MATH NEWS

Grade 4, Module 1, Topic C

LAFAYETTE PARISH SCHOOL SYSTEM

4th Grade Math

Module 1: Place Value of Multi-Digit Whole Numbers

Math Parent Letter

This document is created to give parents and students a better understanding of the math concepts found in Eureka Math (© 2013 Common Core, Inc.) that is also posted as the Engage New York material which is taught in the classroom. Module 1 of Eureka Math (Engage New York) covers place value, rounding, and algorithms for addition and subtraction.

Focus Area Topic C: *Rounding Multi-Digit Whole Numbers*

Words to Know:

Rounding - approximating the value of a given number

≈ - symbol for rounding

Digit - a numeral between 0 and 9

Place value - the numerical value that a digit has by virtue of its position in a number

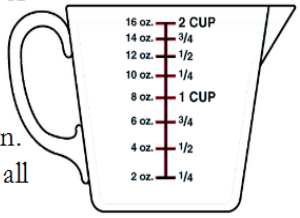
Standard form - a number written in the format: 135

Expanded form - addition sentence with the value of each digit written out e.g., 100 + 30 + 5 = 135

Word form - a number written out in words as in 135 → one hundred thirty-five

Here's something to think about!

Rounding on a vertical number line helps students build conceptual understanding because numbers are quite literally rounded up and down. We use vertical number lines all the time when cooking.



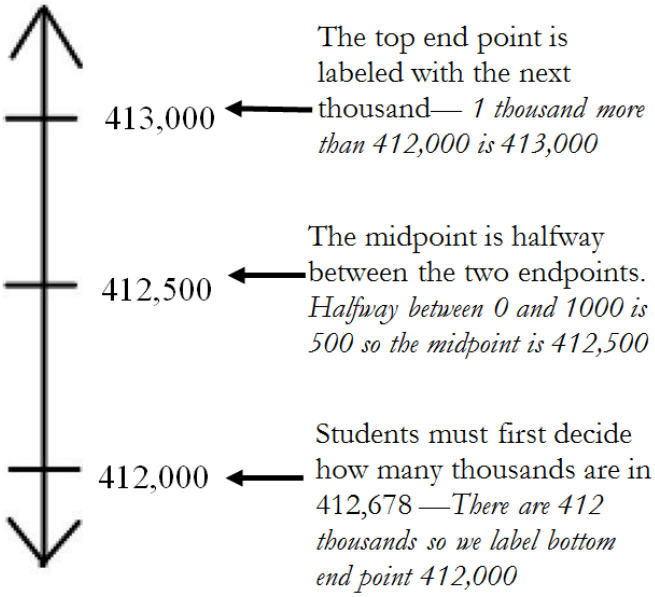
OBJECTIVES OF TOPIC C

- Round multi-digit numbers to the thousands place using the vertical number line.
- Round multi-digit numbers to any place using a vertical number line.
- Use place value understanding to round multi-digit numbers to any place value.
- Use place value understanding to round multi-digit numbers to any place value using real world applications.

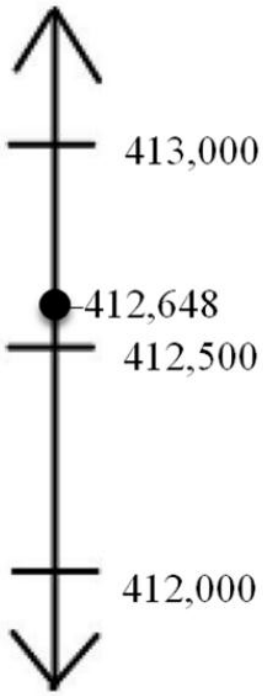
Focus Area Topic C: *Rounding Multi-Digit Whole Numbers*

Vertical Number Lines

Students will use vertical number lines to round a five- or six-digit number to the nearest thousand, ten thousand, and hundred thousand. In this example, they will round 412,648 to the nearest thousand.



After labeling the vertical number line, they place the number they are rounding on the number line. This helps them visualize which thousand the number is closer to.



Since 412,648 is above the midpoint, students can see 412,648 is closer to 413,000.

412,648 ≈ 413,000

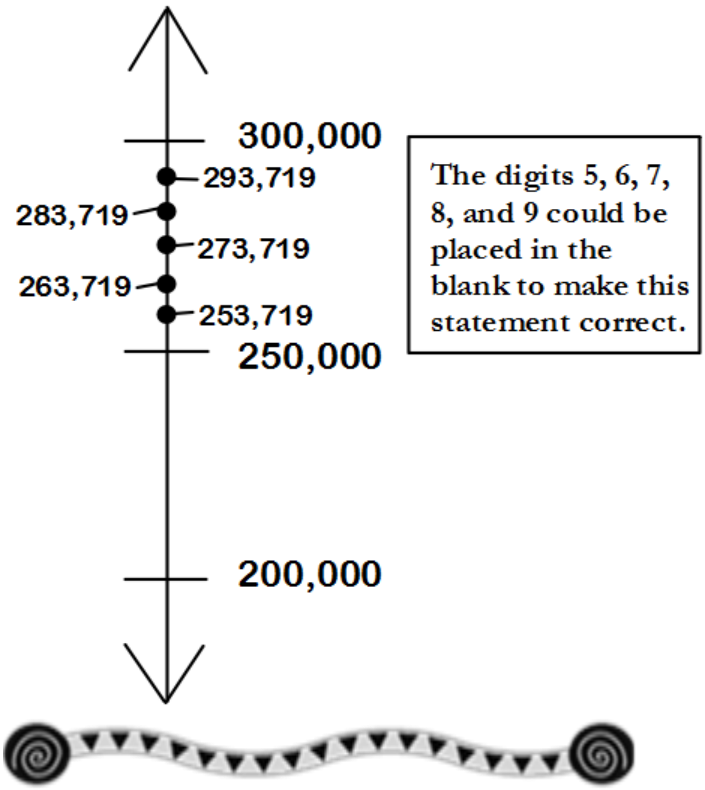
Focus Area Topic C

Rounding Multi-Digit Whole Numbers

Example Problem and Answer

List the possible digits that could go in the ten thousands place to make this statement correct.

2__3,719 ≈ 300,000



Rounding and Estimation

Students will use rounding to create estimates before adding or subtracting numbers. This will help students determine whether their answers are reasonable or not.

Example Problem and Answer

Estimate the difference by rounding each number to the given place value.

56,321 - 31,792

Round to the nearest thousand.

56,321	**56,000**
- 31,792	**- 32,000**
	24,000

Round to the nearest ten thousand.

56,321	**60,000**
- 31,792	**- 30,000**
	30,000

Rounding Mentally

Students begin rounding without the use of the vertical number line. Students will use their understanding of rounding to complete application problems. Students are developing an understanding that rounding to different units will change the value of the estimation.

Example Problem and Answer

Round 536,932 to the give place value:

Hundred Thousand	**500,000**
Ten Thousand	**540,000**
Thousand	**537,000**
Hundred	**536,900**

Understanding Rounding

Students will need to be able to determine which place they should round to in order to get the best estimate. In the following example, we see how two different students reasoned their estimates.

Example Problem and Answer

Mr. Freeze's snowball stand sold 24,932 snowballs this summer and 15,721 snowballs last summer. About how many more snowballs were sold this summer?

This student rounded to the ten thousands place and realized 0 is not an accurate estimation.

24,932 ≈ 20,000
- 15,721 ≈ - 20,000
0

This student decides to round to the nearest thousand. Her answer of 9,000 is much closer to the actual answer.

24,932 ≈ 25,000
- 15,721 ≈ - 16,000
9,000