



Dear Parents,



Over the next several weeks, we will be learning about **division** and **multi-step problems** using the **order of operations** in math! The information below will help you to support your child as they learn these exciting, yet important third grade math skills.

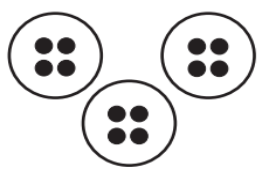
The GOAL:

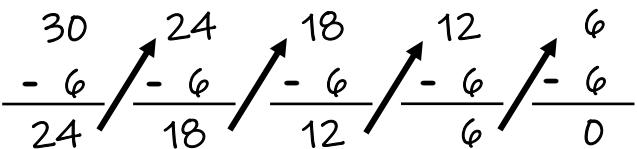
By the end of the unit, your child should be able to **relate multiplication to division** and **find the quotients of whole numbers**. They should also be able to **solve two-step word problems** and **equations using the four operations**.

Help your child learn about division strategies:

Students will learn a variety of ways to 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 strategies your child will learn to divide.

<p style="text-align: center;">Arrays</p> <p style="text-align: center;">$10 \div 2 = 5$</p> <p style="text-align: center;">2 rows of 5</p> 	<p style="text-align: center;">Bar Models</p> <p style="text-align: center;">$15 \div 3 = 5$</p>  <p style="text-align: center;">15</p>
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<p style="text-align: center;">Equal Groups:</p> <p style="text-align: center;">$12 \div 4 = 3$</p> <p style="text-align: center;">3 groups of 4</p>	
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<p style="text-align: center;">Repeated Subtraction:</p> <p style="text-align: center;">$30 \div 6 = 5$</p>	
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Help your child solve multi-step word problems:

When solving word problems, students must be able to read the problem and pull out the key information. Here are some steps to support your child:

1. Read the problem.
2. Determine what the problem is asking.
3. Identify the operation(s) that you need to use.
4. Find the important information and eliminate any unnecessary information.
5. Solve the problem & check your work.

Josh bought 2 packs of gum. Each pack had the same amount of gum. He gave 4 pieces away. Now he has 16 pieces left. How many pieces of gum were in each pack?

“Step 3” – “He gave 4 away” confirms you will need to subtract. “How many were in each pack” shows we must work backwards (use inverse operations to find the unknown).

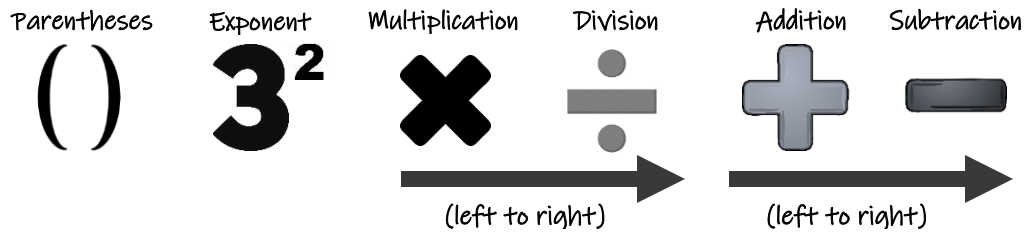
“Step 4” – In this problem, all of the information is important.

“Step 5” – Work backwards to solve the problem!

$16 + 4 = 20$	(How many pieces he started with)
$20 \div 2 = 10$	(How many pieces in each pack)



PEMDAS



To evaluate an expression you must use the order of operations.

Evaluate the expression: $(3 + 3) \times 4 \div 2$

Step 1: Start with the computations inside the parentheses. $\rightarrow 3 + 3$

Step 2: Rewrite the expression with the parentheses evaluated. $\rightarrow 6 \times 4 \div 2$

Step 3: Multiply and divide from left to right. $\rightarrow 6 \times 4 = 24$ then $24 \div 2 = 12$

So, $(3 + 3) \times 4 \div 2 = 12$

Grade 3 Math: PA Core Math Standards in Unit 2

CC.2.2.3.A.1: Represent and solve problems involving multiplication and division.

CC.2.2.3.A.2: Understand properties of multiplication and the relationship between multiplication and division.

CC.2.2.3.A.3: Demonstrate multiplication and division fluency.

CC.2.2.3.A.4: Solve problems involving the four operations, and identify and explain patterns in arithmetic.

CC.2.1.3.B.1: Apply place-value understanding and properties of operations to perform multi-digit arithmetic.

-- KEY MATH VOCABULARY --

Order of operations: the rules that specify the order in which operations are performed when more than one operation is required.

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

Unknown: A Missing value in an expression or equation.

Inverse operations: Opposite operations that undo each other. For example, addition and subtract are inverse operations. Multiplication and division are also inverse operations.