

MULTIPLICATION

Grade 4 Nose Creek School

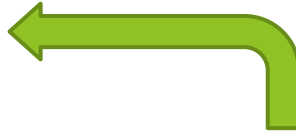
$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

What is Multiplication?

- ▶ “A mathematical operation where a number is added to itself a number of times.”

-A Maths Dictionary for Kids

Okay, so it's a math equation that adds any number to itself.

$$\underline{\quad 5 \quad} + \underline{\quad 5 \quad} = \underline{\quad \quad}$$


Fun Fact: The answer to a multiplication question is called a product!



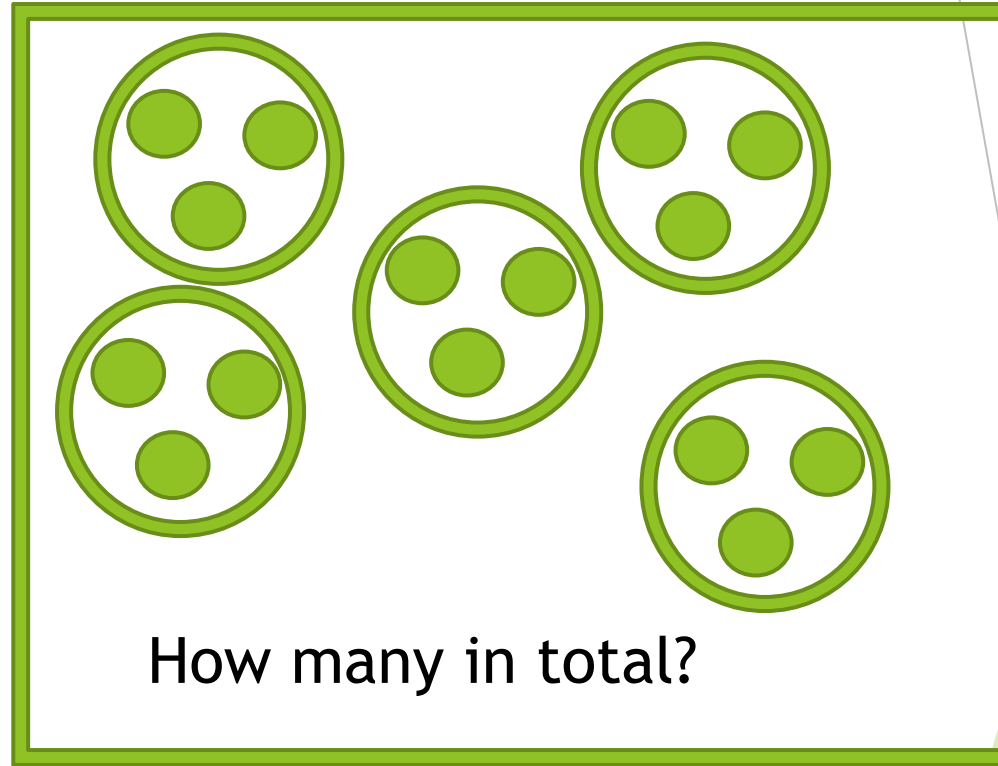
$$\underline{\quad \quad} + \underline{\quad \quad} + \underline{\quad \quad} + \underline{\quad \quad} + \underline{\quad \quad} + \underline{\quad \quad} + \underline{\quad \quad} + \underline{\quad \quad} = \underline{\quad \quad}$$

It might be added to itself once...

...or it could be added to itself many times.

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

$$\begin{array}{ccc} \underline{\hspace{2cm}} & \mathbf{\times} & \underline{\hspace{2cm}} & = & \underline{\hspace{2cm}} \\ \uparrow & & \uparrow & & \uparrow \\ \text{How many} & & \text{How many} & & \text{The total} \\ \text{are in each} & & \text{groups do} & & \text{number of} \\ \text{group?} & & \text{you have?} & & \text{items you} \\ & & & & \text{have.} \end{array}$$



Any time you put groups of the same size together, you are multiplying!

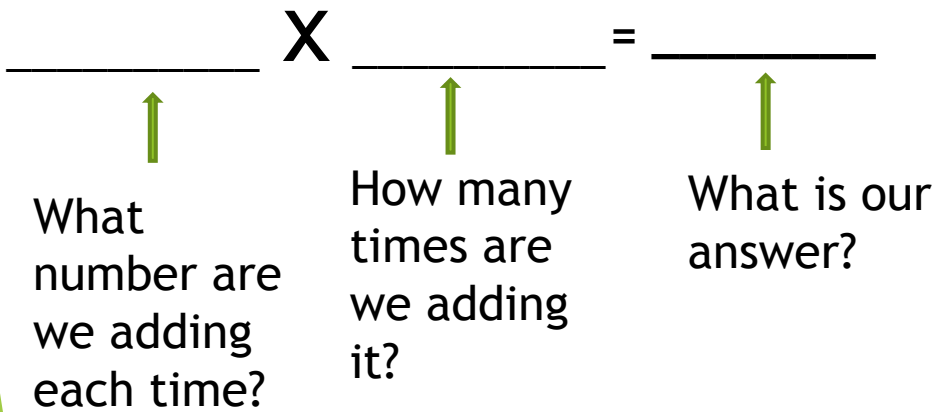
It might look tricky, but you've probably seen multiplication before.

$$\begin{array}{ccc} \underline{\hspace{2cm}} & \times & \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\ \uparrow & & \uparrow \\ \text{What are} & & \text{How many} \\ \text{we skip-} & & \text{times did} \\ \text{counting} & & \text{we skip} \\ \text{by?} & & \text{count?} \\ & & \uparrow \\ & & \text{Where did} \\ & & \text{we end up?} \end{array}$$

Let's skip-count by three,
five times.
What did we end with?

Any time you put groups of the same size together, you are multiplying!

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



$3 + 3 + 3 + 3 + 3 = \underline{\quad}$

Any time you put groups of the same size together, you are multiplying!

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

$$3 + 3 + 3 + 3 + 3 = \underline{\hspace{2cm}}$$

Let's skip-count by three,
five times.
What did we end with?

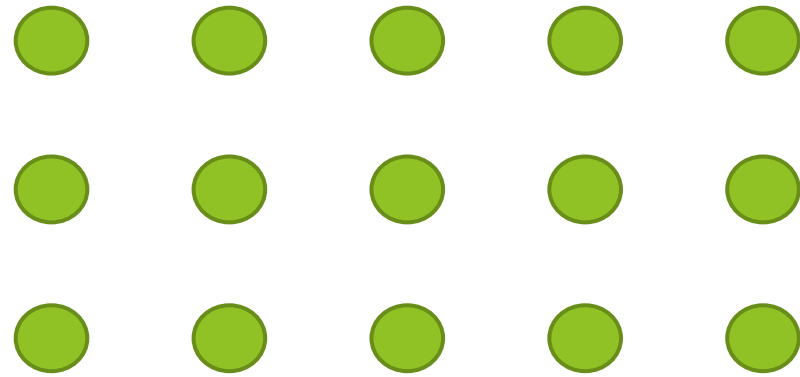


Any time you put groups of the same size together, you are multiplying!

Let's Practice!



Could this also be multiplication?

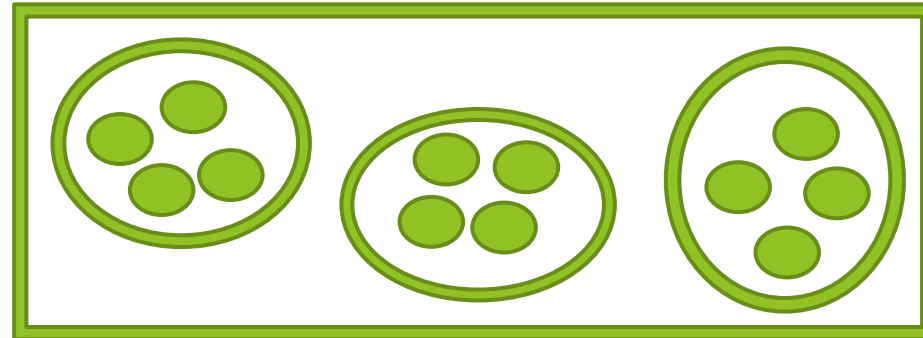
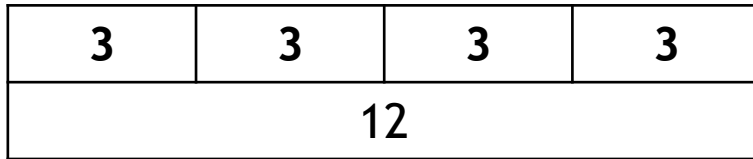
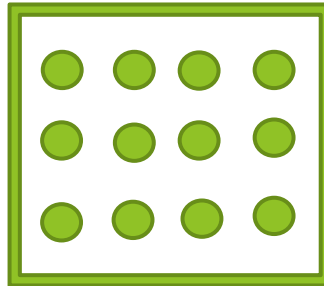


$$\begin{array}{c} \text{---} \\ \uparrow \\ \text{How many} \\ \text{rows?} \end{array} \times \begin{array}{c} \text{---} \\ \uparrow \\ \text{How many} \\ \text{columns?} \end{array} = \begin{array}{c} \text{---} \\ \uparrow \\ \text{How many} \\ \text{altogether?} \end{array}$$

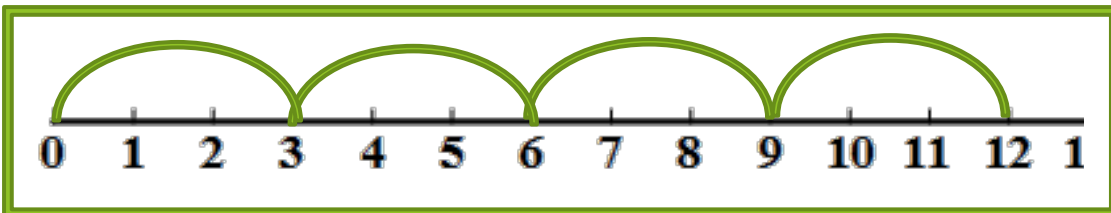
Multiply - Combine Equal Groups

There are many ways to think of multiplying!

$$3 \times 4 = 12$$



$$3 + 3 + 3 + 3 = 12$$



Let's Practice!



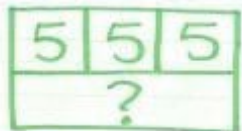


MULTIPLY

X combine
equal groups
(repeated addition)

factor factor product
 $3 \times 5 = 15$

Strip
Diagram



Array



3 rows of 5

Equal
Groups



3 groups of 5

Repeated
Addition

$$5 + 5 + 5 = 15$$

Number
Line

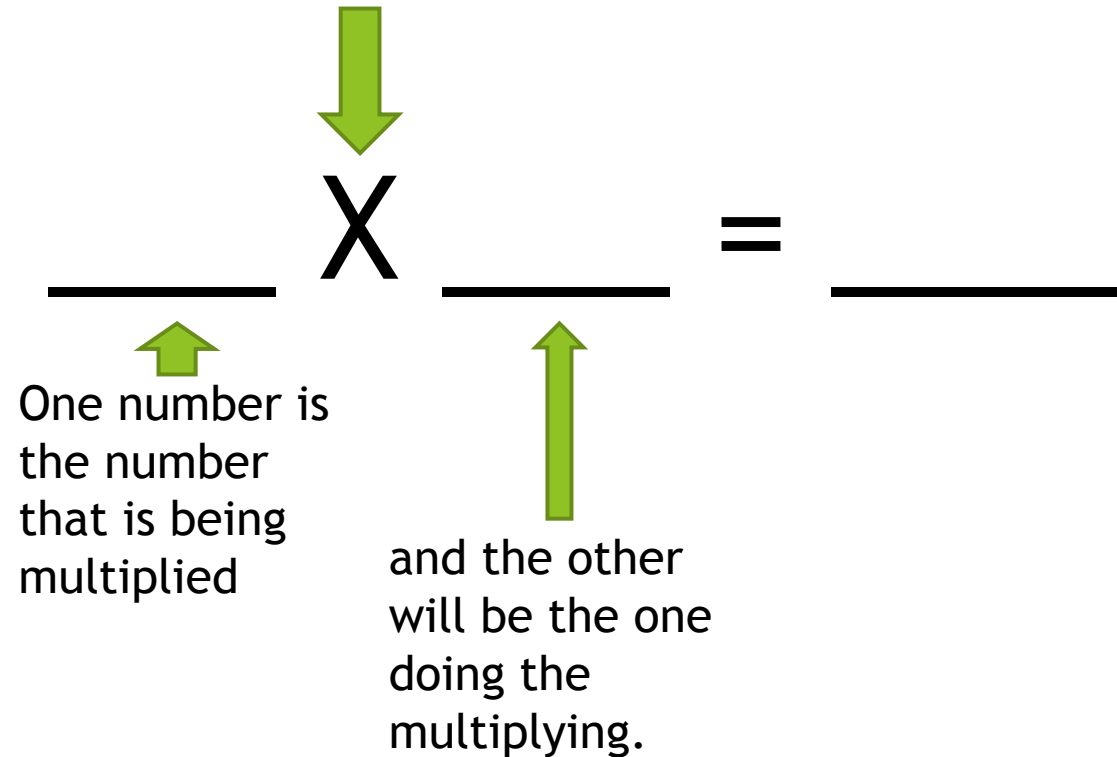


Looking and Listening for Multiplication

How to find multiplication in word problems

Review: what does multiplication look like?

In an equation, the symbol for multiplication is an X.



(In multiplication, it doesn't matter whether the multiplier is first or second.)

Saying and Seeing Multiplication

When we talk about multiplication, you might hear:

“times”

“multiplied by”

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

“groups of”

“bags of”

“rows of”

“five in each box”

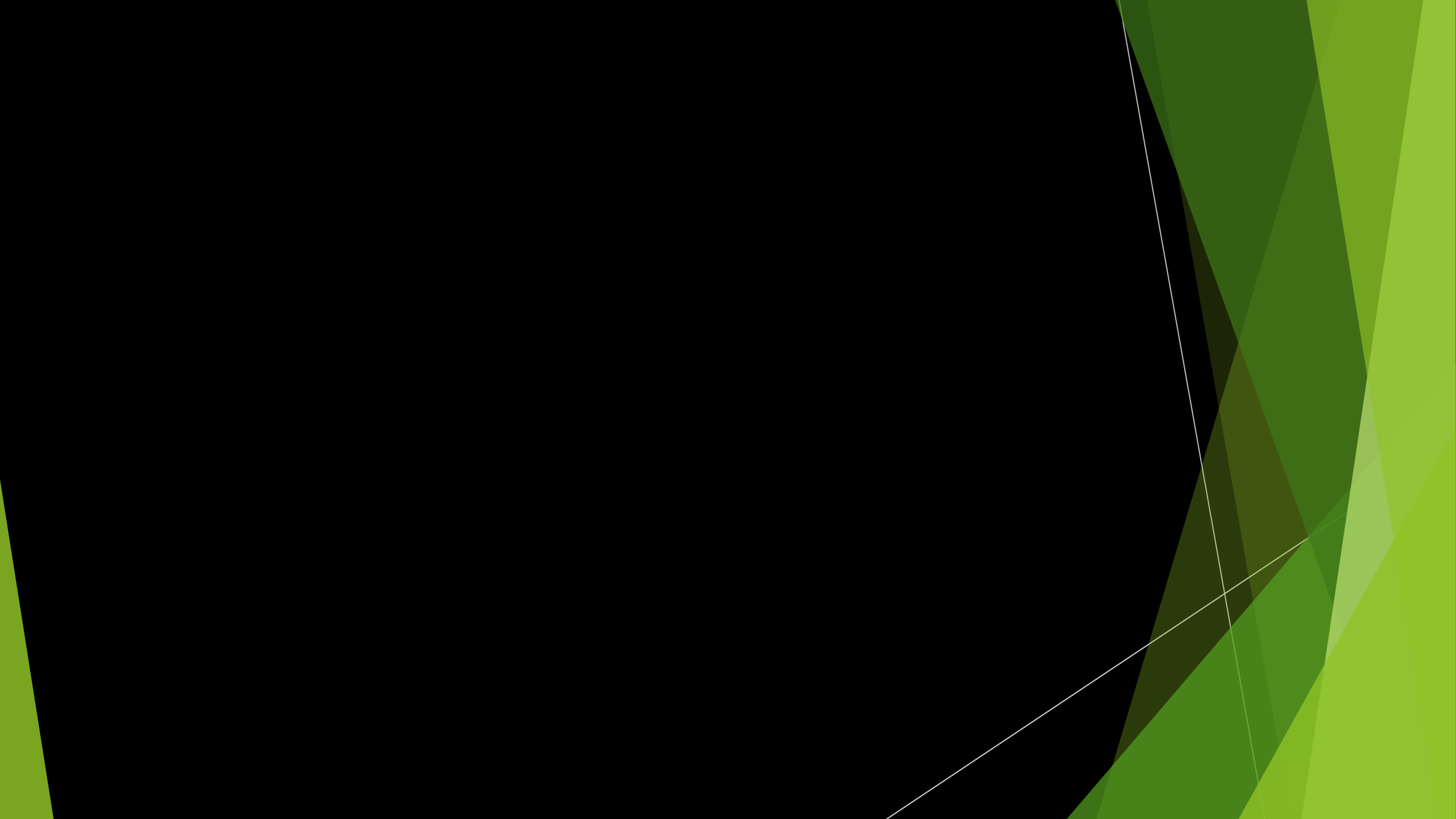
- ▶ Jenny and her brother are putting muffins away in boxes for a bake sale. They have six boxes and are put four muffins in each box. They have exactly enough muffins to fill all of their boxes. How many muffins do they have?

- ▶ Dan has eight nickels in his piggy bank - how much money has he saved up?

- ▶ There is a store that sells piece of gum in packages of 8 pieces. A person walks in and buys four packages. How many pieces of gum did they buy?

- ▶ Robert is making paper flowers and wants to cut out all of the petals first. If he wants to make 7 flowers that each have 6 petals, how many petals does he need to make?

▶ If I read for ten minutes each day for five days, how long did I read for?



Fun Math Activities

- ▶ Color by number: <https://www.coloringsquared.com/free-coloring-pages-math-for-kids/math-fact-coloring-pages/free-multiplication-worksheets-math-kids/>
 - ▶ Alien: <https://www.coloringsquared.com/worksheet/alien-basic-multiplication/>
 - ▶ Bike: <https://www.coloringsquared.com/worksheet/bike-basic-multiplication/>
- ▶ 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.mathsisfun.com/timestable.html>

Program of studies outcomes for multiplication:

Specific Outcome 3

Apply mental mathematics strategies and number properties in order to understand and recall basic multiplication facts (multiplication tables) to 81 and related division facts.

Specific Outcome 4

Apply mental mathematics strategies for multiplication.

Specific Outcome 5

Demonstrate, with and without concrete materials, an understanding of multiplication (2-digit by 2-digit) to solve problems.

Note: Students investigate a variety of strategies, including standard/traditional algorithms, to become proficient in at least one appropriate and efficient strategy that they understand.