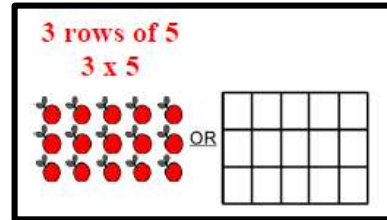


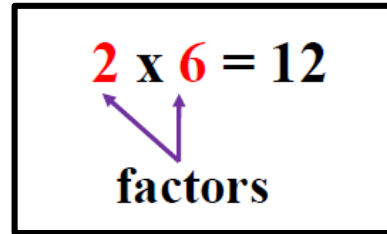
# Multiplication Skills

## 1. VOCABULARY

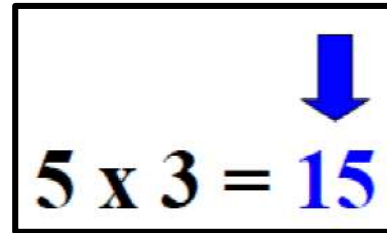
**array** – an arrangement of objects in equal rows to represent multiplication



**factor** – the whole numbers that are multiplied to get a product



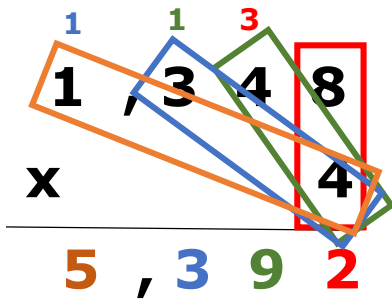
**product** – the answer to a multiplication problem



## 2. Understand the properties of multiplication.

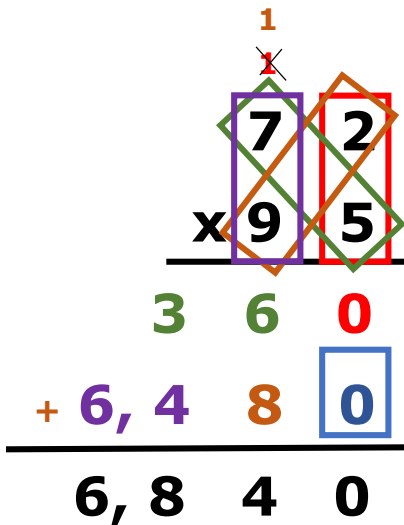
<p style="text-align: center;"><b>Commutative Property</b></p> <p><i>You can multiply the factors in any order, and the product will remain the same.</i></p> <p><b>Example:</b>     <math>5 \times 4 = 20</math>                        <math>4 \times 5 = 20</math></p>	<p style="text-align: center;"><b>Associative Property</b></p> <p><i>You can group the factors in different ways, and the product will remain the same.</i></p> <p><b>Example:</b>     <math>(3 \times 4) \times 2 = 24</math>                            <math>3 \times (4 \times 2) = 24</math></p>
<p style="text-align: center;"><b>Distributive Property</b></p> <p><i>A multiplication fact can be broken into the sum of two other multiplication facts.</i></p> <p><b>Example:</b>     <math>7 \times 4 = (5 \times 4) + (2 \times 4)</math></p>	<p style="text-align: center;"><b>Identity Property</b></p> <p><i>The product of any number and one, is that number.</i></p> <p><b>Example:</b>     <math>3 \times 1 = 3</math></p>
	<p style="text-align: center;"><b>Zero Property</b></p> <p><i>The product of any number and zero is zero.</i></p> <p><b>Example:</b>     <math>8 \times 0 = 0</math></p>

3. Multiply a whole number (up to four digits) with a one-digit whole number.



1.  $4 \times 8 = 32$
2.  $4 \times 4 = 16 + 3 = 19$
3.  $4 \times 3 = 12 + 1 = 13$
4.  $4 \times 1 = 4 + 1 = 5$

4. Multiply a two-digit number times a two-digit number.



1.  $5 \times 2 = 10$
2.  $5 \times 7 = 35 + 1 = 36$
3. Add a zero in the ones place  
(since you will now multiply in the tens place)
4.  $9 \times 2 = 18$  (cross out the 1 from step 1)
5.  $9 \times 7 = 63 + 1 = 64$
6. Add

5. Represent a multiplication equation with a verbal statement. Represent a verbal statement with a multiplication equation.

$35 = 5 \times 7$	is the same as	35 is 5 times as much as 7
$24 = 8 \times 3$	is the same as	24 is 8 times as much as 3

*This shows that the product of a multiplication problem shows that we are grouping numbers together. So, 35 would equal 5 groups of 7 OR 7 groups of 5.*

*\*\*These are the basic understandings that your child should be learning in Chapter 3. However, they will need to apply these skills to more challenging problems, as well as in word problems.*