

# Division

Grade 4 Nose Creek School


$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

# What is Division?

- ▶ “Division is sharing or grouping a number into equal parts.”

-A Maths Dictionary for Kids

Okay, so it's a math equation that breaks down a bigger number into smaller, equal parts.

$$\begin{array}{r} 15 \\ \hline \end{array} \div \begin{array}{r} 5 \\ \hline \end{array} = \underline{\hspace{2cm}}$$


Fun Fact: The answer to a division question is called a quotient!

1 2 3 4 5 6

$$30 - 5 - 5 - 5 - 5 - 5 - 5 = 0$$

You might need a few groups...

...or you might need a lot.

$$30 \div 5 = \underline{\hspace{2cm}}$$

Unlike multiplication, when we were done when we got to our big number, we make groups until we have no more left, and then count to see what we have.

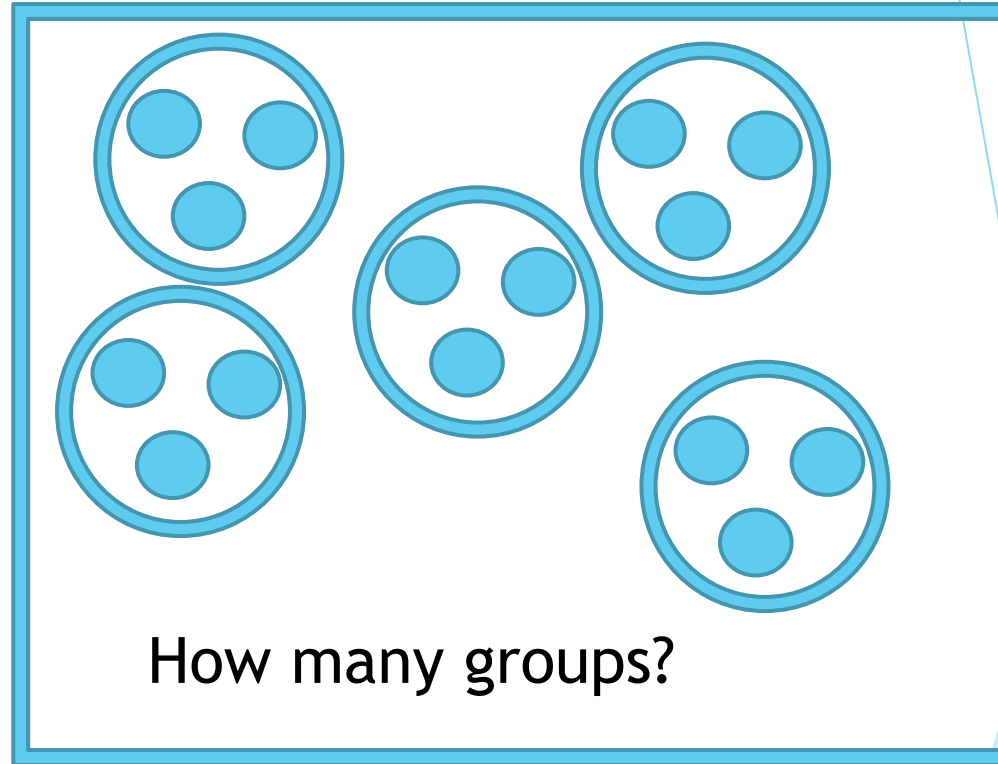
It might look tricky, but you've probably seen division before.

$$\frac{15}{\uparrow} \div \frac{3}{\uparrow} = \frac{\quad}{\uparrow}$$

The total number of items you have.

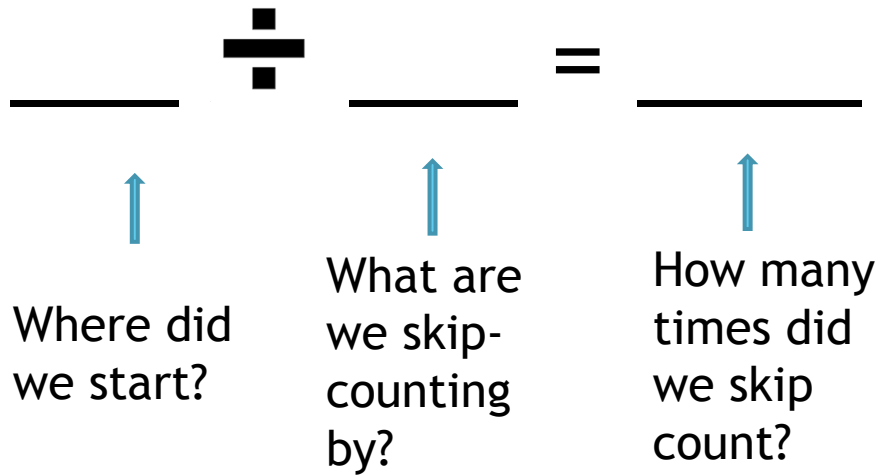
How many are in each group?

How many groups do you have?



Any time you make groups of the same size from a big total, you are dividing!

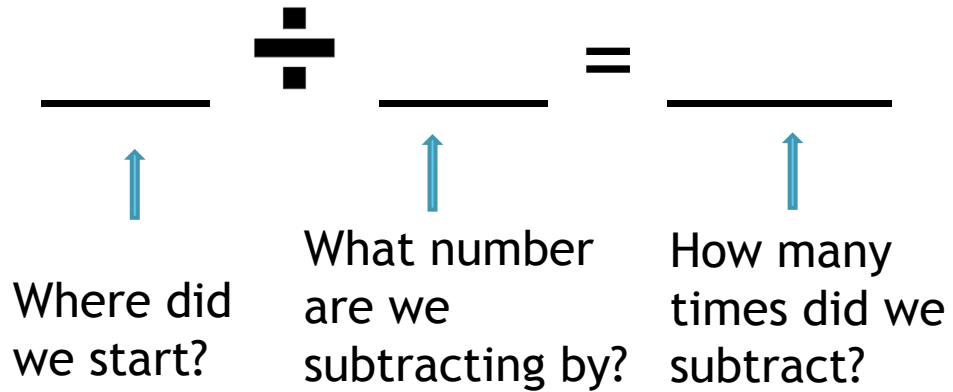
It might look tricky, but you've probably seen multiplication before.



Let's skip-count backwards by three, from 15.

Any time you make groups of the same size from a big total, you are dividing!

It might look tricky, but you've probably seen multiplication before.



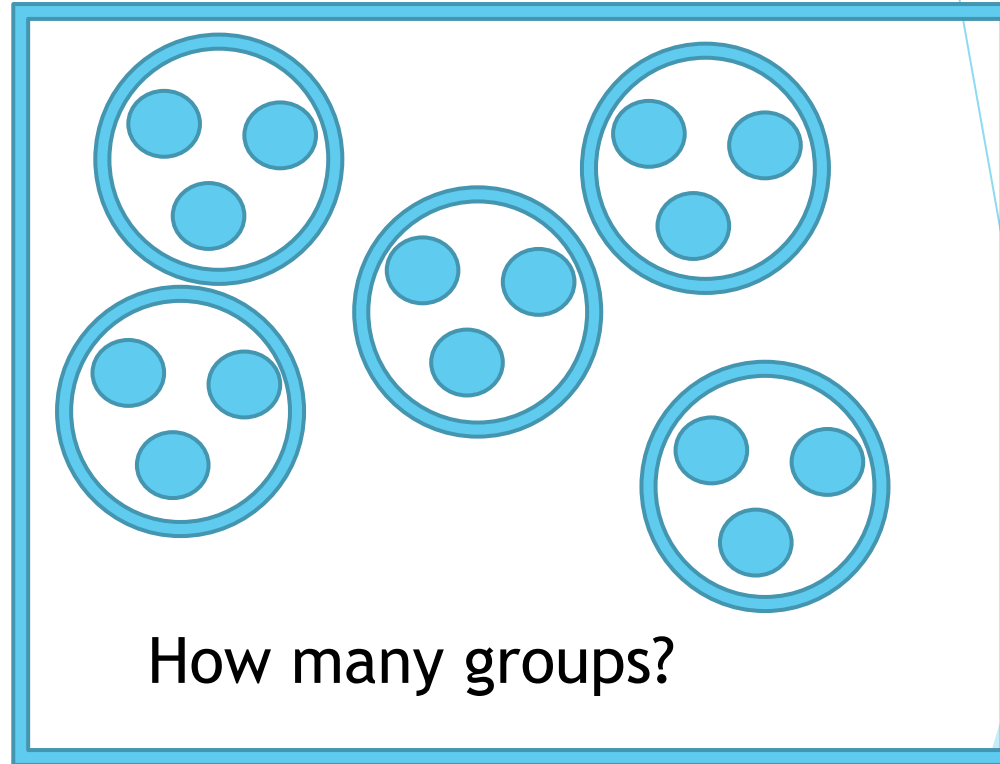
$$15 - 3 - 3 - 3 - 3 - 3 = 0$$

Any time you make groups of the same size from a big total, you are dividing!

It might look tricky, but you've probably seen multiplication before.

$$\begin{array}{cccccc} 1 & 2 & 3 & 4 & \underline{5} & \\ 15 & - 3 & - 3 & - 3 & - 3 & - 3 = 0 \end{array}$$

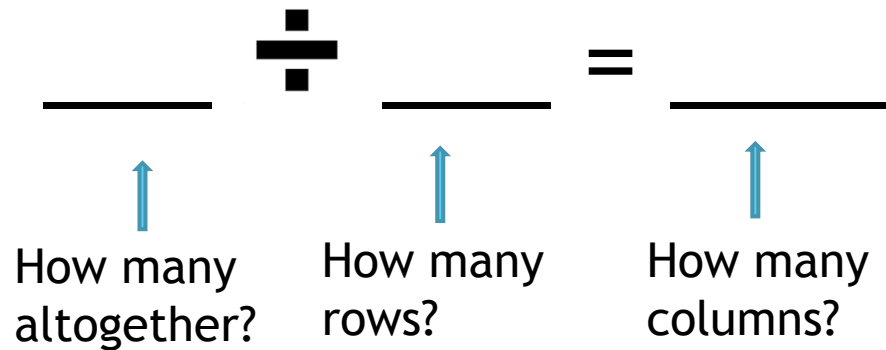
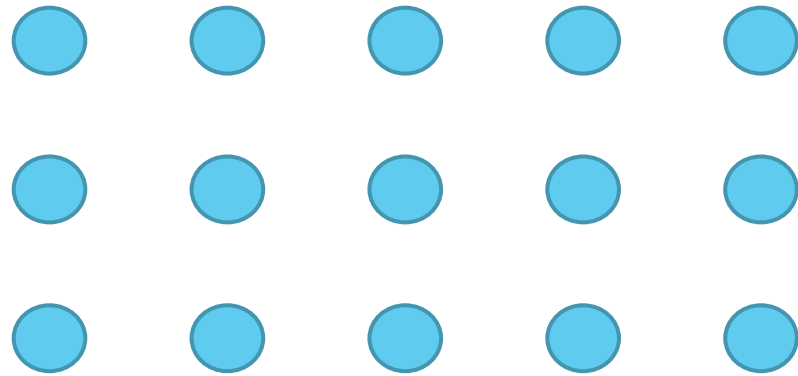
Let's skip-count backwards by three, from 15.



Any time you make groups of the same size from a big total, you are dividing!

Let's Practice!

# Could this also be division?





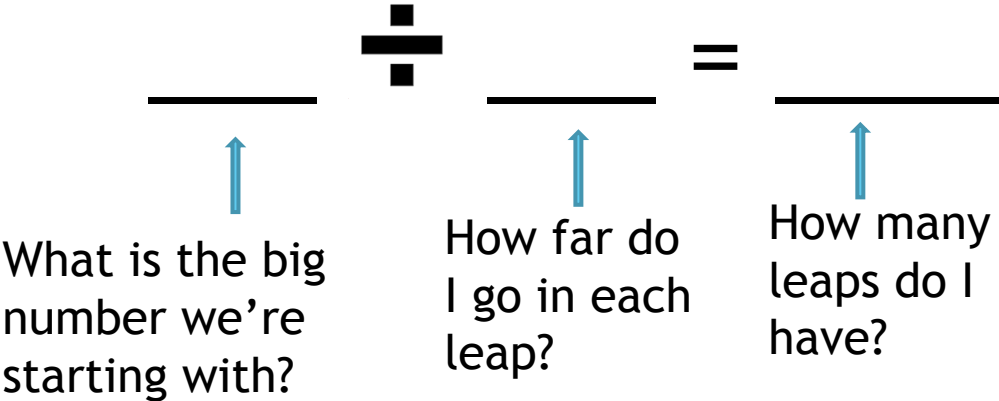
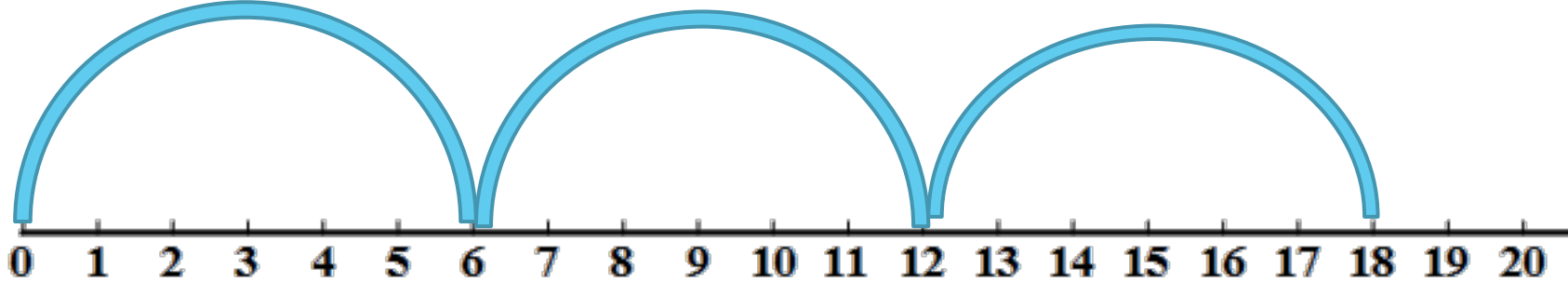
# What about this?

10				
2	2	2	2	2

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

What's our big number?      What is in each box?      How many boxes?

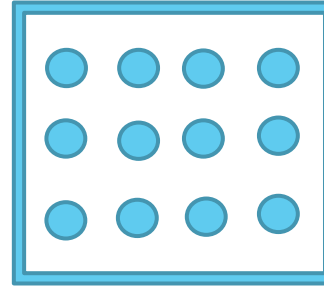
# What about this?



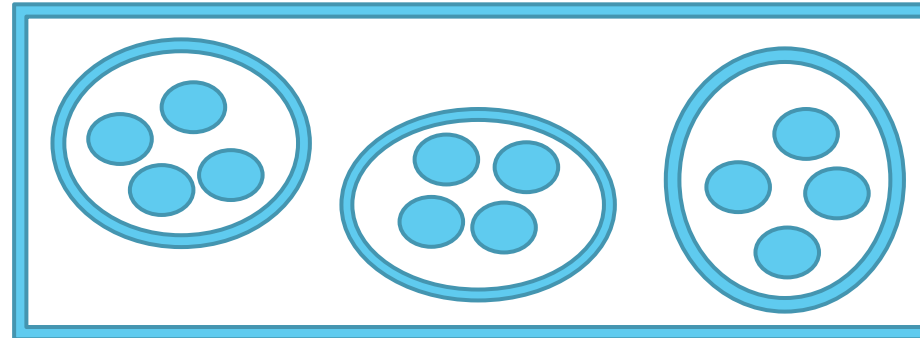
# Multiply - Combine Equal Groups

There are many ways to think of multiplying!

$$12 \div 4 = 3$$



12		
4	4	4

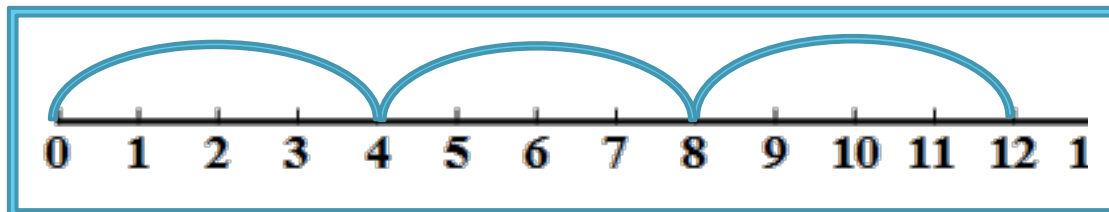


1.)  $12 - 4 = 8$

2.)  $8 - 4 = 4$

3.)  $4 - 4 = 0$

We had to subtract 4 three times to get to zero.



Let's Practice!



# DIVIDE

÷ divide into  
equal groups  
(share equally)

dividend    divisor    quotient

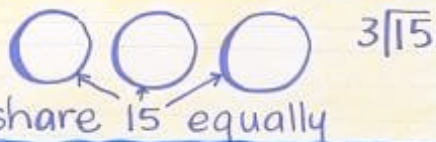
$$\boxed{15} \div \boxed{3} = \boxed{5}$$

15		
?	?	?

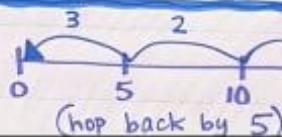
$$3 \overline{)15} \quad \begin{matrix} 5 \\ 3 \overline{)15} \end{matrix}$$



15 split into 3 rows



$$\begin{array}{r} 15 \\ -5 \\ \hline 10 \end{array} \quad \begin{array}{r} 10 \\ -5 \\ \hline 5 \end{array} \quad \begin{array}{r} 5 \\ -5 \\ \hline 0 \end{array} \quad \text{Repeated Subtraction}$$

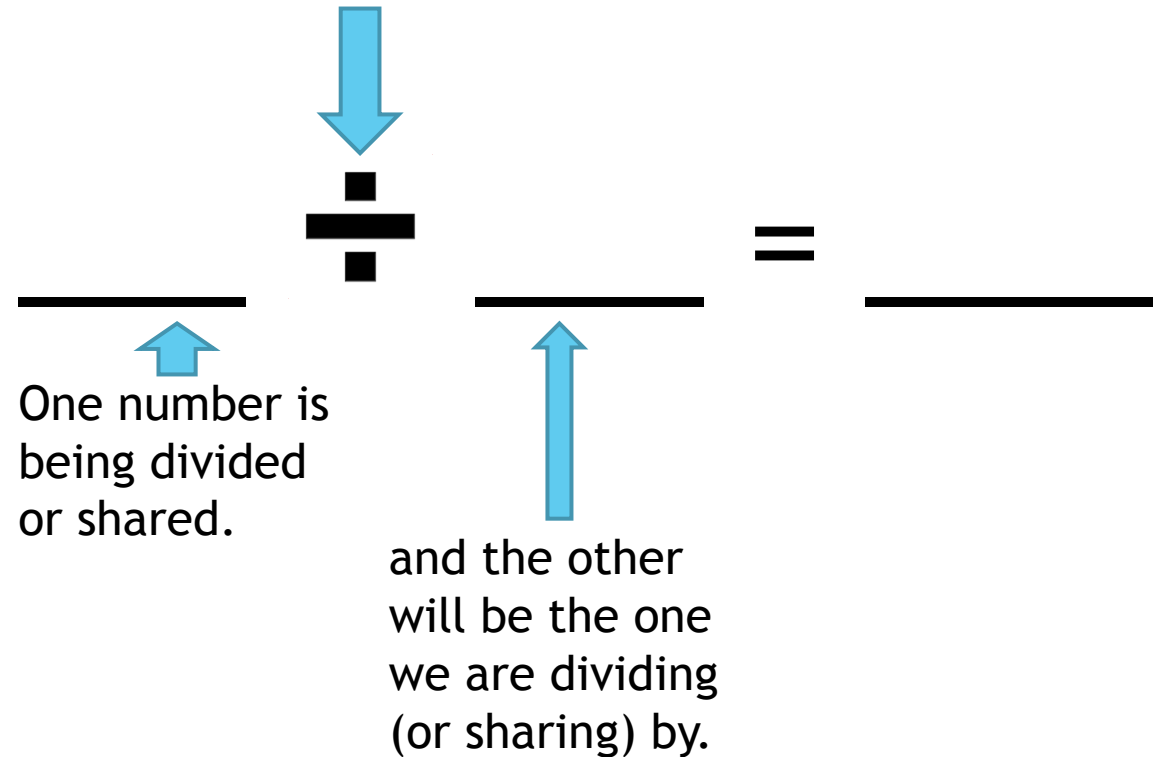


# Looking and Listening for Division

How to find division in word problems

# Review: what does division look like?

In an equation, the symbol for division is  $\div$ .



(In division, it REALLY matters which number is first, similar to subtraction. Be careful about putting your numbers in the right order.)



# Saying and Seeing Division

When we talk about division, you might hear:

“divided by”

In written word problems, you might have to look for other hints:

“into groups of”

“into bags of”

“put into rows of”

“five in each box”

“share”

“separate”

“half”

- ▶ Darwin has two dogs, and eight treats. He wants to make sure that each dog gets the same number of treats after dinner. How many treats will he give to each dog?

- ▶ There is a store that sells piece of gum in packages of 8 pieces. Henry buys a package and shares them equally between himself and three of his friends. How many pieces of gum did they each get?

- ▶ Robert has 18 flowers to put into six vases for his friends. How many flowers are in each vase?

- ▶ If I need to do 45 minutes of reading between Friday, Saturday, and Sunday, how many minutes could I read each day to divide the work equally?

- ▶ Sam went to the fair and won 35 marbles in every colour of the rainbow. They noticed that they had been given the same number of marbles in each color. How many red marbles did Sam get?



# Fun Math Activities

- ▶ Websites from Baker that Students can use for practice
- ▶ <https://www.multiplication.com/games/all-games>
- ▶ <https://www.timestables.com/games/>
- ▶ [https://www.mathplayground.com/index\\_multiplication\\_division.html](https://www.mathplayground.com/index_multiplication_division.html)
- ▶ <https://www.mathsisfun.com/timestable.html>
  
- ▶ <https://www.nctm.org/Classroom-Resources/Illuminations/Interactives/Factor-Game/>



# Program of studies outcomes for division:

## **Specific Outcome 4**

- Apply the properties of 0 and 1 for multiplication and the property of 1 for division.

## **Specific Outcome 5**

- Describe and apply mental mathematics strategies to determine basic multiplication facts to  $9 \times 9$  and related division facts.
- Understand and apply strategies for multiplication and related division facts to  $9 \times 9$ . Recall multiplication and related division facts to  $7 \times 7$ .

## **Specific Outcome 7**

- Demonstrate an understanding of division (1-digit divisor and up to 2-digit dividend) to solve problems by: using personal strategies for dividing with and without concrete materials estimating quotients relating division to multiplication.