MATH NEWS

Fifth Grade Newsletter — Summer/ Fall

Math Tips for Families — Unit 1: Place Value

Unit Overview

In this first unit of 5th grade, students will be learning about how to use place value to read, write, and compare numbers from the millions place to the thousandths place.

Big Ideas

- The positions of the digits in numbers determine what they represent and which size group they count. This is the major organizing principle of place-value numeration and is central for developing number sense
- Number sense is flexibly thinking about numbers and their relationships.

Key California Content Standards for this Unit

- Explain patterns in the number of zeros of the product when multiplying whole numbers by powers of 10
- Use place value understanding to round decimals to any place
- Explain patterns in the number of zeros the product has when multiplying a number by powers of 10
- Use exponents to represent powers of 10
- Recognize that in a multi-digit number, a digit in one place represents 10 times as much as the place to its right and as much the place to its left.

Words to Know

Place Value: the value given to a digit by its position in a number

Decimal: A number that has a digit to the tenths place, hundredths place, thousandths place, and beyond

Example: 0.254

Word Form: writing a number using words

Example: Two and sixty-seventh hundredths

Standard Form: writing a number using digits

Example: 2.67

Expanded Form: a way of writing a number as a sum of all the digits multiplied by their place value

Example: (2 x 1) + (6 x $\frac{1}{10}$) + (7 x $\frac{1}{100}$)

Example: (2 x 1) + (6 x 0.1) + (7 x 0.01)

Exponents: tells the number of times the base is multiplied by itself

Example: 10^3 = 10 x 10 x 10 = 1,000

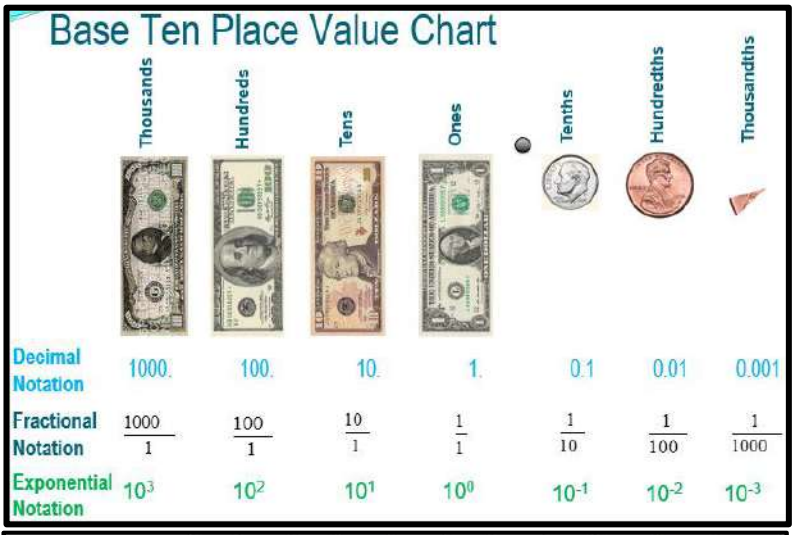
Powers of 10: 10, 100, 1,000, and beyond

Rounding: Adjusting the digits up or down to make rough calculations easier. This will be an estimated answer instead of a precise one.

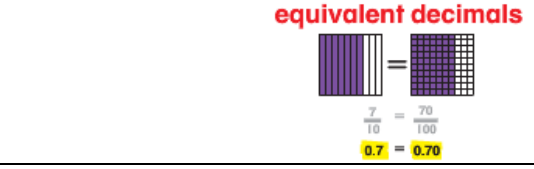
Greater than: >

Less than: <

Visual Representations

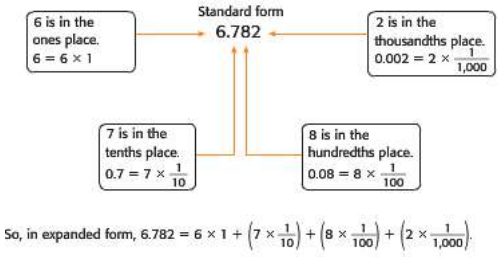


	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Units	DECIMAL POINT	Tenths	Hundredths	Thousandths
Number	1000000	100000	10000	1000	100	10	1	•	1/10	1/100	1/1000
753.25					7	5	3	•	2	5	
12345.123			1	2	3	4	5	•	1	2	3
1.232							1	•	2	3	2
3,444,222.1	3	4	4	4	2	2	2	•	1		



Application Problems and Answers

- Students represent a number in multiple forms:



Example 2:

Word Form: Twenty-five and four hundred thirteen thousandths

Standard Form: $25\frac{413}{1000} = 25.413$

Expanded Forms: (with fractions or with decimals)

$25\frac{413}{1000} = 2 \times 10 + 5 \times 1 + 4 \times \left(\frac{1}{10}\right) + 1 \times \left(\frac{1}{100}\right) + 3 \times \left(\frac{1}{1000}\right)$

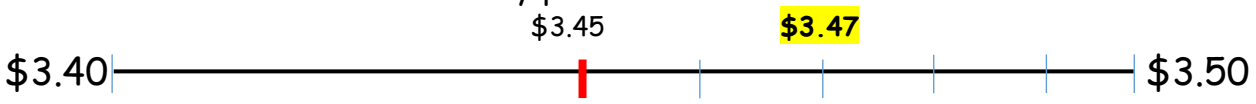
$25.413 = 2 \times 10 + 5 \times 1 + 4 \times 0.1 + 1 \times 0.01 + 3 \times 0.001$

Unit Forms:

2 tens 5 ones 4 tenths 1 hundredths 3 thousandths

25 ones 413 thousandths

- Students compare two decimals based on meaning of the digits in each place
  0.246 < 0.567 because 2 tenths **is less than** 5 tenths
- Students can round decimals to any place



The Price of a gallon of gasoline is $3.47. What would be the cost of gasoline rounded to the nearest tenths? The cost would be about $3.50 a gallon.

How You Can Help

At-Home Activity

Materials~ number cube (a die), paper, pencil

- Draw nine horizonatal lines next to each other on a piece of paper.

  _ _ _ _ _ _ _ _ _
- Roll the die and fill in any one of the lines with the digit represented on the die.
- Continue rolling until all the lines are filled
- Beginning at the far right of the lines, add commas between each set of three digits
- What number is represented?
- Repeat the process a few more times. Compare and order the numbers as you create them.

Shopping Talk  While shopping, discuss the cost of items and how you calculate.

- State the price and round to the nearest tenths or dollar. For example, a tube of play-doh may be $7.76. The price may be rounded to the nearest ten cents~ $7.80 or to the nearest whole dollar ~ $8.00.
- Collect a few items you are purchasing and round to the nearest whole dollar to estimate the total bill of your purchase. Is the estimate greater or less than the exact total?
- Gather a few items and compare prices from highest to lowest in actual cost.

Books to Read

The Grapes of Math by Greg Tang
Math Curse by Scieszka & Smith
Can You Count to a GOOGOL? by Robert Wells

Sources Used in this Newsletter

- Mc Graw-Hill Connect Ed teacher resources and My Math workbook
- California Mathematics Content Standards
- California Mathematics Framework
- Eureka Math Tips for Parents
- Lafayette Parish School System: "All Hands on Deck with Math" Topic Newsletter https://www.lpssonline.com/site5579.php