## <u>Week 3</u> <u>Properties of Shape (2D and 3D)</u>

#### <u>Message to Parents:</u>

The following slides are organised into three different levels of challenge (Bronze, Silver and Gold). If no level is provided it should be appropriate for everyone to access. Please ensure your child chooses the appropriate level. It is okay for the children to change their level through out the week depending on the task. These tasks can be done over the whole week and can be carried out at the child's own pace. Feel free to provide additional questions for your child to complete.



# <u>Multiplication Recap</u>

- 10 x 4 = 3 x 10 =
- 8 x 4 = 3 x 5 =
- 9 x 6 = 1 x 6 =
- 15 ÷ 3 = 16 ÷ 4 =
- 16 ÷ 4 = 36 ÷ 6 =
- 32 ÷ 4 = 40 ÷ 4 =

Repeat the activity - Can you beat your time? Can you beat Mr Gray's time of 29 seconds

### **Hit The Button**

- 4 ÷ 1 = 36 ÷ 4 =
- 6 ÷ 6 = 54 ÷ 6 =
- 6 ÷ 3 = 42 ÷ 6 =
- $6 \times 6 = 4 \times 6 =$
- 3 x 9 = 7 x 3 =
- 6 x 4 = 7 x 4 =



side of the line looks exactly the same. The line is called a line of symmetry....

An isosceles triangle has 1 line of symmetry. A square has 4 lines of symmetry.



https://www.bbc.co.uk/bitesize/topics/zrhp34j/articles/z8t72p3

https://www.topmarks.co.uk/symmetry/symmetry-matching

### <u>Symmetry</u>

# A 2D shape is symmetrical if a line can be drawn through it so that either



# Bit of fun...

### How many lines of symmetry does a circle have?





### Name as many 2D shapes as you can in 30 seconds.



### How many did you think of?



# Bit of fun...

### How many rectangles can you see?



## <u>2D shape properties</u>



### <u>corner</u>

side

# 2D shapes have different properties.

The have <u>sides</u> and corners.

https://www.bbc.co.uk/bitesize/topics/zjv39j6/ articles/ztpwdmn



### <u>Asquare has...</u>



# 4 corners 4 sides

## <u>Different shapes have different properties...</u>

# <u>Acircle has...</u> 0 corners 1 side



### <u>Complete the table below:</u>

2D Shape	Total Number of Sides	Number of Straight Sides	Number of Curved Sides	Number of Corners	Lines of Symmetry
Square					
Rectangle					
Circle					
Triangle					
Pentagon					
Hexagon					



Name	Sides	Vertices	
triangle		3	3
circle		1	0
square		4	4
rectangle		4	4
pentagon		5	5
hexagon		6	6
oval		1	0
rhombus		4	4
trapezium		4	4
parallelogram		4	4

# <u>Create a Venn diagram (see example below)</u> <u>and sort the 2D shapes.</u>



https://mathsframe.co.uk/en/resources/resource/321/Sorting-2D-Shapes-Venn-Tablet

curved edge

Try creating your own headings or some of the suggested below:

- Number of sides Number ofcorner
- Number of sides Line of Number of corners - Line of
- symmetry









### Captain Conjecture says, 'All of these shapes are rectangles because they have four sides.' Do you agree?





### Explain your reasoning



Megan describes a 2D shape.



My shape has 2 pairs of parallel sides. The lengths of the sides are not all equal.

# Draw the shape that Megan is describing.

Could this be Megan's shape?



Explain why.



### <u>Deeper Learning</u>

# What is the same and what is different about these shapes?



## <u>Deeper Learning</u>

- Draw the following shapes.
- A square with sides measuring 2 cm
- A square that is larger than A •
- A rectangle with sides measuring 4 cm and 6 cm A triangle with the same length sides as B
- •



### Name as many 3D shapes as you can in 30 seconds.



### How many did you think of?



# <u>3D shape properties</u>

 $\mathbf{O} \mathbf{e}$ 





# 3D shapes have different properties.



# Thehave <u>edges, faces</u> and <u>vertices</u>.

https://www.bbc.co.uk/bitesize/topics/zjv39j6/articles/zcsjqty





# <u>More 3D shape properties...</u>

### Properties of 3D Shapes



### <u>Acubehas...</u>

### 8 vertices 12 edges 6 faces



## <u>Different shapes have different properties...</u>

# <u>Aprismhas...</u> 6 vertex 9 edges 5 faces





Cuboid Cone Square-based pyramid Cylinder Cube Triangular-based pyramid

ces/Surfaces		Edges		Number of	
at	Curved	Straight	Curved	vertices	



#### https://mathsframe.co.uk/en/resources/resource/115/sorting-3d-shapes-on-a-venn-diagram

### Look round your house. How many examples of 3D shapes <u>can you spot? Create a mind map</u>

# <u>3D Shapes</u> <u>Glue Stick - Cylinder</u>

### TV - Cuboid











6 sticks and 4 balls of clay? clay?

What shape could he make with: 4 long sticks, 8 short sticks 8 balls of

Jack has made a cube using 12 sticks and 8 balls of modelling clay.







I have 9 straws and 6 balls of Play-Doh.



What 3D shape can I create using all of the straws and Play-Doh? Prove it.



I can create a model of a pyramid using 3 straws and 3 balls of Play-Doh.

Explain the mistake Hannah has made.

How many straws and balls of Play-Doh would you need to create a pyramid?





# What is the same and what is different about these two shapes?







#### Raj has a 3D shape, he says,



What could Raj's shape be?



# All 3D shapes are prisms.

Do you agree with Milly? Explain why.



Shape is a great topic for games at home. Here are some ideas that you may like to try yourself.













