

## A TEACHER REFLECTS

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The problems in this phase look deceptively easy. Many students tried to go straight to making a table and finding an expression without using manipulatives. I explained that they must first understand the problem and that making models was a valuable use of the time. They went back to the model each time they were confused about how the pattern worked.

Then there were some students who only wanted to make models. In order to entice my students to write expressions, I told them that mathematicians can be very lazy people and only want to write what is absolutely necessary, so they cut some corners when they write. For example, one might write an *l* instead of *length* to save time and paper, and still be very clear. We discussed some expressions my students were already familiar with, such as  $l \times w = A$ . By this time, drawing a table was second nature for almost every student and most were comfortable making models. I was surprised at how few mistakes I saw with the models; the students could identify visually whether the pattern was followed easily.

The major learning for this phase comes from understanding the problem well enough to generate an expression. There were no algorithms to follow. For example, one student stated the expression at the end of his work correctly, but neglected to explain fully how he had come to the answer for the first questions. He could demonstrate the math, but had some difficulty communicating his ideas on paper, which is a vital skill in the real world today.

I believe this phase helps to foster a “don’t give up” mentality. As one student put it, “Nothing can be more difficult than the garden beds, and I did it!”