

Module 1 Grade 4

In this unit your student will focus on:

- ✓ Students begin with large numbers using familiar units (hundreds and thousands) and develop their understanding of millions by building knowledge of the pattern of *times ten* in the base ten system on the place value chart.
- ✓ Students learn that each sequence of three digits is read as hundreds, tens, and ones followed by the naming of the corresponding base thousand unit (thousand, million, billion).
- ✓ 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 ten times what it would be one place to its right.
- ✓ Students learn to recognize that in a number such as 7,777 each 7 has a value that is 10 times the value of its neighbor to the immediate right. 1 thousand can be decomposed into 10 hundreds, therefore 7 thousands can be decomposed into 70 hundreds.
- ✓ Students learn multiplying by 10 will shift digits one place to the left, and dividing by 10 will shift digits one place to the right.
Ex: $3,000 = 300 \times 10$ $3,000 \div 10 = 300$
- ✓ Students learn to round to any place value initially using the vertical number line though ultimately moving away from the visual model altogether.
- ✓ Students become fluent with the standard algorithms for addition and subtraction.
- ✓ Students will apply their algorithmic knowledge to solve word problems.
- ✓ Students use a variable to represent the unknown quantity.
- ✓ Students use tape diagrams throughout the topic to model additive compare problems like the one exemplified below.
Ex: *A goat produces 5,212 gallons of milk a year. The cow produces 17,279 gallons a year. How much more milk does the goat need to produce to make the same amount of milk as a cow?*

$$17,279 - 5,212 = \underline{\hspace{2cm}}$$

The goat needs to produce more gallons of milk a year.

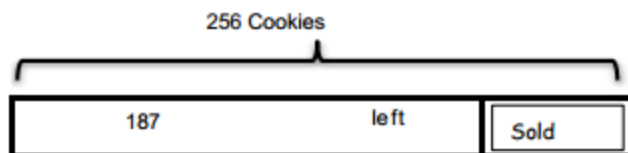
Terminology:

- ✓ Place Value Chart - The place value chart is a graphic organizer that students can use (beginning in Grade 1 with tens and ones through Grade 5 with decimals) to see the coherence of place value and operations between different units.

| Hundreds | Tens | Ones |
|----------|------|------|
| | | |

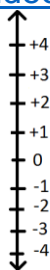
- ✓ Tape Diagram - Tape diagrams, also called bar models, are pictorial representations of relationships between quantities used to solve word problems.

Sarah baked 256 cookies. She sold some of them. 187 were left. How many did she sell?



$256 - 187 = ?$
Sarah sold $?$ cookies.

- ✓ Algorithm – a step-by-step solution to a problem
 - ✓ Vertical Number Line - The number line is used to develop a deeper understanding of whole number units, fraction units, measurement units, decimals, and negative numbers. [Video: vertical number line and rounding](#)



Activities you can do at Home:

- ✓ Ask your students to round when you make purchases at the register
- ✓ Create word problems based on family activities and have your child solve using the standard algorithm
- ✓ Play online math games on Sum Dog or do practice sets on TenMarks
- ✓ Consider reading *A Million Dots*