

Math Moments!

Math in a 5th grade Classroom!

As explained in the previous math moments newsletter; Vestal's math curriculum has a strong vertical alignment that allows our students' math understanding to be strengthened as they move through the grades. Here is another example of how the place value system is strengthened through this coherency. Notice how this 5th grade problem can be solved by using understandings learned in previous grade levels.

Math Concept: Using the Base 10 and Place Value system to solve problems

5th Grade



A pen costs \$2.09. It costs \$0.45 less than a marker. Ken paid for one pen and one marker with a five-dollar bill. Use a tape diagram with calculations to determine his change.

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Pen $\boxed{\$2.09}$ $\xrightarrow{\$0.45}$

marker $\boxed{? = \$2.54}$

Left $\boxed{?}$

$\$5$

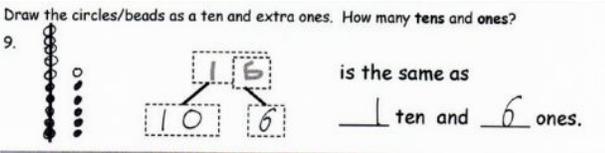
$$\begin{array}{r} \$2.09 \\ +\$0.45 \\ \hline \$2.54 \end{array}$$

$$\begin{array}{r} \$2.09 \\ +\$2.54 \\ \hline \$4.63 \end{array}$$

$$\begin{array}{r} \$5.00 \\ -\$4.63 \\ \hline \$0.37 \end{array}$$

Ken will get \$0.37 change.

Grade	Overview	Sample Problem and Answer
4th Grade 	Students in 4th grade solve addition and subtraction problems using the standard algorithm but may use the place value chart for support.	
3rd Grade 	Students revisit the standard algorithm for addition and subtraction, which was first introduced in Grade 2. They use the words bundle and rename as they add like base ten units, working across the numbers unit by unit (ones with ones, tens with tens, hundreds with hundreds). As in 4th grade, students transition away from modeling on the place value chart and move toward using the standard algorithm.	$\begin{array}{r} 56 \text{ mL} \\ + 27 \text{ mL} \\ \hline 83 \text{ mL} \end{array}$ $\begin{array}{r} 710 \\ 805 \\ - 324 \\ \hline \end{array}$

<p>2nd Grade →</p>	<p>Students apply their understanding of place value strategies to the addition and subtraction algorithm. Their understanding of vertical addition starts with concrete work with place value disks, moving to pictorial place value chart drawings, and ending with abstract calculations. Consistent use of place value disks on a place value chart strengthens students' place value understanding and helps them to systematically model the standard addition algorithm including the composition of a ten. It is important to note that the algorithm is introduced at this level and is connected deeply to the understanding of place value. However, fluency with the algorithm is a grade 4 expectation.</p>	
<p>1st Grade →</p>	<p>Students use fingers, linking cubes, dimes and pennies to represent numbers moving from using all ones to using a combination of tens and ones. They use a place value chart to organize units focusing on adding like place value units as students add two-digit numbers.</p> 	
<p>Kindergarten →</p>	<p>Kindergarten students learn to comfortably talk about 10 ones, setting the foundation for the critical Grade 1 step of understanding 1 ten. They will then separate 10 objects from within concrete and pictorial counts up to 20, analyzing the total as 10 ones and no ones or 10 ones and some ones.</p>	