Taking Math Deeper: Less is More

33. RACECAR The height of a racecar is $46\frac{7}{8}$ inches. A model of the racecar is $2\frac{7}{9}$ inches tall. About how many times greater is the height of the racecar than the height of the model?

Grade 6, Section 2.1

Look at the exercise above. It looks pretty straightforward, doesn't it? It's similar to a dozen other exercises that you have seen in a dozen other books.

Look again. The *Taking Math Deeper* feature in the Teaching Edition shows you how to use this simple estimation problem as a springboard for real learning.

1. Build intuition by seeing.
2. Build intuition by doing.

A student who simply looks at the exercise and says *"It's about 16 times bigger because 48 divided by 3 is 16"* has missed an opportunity to see and do *real* math.

We can help students by showing them how to "Take Math Deeper," even with a simple problem about a racecar.

Taking Math Deeper

Exercise 33

An important problem-solving strategy is to learn to *simplify the question*. Racecars are 3-dimensional objects, with length, height, and width. But, students are only asked to compare their heights.

Racecar is 3-D

1. Build intuition by seeing.
   Cut out paper that is $46\frac{7}{8}$ inches.
   Cut out paper that is $2\frac{7}{9}$ inches.
   How many times taller?

2. Build intuition by doing.
   Mark off how many of the smaller pieces will fit onto the larger piece.
   About 16 or 17.

3. Use compatible numbers to estimate.
   $46\frac{7}{8}$ is about 48.
   $2\frac{7}{9}$ is about 3.
   $48 \div 3 = 16$

   With a calculator, the answer is about 16.9.
   So, the height of the racecar is about 16 times greater than the model.