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Katie: Because the number has to end in 0.

Toni: Why is that?

Katie: Because that's what happens when you count by 10. Look, 10, 20, 30, 40... You're not going to say any number that doesn't end in 0.

Dylan: It's going to be 320. It's just like Muffles' boxes yesterday. It will be 32 tens.

Toni: Hmmm. So it sounds like you're making a prediction. *(Writes on the board: "Katie's conjecture: When we count by 10, all the numbers will end in 0. Dylan's conjecture: The 32 just moves over. It's 32 tens like Muffles' boxes.")* How many people agree with Katie and Dylan? Well, let's see what happens when we count. I'll record what people say on the board.

Toni looks for important moments when generalizing might occur. That all multiples of ten end in zero and that the number just moves over a place are two big ideas for students to develop. Rather than commenting on a generalization or trying to get all students to understand or agree with it at that moment, she poses it as an idea that the community can consider as they do the count-around. Although these ideas were discussed on Day Two, some students in the class need opportunities to ponder them again.

Developing the Context

After the minilesson, tell the students about Muffles' new predicament:

> *One day a customer comes into Muffles' shop and asks him why he only packages his truffles in boxes of ten, in two rows with five columns. "What if I want to buy more or fewer? Don't you have other sizes of boxes?" This question gets Muffles wondering: what other sizes of boxes could he make? What should he charge for them?*

☼ Introduce a new truffles box scenario and ask students to create new box designs and calculate the price of each box.

Ask students to work in pairs to design rectangular boxes (just one layer) in other sizes (all smaller than 10 × 10). Have students use graph paper with one-inch squares and cut out the rectangles as blueprints for Muffles. On the front they should record the numbers of rows and columns, for example 2 × 6 for 2 rows and 6 columns. Have them calculate the price of each box, reminding them that the truffles cost $1 each, and write the price on the back.

Behind the Numbers

These graph paper arrays can be used to develop fluency with the basic multiplication facts. As students work to calculate the price of each box, have them explore relationships between the boxes. For example, if they know a 5 × 5 box of truffles costs $25, they can lay this over a 6 × 5 box of truffles to realize that the larger box costs just $5 more. As you encourage the students to explore the relationships among their boxes, you are also supporting the development of the distributive property, showing that 6 × 5 = (5 × 5) + (1 × 5); the commutative property, showing that 2 × 6 = 6 × 2 (representing the box being turned); and the associative property, showing that (2 × 2) × 6 = 2 × (2 × 6); a 4 × 6 box is the same price as a 2 × 12 one, as a 2 × 6 section has just been moved.