

\*Week beginning 15.6.20\*

Hello **Year 2** parents,

We hope that you are all safe and well. We really appreciate all of the support and time that you can give to your children in regards to their learning. Here is all the information about **Maths** home learning for this week. The focus is on **shape**.

Using <https://whiterosemaths.com/homelearning/year-2/>

You will be learning to:

- count the sides and vertices of 2D shapes
- count the faces, edges and vertices of 3D shapes
- sorting 2D and 3D shapes
- creating patterns with 2D and 3D shapes



Attached are some worksheets to complete.

And if you still want to do more then just for fun you could....

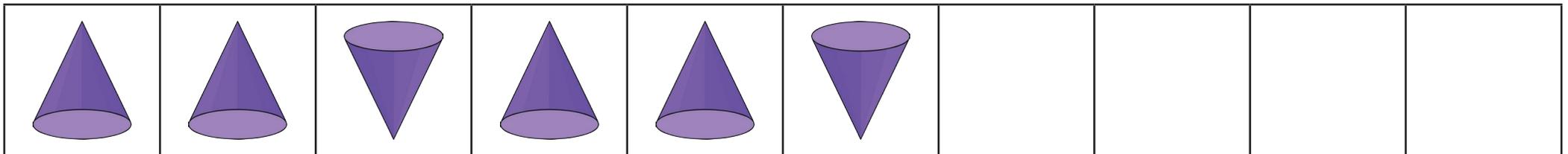
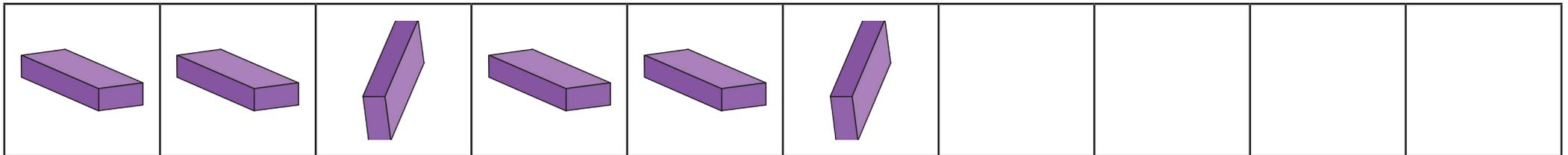
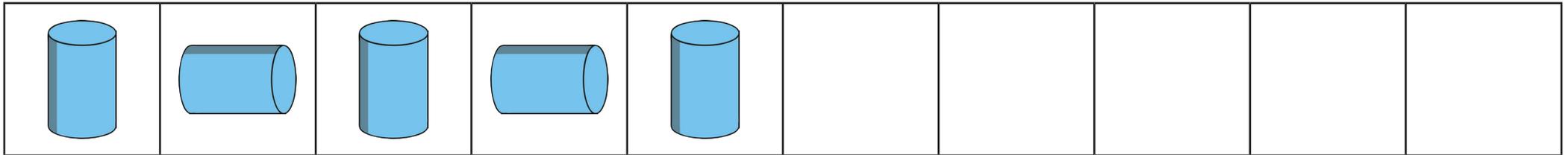
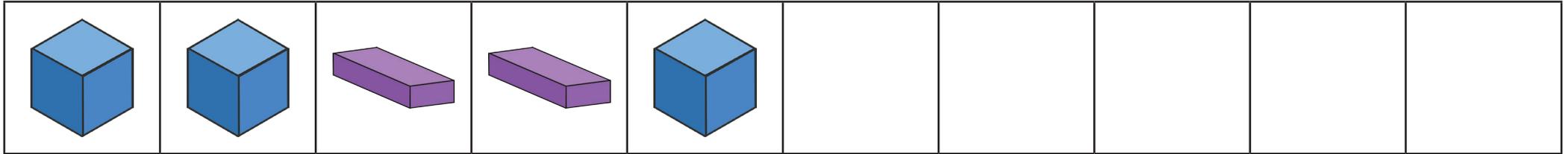
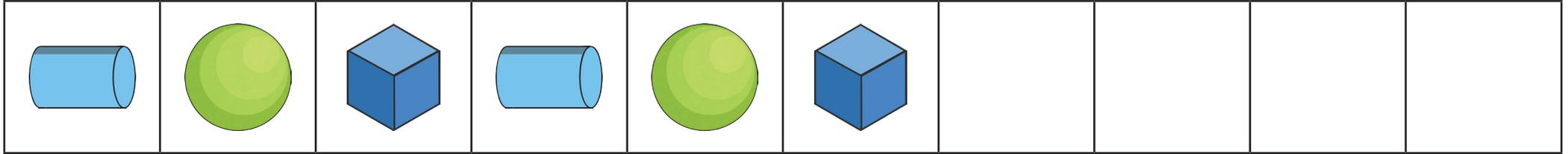
- Print off some dice and play some board games and Maths games from <https://www.math-salamanders.com/subtraction-games.html>
- Look for patterns in nature or buildings. Describe the patterns.  
What shapes do they use? How often do they repeat?
- Find different ways to sort rocks and leaves from outdoors.
- **ALSO BONUS points** to anyone who can answer Mrs Dayus' question:

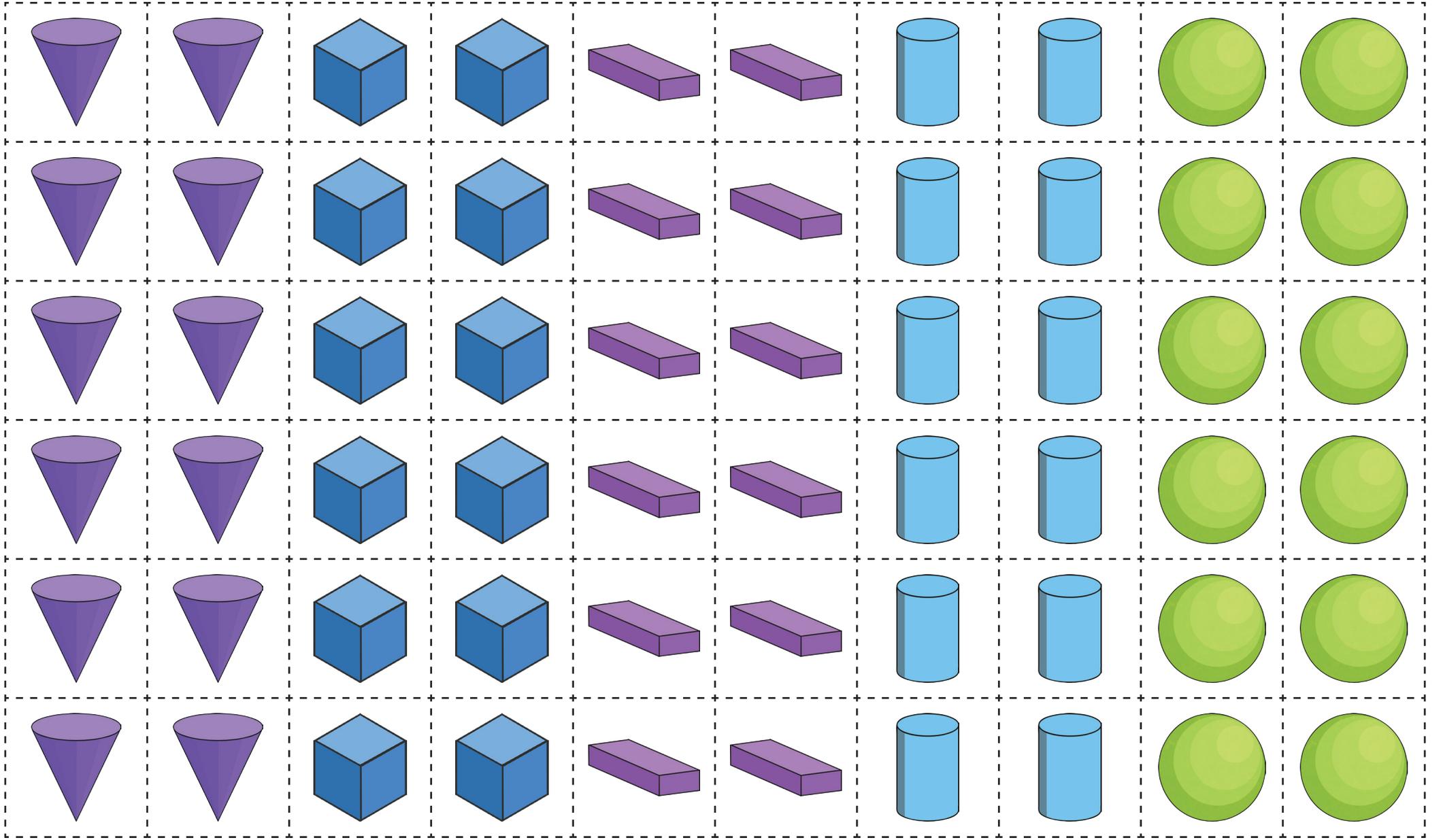
**How many triangles can you make with 9 sticks?**

We would love to see any photographs of the things you make.

Take care and have an enjoyable week.

# 3D Shapes Repeating Patterns





## Count Vertices on 2D Shapes

### Adult Guidance with Question Prompts



Children begin to refer to corners as vertices. They know that a vertex is where two sides meet at a point. Children are able to count the vertices on a 2D shape. They could mark or circle each vertex as they count to make sure they don't count the same one twice.

Can you read these shape names?

What is a vertex?

Can you point to a vertex?

How many vertices do each of these shapes have?

How can you make sure you don't count the same one twice?

What can you tell me about this shape?

Are any of these shapes similar? How?

How are they different?

## Count Vertices on 2D Shapes



Count the vertices and complete the table.

Shape	Name	Number of Vertices
	square	_____
	triangle	_____
	pentagon	_____
	hexagon	_____
	rectangle	_____

## Count Vertices on 2D Shapes

### Adult Guidance with Question Prompts



Children count the vertices on each shape to find the odd one out in each row. They could mark or circle each vertex as they count to make sure they don't count the same one twice.

How many vertices do each of these shapes have?

I think that the ones in the first row all have four vertices. Am I correct?

Which is the odd one out? Why do you think that?

How many vertices does a circle/oval have?

In the second row, why have you chosen that shape as the odd one out?

What is the name of a shape with six sides?

Does a six-sided shape always have six vertices?

Do all six-sided shapes look the same?

What is the word that we can use to describe all four-sided shapes?

Do all quadrilaterals have four vertices?

Are these all quadrilaterals?

## Count Vertices on 2D Shapes



In each row, count the vertices on each shape and circle the odd one out. Explain your answers.



## Count Vertices on 2D Shapes

### Adult Guidance with Question Prompts



Children will need a paper right-angled triangle and a pair of scissors. It is very important that children know that 2D shapes are flat, and that the shapes they will make in the activity are representations of 2D shapes.

What shape is this?

Is your paper shape really a 2D shape? Why not?

How many vertices does your shape have?

When you cut it in half, what two shapes does it make (representations of)?

Can you put the two shapes together in different ways to make other shapes?

Do you think the other shapes you make will also have three vertices each?

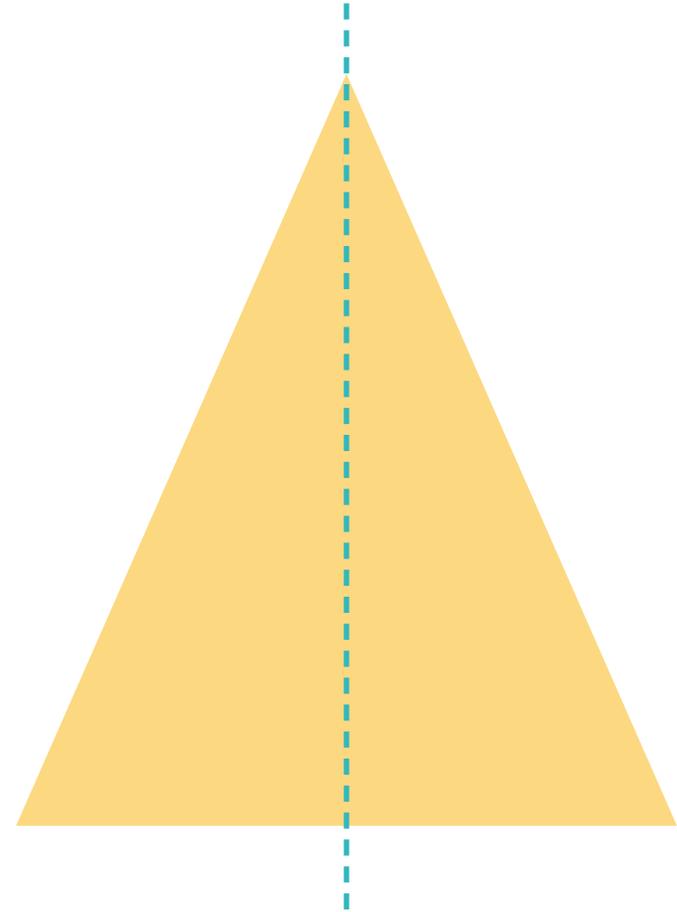
How many vertices do these new shapes have?

Can you name some of the new shapes that you make?

## Count Vertices on 2D Shapes



Cut a paper triangle in half. Put the parts back together to make different shapes.



What different shapes can you make?

How many vertices does each shape have?

## Count Vertices on 3D Shapes

### Adult Guidance with Question Prompts



Children know that where two or more edges meet there is a vertex; they will be familiar with this term from their 2D shape learning. Children will need four coloured pencils for this activity (any colours). It would help children to have access to these shapes to handle them and count the vertices; they could mark them with a whiteboard pen as they go.

**What is a vertex?**

**What is the word we use for more than one vertex?**

**What is an apex?**

**Colour the four boxes at the top using four different colours. Which shapes will you colour to match?**

**How many vertices does this shape have?**

**How do you know you have counted accurately?**

**Will there be two shapes the same colour?**

**Which ones? Why?**

**Do all 3D shapes have vertices?**

**Will you colour all the shapes? Why not?**

**Can you think of any other 3D shapes with no vertices?**

## Count Vertices on 3D Shapes



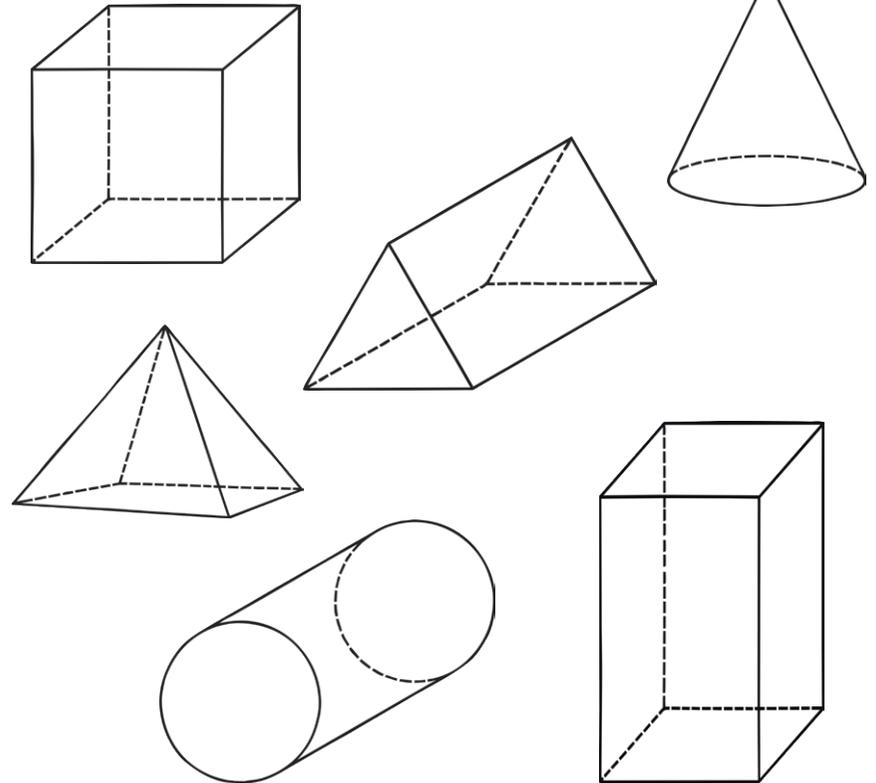
Colour match these 3D shape pictures.

1 apex or  
vertex

5 vertices

8 vertices

6 vertices



Do all 3D shapes have vertices? Prove it.

## Count Vertices on 3D Shapes

### Adult Guidance with Question Prompts



This activity explores the misconception of 3D shapes being confused with 2D shapes as they both have vertices. Children may find it helpful to have a selection of 3D shapes to explore when trying to identify one with four vertices.

**What do you know about Fran's shape?**

**What does 3D mean?**

**What are vertices?**

**Does a square or a rectangle have four vertices?**

**Could these be Fran's shape?**

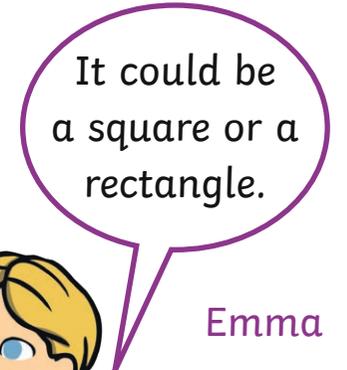
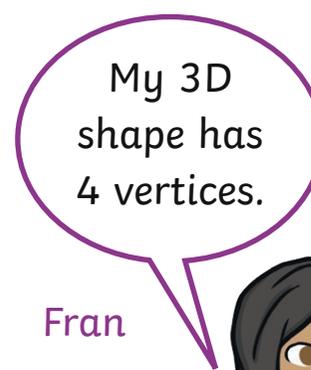
**Why not?**

**What 3D shape has four vertices?**

**Are there any other possibilities?**

**Can you give a 3D shape clue like this for a friend to solve?**

## Count Vertices on 3D Shapes



Do you agree? Explain your answer.

## Count Vertices on 3D Shapes

### Adult Guidance with Question Prompts



Children sort shapes using their previous knowledge of 3D shape properties. Ideally children will do this sorting practically with 3D shapes they can handle and sorting hoops or a Venn diagram drawn on a piece of paper.

What are these three shapes called?

Tell me about the Venn Diagram.

How are we sorting the shapes?

How many vertices do these shapes have?

What is a face?

How many faces do these shapes have?

What 2D shape are the faces?

What do you know about triangles?

What do you think triangular means?

Which ones have triangular faces?

Where will each shape go?

Why?

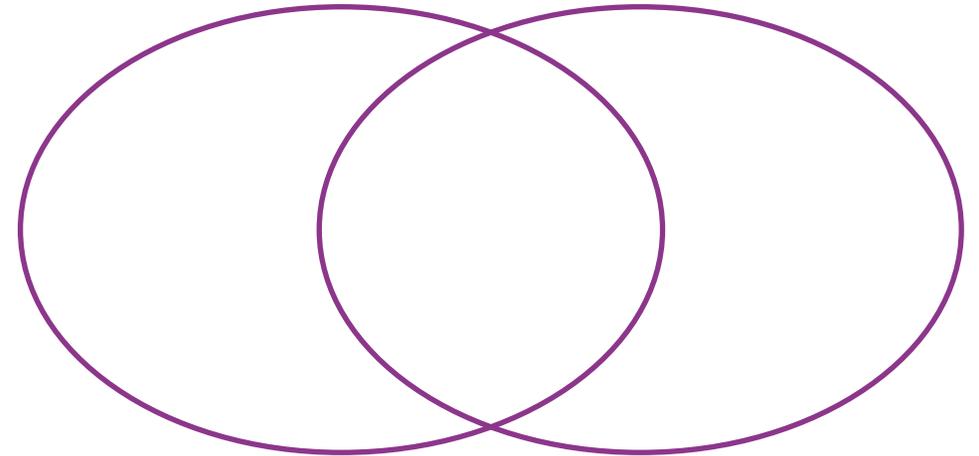
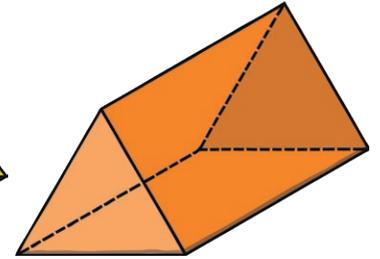
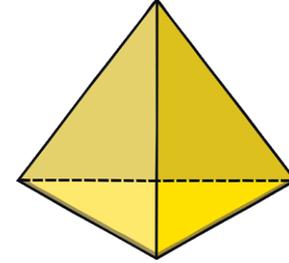
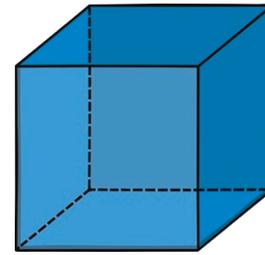
What other 3D shapes could we sort into this diagram?

Explain how you know.

## Count Vertices on 3D Shapes



Add these 3D shapes to the Venn diagram.



six or more  
vertices

at least one  
triangular face

Do you agree? Explain your answer.

What other 3D shapes could  
you add to the diagram?