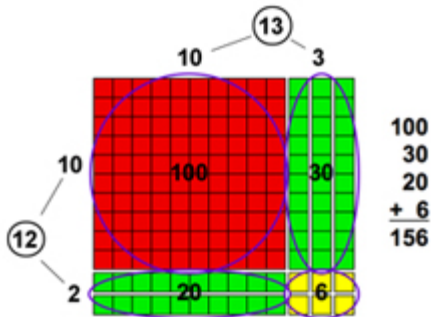
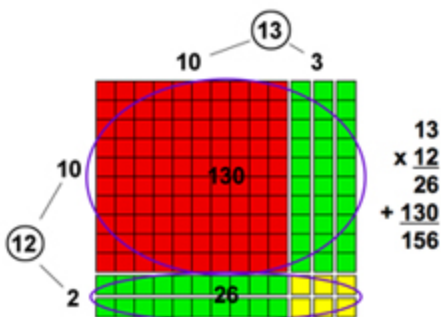


## How is Bridges different from “traditional” approaches to teaching math?

*What makes the Bridges curriculum different is 1) the extensive, careful use of visual models and 2) consistent attention to both basic skills and conceptual understanding.*

### 1. Visual Models Make New Ideas Easier to Understand and Remember.

*Many people are accustomed to seeing pictures when students are studying geometry, but Bridges helps students use pictures to understand concepts in all areas of mathematics, including algebra and computation. For example, fourth graders use rectangles to represent multi-digit multiplication problems. Although students ultimately calculate using numbers alone (either mentally, on paper, or with a calculator), the pictures help them understand why certain procedures work, and many students find it easier to remember a single picture than a set of steps.*

<p><b>Using a Picture to See Multiplication</b> <b>13 x 12</b></p>	
<p>First, students use the rectangle to multiply the ones and tens in each number and then add them to find the product.</p>	<p>Then, they see how these numbers can lead to a computational algorithm, which they practice first with pictures and numbers and then with numbers alone.</p>
 <p>The diagram shows a 13x12 grid. A large red circle highlights a 10x10 area labeled '100'. A green circle highlights a 3x10 area labeled '30'. A purple circle highlights a 10x2 area labeled '20'. A yellow circle highlights a 3x2 area labeled '6'. To the right is a vertical addition: 100, 30, 20, + 6, 156.</p>	 <p>The diagram shows the same 13x12 grid. A large red circle highlights a 10x13 area labeled '130'. A green circle highlights a 3x13 area labeled '26'. A yellow circle highlights a 3x2 area labeled '6'. To the right is a vertical multiplication: 13, x 12, 26, + 130, 156. A small asterisk is at the bottom right.</p>

### 2. Basic Skills and Conceptual Understanding Are Both Essential.

*Students must use their understanding of mathematical concepts and their mastery of computational skills when they solve almost any problem. The examples below are drawn from Grades 2–4 of Bridges in Mathematics. You’ll see that in all cases, students must apply both their conceptual understandings and their computational skills to solve the problems correctly. Because conceptual understanding and skills go hand-in-hand, Bridges teaches them together, while also offering skills practice that helps students keep their mastery of facts and procedures*

*current: this practice takes the form of games (used more frequently in the lower grades) and paper-and-pencil assignments (used more frequently in the higher grades).*

Bridges vs. "Traditional" Math Approaches:

*In a more "traditional" model of mathematics, formulas and algorithms are given to students and then practices. Most students never develop an understanding of what the math means and struggle with the application.*

**How Parents Can Support Math at Home:**

- Math Fact Fluency Practice in Addition, Subtraction and Multiplication
- Vocabulary Practice