



Dear Parents,

Over the next several weeks, we will be learning about **place value** and **decimal 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 **add, subtract, multiply, and divide decimals**.

Place Value

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

Ones			.			
Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths
8	9	2	.	3	1	5
8×100	9×10	2×1	.	3×0.1	1×0.01	5×0.001
800	90	2	.	0.3	0.01	0.005

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 tens place	.	$\frac{1}{10}$ of the ones place	$\frac{1}{10}$ of the tenths place	$\frac{1}{10}$ of the hundredths place
Tens	One	.	Tenths	Hundredths	Thousandths
10 times the ones place	10 times the tenths place	.	10 times the hundredths place	10 times the thousandths place	

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

Find $\frac{1}{10}$ of 0.6. $\rightarrow \frac{1}{10}$ of 6 tenths is 6 hundredths. So, $\frac{1}{10}$ of 0.6 is 0.06.

Find 10 times as much as 0.6. \rightarrow 10 times as much as 6 tenths is 6 ones. So, 10 times as much as 0.6 is 6.0.



Add and Subtract Decimals

Students must be able to add and subtract decimals. Always remember to align numbers on the decimal point when adding and subtracting decimals. That way, you are adding the same place values.

Multiply and Divide Decimals

Students must be able to multiply and divide decimals. Making an estimate before calculating will help know where the decimal point goes in the answer. After multiplying, students can count the number of decimal places in each factor. After dividing, the students can carry the decimal point straight up.

Adding Decimals

$$2.18 + 6.2$$

To line up the decimal points, you must add a zero so each number is the same length of digits.

$$\begin{array}{r} 2.18 \\ + 6.20 \\ \hline 8.38 \end{array}$$

$$2.18 + 6.2 = 8.38$$

Subtracting Decimals

$$72.6 - 1.2$$

Make sure to line up the decimal points.

$$\begin{array}{r} 72.6 \\ - 1.2 \\ \hline 71.4 \end{array}$$

$$2.18 + 6.2 = 8.38$$

Multiplying Decimals

$$3.2 \times 4.17$$

Estimate: $3 \times 4 = 12$

$$\begin{array}{r} 2 \\ \times \\ 4.17 \\ \times 3.2 \\ \hline 834 \\ +12510 \\ \hline 13.334 \end{array}$$

Use the estimate to place the decimal point.

$$3.2 \times 4.17 = 13.344$$

Dividing Decimals

$$8.5 \div 5$$

Estimate: $10 \div 5 = 2$

$$\begin{array}{r} 1.7 \\ 5 \overline{)8.5} \\ -5 \downarrow \\ \hline 35 \\ -35 \\ \hline 0 \end{array}$$

Use the estimate to place the decimal point.

$$8.5 \div 5 = 1.7$$

Grade 5 Math: PA Core Math Standards in Unit 1

CC.2.1.5.B.2: Extend an understanding of operations with whole numbers to perform operations including decimals.

-- KEY MATH VOCABULARY --

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.

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.