

Central Dauphin School District
 Grade 5 Math: Unit 1 Parent Letter
 Place Value & Whole Number Operations



Dear Parents,

Over the next several weeks, we will be learning about **place value** and **whole number operations** in math! The information below will help you to support your child as they learn these exciting, yet important fifth grade math skills.

The GOAL:

By the end of the unit, your child should be able to understand **how place values are related** and **multiply and divide whole numbers**.

Place Value

Students must be able to understand how place values are related.

Thousands			Ones		
Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
4	6	7	8	9	2
$4 \times 100,000$	$6 \times 10,000$	$7 \times 1,000$	8×100	9×10	2×1
400,000	60,000	7,000	800	90	2

You can use place-value chart and patterns to write numbers that are 10 times as much as or $\frac{1}{10}$ of any given number.

Each place to the right is $\frac{1}{10}$ of the value of the place to its left.

	$\frac{1}{10}$ of the hundred thousands place	$\frac{1}{10}$ of the ten thousands place	$\frac{1}{10}$ of the thousands place	$\frac{1}{10}$ of the hundreds place	$\frac{1}{10}$ of the tens place
Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
10 times the ten thousands place	10 times the thousands place	10 times the hundreds place	10 times the tens place	10 times the ones place	

Each place to the left is 10 times the value of the place to its right.

Find $\frac{1}{10}$ of 600. \rightarrow $\frac{1}{10}$ of 6 hundreds is 6 tens. So, $\frac{1}{10}$ of 600 is 60.

Find 10 times as much as 600. \rightarrow 10 times as much as 6 hundreds is 6 thousands. So, 10 times as much as 600 is 6,000.



Multiply and Divide Whole Numbers

Students must be able to multiply and divide whole numbers. Students will learn a variety of ways to multiply and divide and your child will be able to pick the strategy that they feel most comfortable with using when solving problems. Below are some examples of the ways your child will learn how to multiply and divide.

Traditional Multiplication

$$\begin{array}{r} 14 \\ 218 \\ \times \quad 6 \\ \hline 1,308 \end{array}$$

$$218 \times 6 = 1,308$$

Partial Products Multiplication

$$\begin{array}{r} 218 \\ \times \quad 6 \\ \hline 48 \text{ (} 6 \times 8 \text{ ones)} \\ 60 \text{ (} 6 \times 1 \text{ ten)} \\ 1,200 \text{ (} 6 \times 2 \text{ hundreds)} \\ \hline 1,308 \end{array}$$

$$218 \times 6 = 1,308$$

Traditional Division

$$\begin{array}{r} 17R1 \\ 5 \overline{)86} \\ - 5 \downarrow \\ \hline 36 \\ - 35 \\ \hline 1 \end{array}$$

$$86 \div 5 = 17R1$$

Partial Quotients Division

$$\begin{array}{r} 17R1 \\ 5 \overline{)86} \\ \underline{50} \quad 10 \text{ (} 5 \times 10 \text{)} \\ \underline{36} \\ \underline{25} \quad 5 \text{ (} 5 \times 5 \text{)} \\ \underline{11} \\ \underline{10} \quad + 2 \text{ (} 5 \times 2 \text{)} \\ \underline{1} \quad 17 \end{array}$$

$$86 \div 5 = 17R1$$

Grade 5 Math: PA Core Math Standards in Unit 1

CC.2.1.5.B.1: Apply place-value concepts to show an understanding of operations and rounding as they pertain to whole numbers and decimals.

-- KEY MATH VOCABULARY --

Base: A number used as a repeated factor.

Distributive Property: The property that states that multiplying a sum by a number is the same as multiplying each addend by the number and then adding the products.

Exponent: A number that shows how many times the base is used as a factor.

Factor: A whole number that can divide another whole number with no remainder.

Inverse Operations: Operations that undo each other, such as addition & subtraction and multiplication & division.

Multiply: When you combine equal groups, you can multiply to find how many in all, the inverse of division.

Period: A group of three related place values separated by commas.

Place Value: The value of the place a digit holds in a number.

Product: The results of when one number is multiplied by one or more numbers.

Quotient: The result when one number is divided by another number.