

# Unit 1 : Number Relationships & Fluency

5<sup>th</sup> grade

Dear 5<sup>th</sup> grade families,

Welcome back to school! What an exciting time to be in 5<sup>th</sup> grade! We will be learning many new concepts this year and will see lots of new strategies to help us become mathematically proficient students as we implement the Common Core State Standards for Mathematics. This overview will be coming with each new unit of study to let you know at home what we will be learning in school and how you can help support your child at home.

## **Focus Summary :**

Students will build fluency with addition, subtraction, multiplication and division facts of single digit numbers. Students will then apply this knowledge of facts to order of operations and application to real-life scenarios. Students will gain an understanding of the operations and their application in solving problems.

## **Essential Skills:**

- *Fact Fluency (+, -, x, /)*
- *Evaluating expressions*
- *Order of Operations*
- *Exponents*
- *Operation strategies with multi-digit numbers*

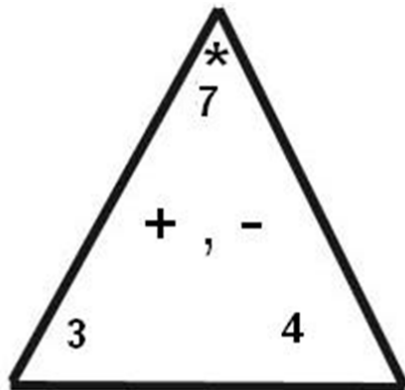
## **Unit Vocabulary :**

addition	number form
base	operation
brace	operator
bracket	order of operations
equation	parentheses
evaluate	PEMDAS
expression	place value
exponent	power
exponential notation	
factor	relationship
grouping symbols	simplify
justify	solve
multiplication	word form

## How can I help my child practice their math facts?

- **Flash cards** – On index cards, write a problem on the front with the answer on the back. Flash the problem to your child and have them say the solution. Quick recall should occur within 3 seconds. As you child learns the facts, separate the cards into “Knows” and “Needs to Practice” piles so they continue to focus on those facts he/she still needs to learn, but also reviews the facts they already know.
- **Fact Triangles** – These are a form of flash cards that also reinforce fact families. Used similarly to flash cards, simply cover one corner to hide a number in the fact family. Your child should then identify the covered number by naming the fact family.

○ **Example :**



**Addition and Subtraction  
Fact Triangle**

MathATube.com

### **Additional Resources :**

- Multiplication practice :  
<http://www.multiplication.com/games/>
- Timez attack :  
<http://www.bigbrainz.com/Downloads.html>
- Number Invaders :  
[http://www.mathplayground.com/balloown\\_invaders.html](http://www.mathplayground.com/balloown_invaders.html)
- Math Magician game :  
<http://resources.oswego.org/games/mathmagician/cathymath.html>

# Multiplication Strategies

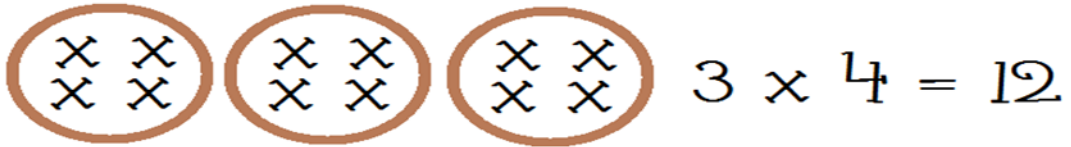
## Array

rows with equal amount in each



$$3 \times 4 = 12$$

## Equal Groups



$$3 \times 4 = 12$$

3 groups with 4 in each group

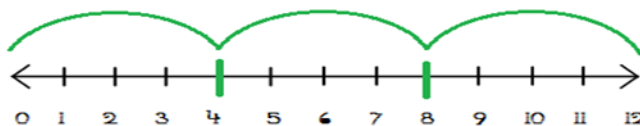
## Repeated Addition

$$4 + 4 + 4 = 12$$

$$3 \times 4 = 12$$

## Number Line

A bird hops 4 cm each time,  
Where does it land?



The bird lands at 12 cm

1 hop of 4 = 4

2 hops of 4 = 8

3 hops of 4 = 12

## Division Fact Strategies

### DIVISION STRATEGIES

1. Use your multiplication facts and fact families.

$$28 \quad 7 = ?$$

I know that  $7 \times 4 = 28$  so  $28 \div 7 = 4$

2. Use skip counting.

$$30 \quad 5 = ?$$

5, 10, 15, 20, 25, 30 That is 6 fives so  $30 \div 5 = 6$



3. USE REPEATED SUBTRACTION.

$$18 \quad 6 = ?$$

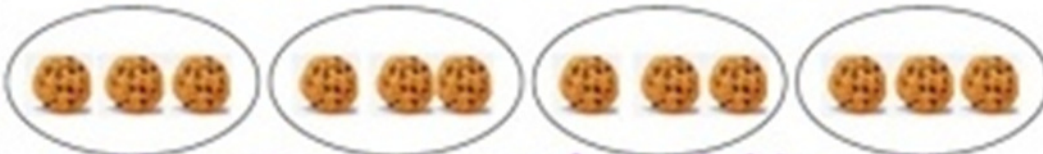
$$18 - 6 = 12 - 6 = 6 - 6 = 0$$

6 COULD BE SUBTRACTED 3 TIMES SO  $18 \div 6 = 3$

4. Draw a picture.

$$12 \quad 4 = ?$$

There are 12 in all and 4 groups.



After I passed out the 12,  
I can see 3 in each group so  $12 \div 4 = 3$