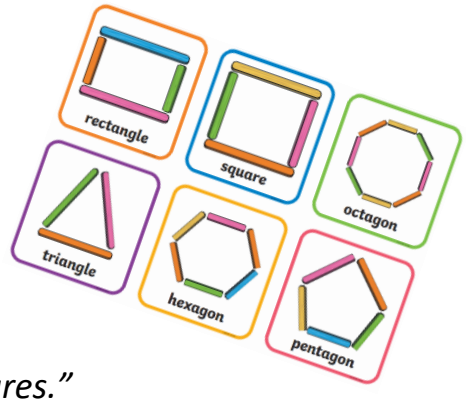
Maths – Multiplication and Addition

Here is a stick challenge for you to try.

First, go out and collect sticks!



"I collected 21 sticks in the woods. I used my sticks to build squares."

Count 21 sticks and build sqaures with them. How many sqaures did you build?

"I had 21 sticks.
Each square has 4 sticks.
I made 5 squares.
1 stick is left over"

Now use your 21 sticks to build geater than signs. What do you notice?


....

"I had 21 sticks.
Each sign has 2 sticks.
I made ___ signs.
___ sticks are left over"

This time use your 21 sticks to build triangles.

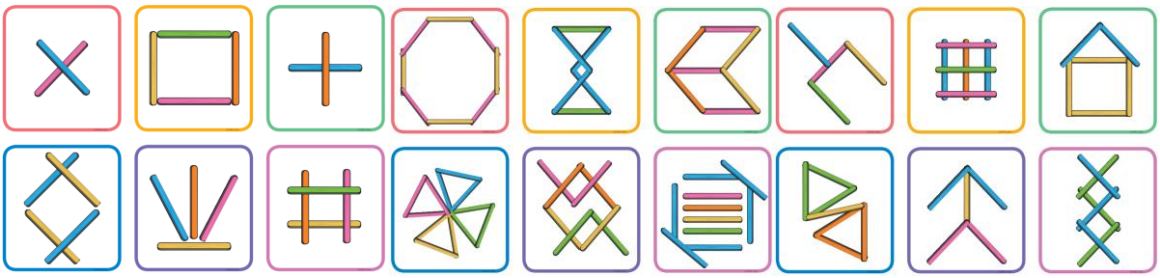
"I had 21 sticks.
Each triangle has __ sticks.
I made __ triangles
__ sticks are left over"

Get creative and build your own shape and record your findings using the sentences…

"I had ___ sticks.
Each shape has ___ sticks.
I made ___ shapes
___ sticks are left over"

Hedgehog Class

Explore making different shapes and patterns with your sticks. Here are some ideas to inspire you:



Double sticks

Teach your child that double means “twice as many”.

Complete the task of doubling the number of sticks you start with to build a shape. Here is an example. You can build any pattern or shape with your number of sticks.

Number of Sticks you start with		The number of sticks you started with doubled	Say
1 	**Double**	2 	“Double 1 is 2”
2 		4 	“Double 2 is 4”
3 		6 	“Double 3 is 6”
4		8	“Double 4 is 8”
5		10	“Double 5 is 10”

Swift Class

Start with 12 sticks.

How many **crosses** can you make? (6)

Draw the shapes.
Write the repeated addition calculation. (2 + 2 + 2 + 2 + 2 + 2 = 12)
Can you write this as a multiplication calculation too? (6 x 2 = 12)

How many **triangles** can you make?
Draw the shapes.
Write the repeated addition calculation.
Can you write this as a multiplication calculation too?

How many **squares** can you make?
Draw the shapes.
Write the repeated addition calculation.
Can you write this as a multiplication calculation too?

Repeat the challenge with 8 sticks, 16 sticks and 20 sticks.

Can you make any other shapes using these amounts, <u>without leaving any sticks remaining</u>?

Bee Class

Start with 21 sticks.

I would like to know how many **pentagons** can be made using this amount? Will there be any sticks left over?

I have four groups of 5 with 1 left over.

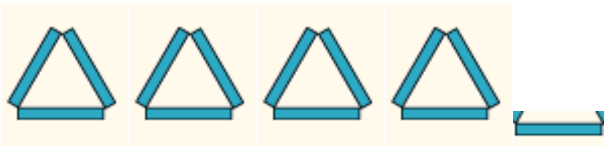
We can write a multiplication number sentence to show this:

21 = 4 x 5 + 1

Choose a <u>different</u> shape to make using your 21 sticks, e.g. hexagons (6 sides), octagons (8 sides), decagons (10 sides), etc. How many shapes can be made? Do you have any left over?
Write this as a multiplication number sentence.
Repeat the challenge with **24 sticks** and **28 sticks**.

Butterflies Class

I start with 13 sticks. I make 4 triangles with them (one stick per side). I have 1 stick left over.



I could write this as an equation:

13 = 3 x 4 + 1 (*Number of sticks in total = sticks in each shape* x *number of shapes I made + the number of sticks left over*)

Now get 23 sticks. Make a 4-sided shape. How many of that shape can you make? How many are left over?

Can you write this out in the same why I did above?

23 = 4 x ____+ _____

(23 = number of sticks in each shape x number of shapes you made + the number of sticks left over)

Try it with different shapes. How many different equations can you make?

<u>Extension</u>

Get 27 sticks.

Can you make some pentagons and some triangles? How many of each can you make?

Record it with an equation

27 = 5 x ____ + 3 x ____ + _____

27 = 5 [the number of sticks in each pentagon] x number of pentagons + 3 [the number of sticks in each triangle] x the number of triangles + the number of sticks left over

How many different ways could this work using pentagons and triangles with 27 sticks? How many equations can you come up with?