

Math Moments!

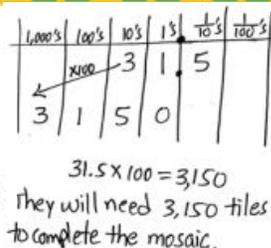
Math in a 5th grade Classroom!

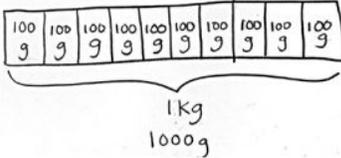
Vestal's math curriculum has a strong vertical alignment that allows our students' math understanding to be strengthened as they move through the grades. By highlighting this vertically aligned curriculum in these monthly newsletters, you will see the power in this coherency.

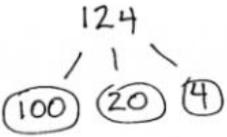
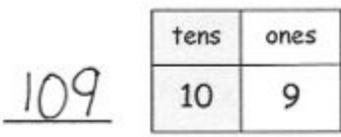
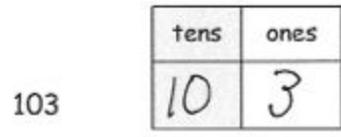
At the beginning of every newsletter, there will be a problem from a 5th grade math lesson followed by an explanation of how all the previous grades have supported this concept along the way. Enjoy!

Math Concept: Understanding Place Value and Representing Numbers

5th Grade  Jack and Kevin are creating a mosaic for art class by using fragments of broken tiles. They want the mosaic to have 100 sections. If each section requires 31.5 tiles, how many tiles will they need to complete the mosaic?



Grade	Overview	Sample Problem and Answer
4th Grade 	Building upon their previous knowledge of bundling, students learn that 10 hundreds can be composed into 1 thousand, and therefore, 30 hundreds can be composed into 3 thousands because a digit's value is 10 times what it would be one place to its right.	The school library has 10,600 books. The town library has 10 times as many books. How many books does the town library have?  The town library has 106,000 books. (1 ten thousand 6 hundreds) $\times 10 =$ 1 hundred thousand 6 thousands $= 106,000$
3rd Grade 	Students use manipulatives such as rice and liquid to build kilograms and liters and then decompose and compose to explore the relationship between these measurements using their place value understanding.	Justin put a 1-kilogram bag of flour on one side of a pan balance. How many 100-gram bags of flour does he need to put on the other pan to balance the scale?  $100g \times 10 = 1000g$ Justin has to put 10 bags of flour on the other pan to balance the scale.

<p>2nd Grade →</p>	<p>How is this learning foundational to later grades? The place value story has advanced. Along with changing 10 ones for 1 ten, students now also change 10 tens for 1 hundred. Understanding 3 tens or 3 units of 10 leads to an understanding of 3 fours or 3 units or groups of four; 3 fourths or 3 units of one-fourth and learning that 12 tens = 120 leads to an understanding of 12 tenths = 1.2, 4 thirds = $\frac{4}{3} = 1 \frac{1}{3}$, or even 4 threes = 12.</p>	<p>How many packages of 10 cookies can Collette make using 124 cookies? How many cookies does she need to complete another package of 10?</p>  <p>10 tens + 2 tens = 12 tens</p> <p>Collette can make 12 packages of 10 cookies. She needs 6 more cookies to complete another package of 10.</p>
<p>1st Grade →</p>	<p>Students extend their understanding of and skill with tens and ones to numbers to 100. For example, they mentally find 10 more, 10 less, 1 more, and 1 less and compare numbers. They then count and write numbers to 120 using both standard numerals and the unit form.</p>	 
<p>Kindergarten →</p>	<p>Students decompose two different teen numbers each into ten ones and some remaining ones. They observe that the group of 10 ones is the same for each number, thus allowing students to compare two teen numbers by comparing the remaining ones. They stand on the structure of the 10 ones and use what they know of numbers 1-9 to compare.</p>	<p>Circle 10 apples. Circle 10 oranges. Write how many are in each group. ✓ Check the group that has less.</p> 