaudible] label these two whichever way it is. Okay?

STUDENT: Columns. [inaudible] The perimeter equals—the perimeter is 16.

STUDENT: 1, 2, 3; 1, 2, and 3.

ROBIN EVERAGE: How is this different from this?

STUDENT: It's different because there's—this one has six, um, six rows and this one has two rows, and this one has two columns, and this one has six columns.

ROBIN EVERAGE: And the area is still the same?

STUDENT: Yes. [inaudible] Okay, and then that will be 12.

STUDENT: [inaudible], don't do the same thing. Do this other one.