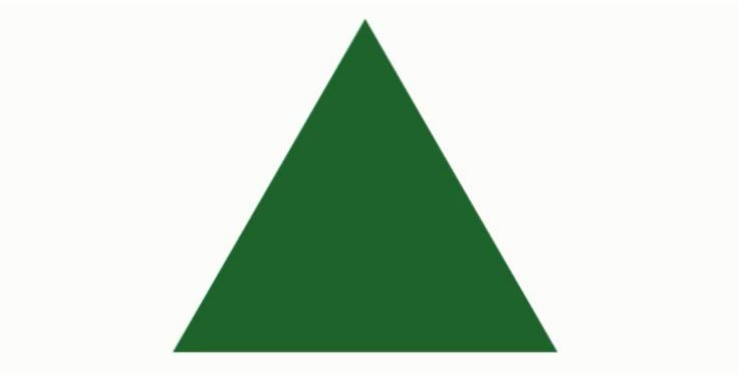
Year 2 Maths Distance Teaching and Learning

Week beginning: 29.6.20

<table>
<tr><td colspan="3">Lesson 1</td></tr>
<tr><td>Learning Intention:
WALT identify 2D shapes by number of sides and vertices</td><td>Key Vocabulary:
2D shape
Sides
Vertices
Quadrilateral
Curved
straight
vertex</td><td>What you will need:
Computer, tablet or phone for the starter
Maths book
Pencil
Video: Year 2 Maths Lesson 1</td></tr>
<tr><td colspan="3">Starter</td></tr>
<tr><td colspan="3">Listen to the 2D shape song https://www.youtube.com/watch?v=WTeqUejf3D0. Learn the words and sing along.</td></tr>
<tr><td colspan="3">Main Teaching</td></tr>
<tr><td colspan="3">Watch Year 2 Maths S2 week 5 lesson 1 to guide you through the lesson.

This week we are looking at shape! We’re going to be refreshing our knowledge of 2D and 3D shapes and learning some new thing too!
Our key words of today are: quadrilateral, curved, straight, vertex or vertices and side.

Let’s look at some shapes and think about their properties.

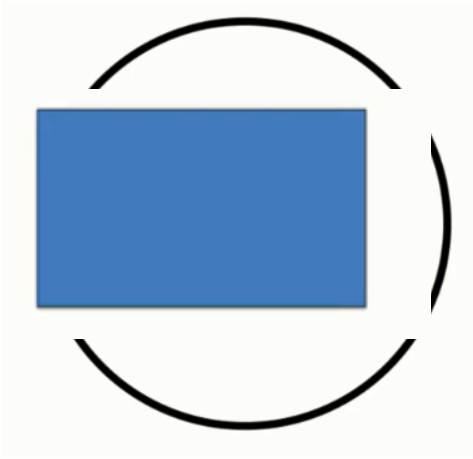
What is this shape called? How many sides does it have? How many vertices?

Let’s use the speaking frame:
This is a _____.
It has _____ sides.
It has _____ vertices.</td></tr>
</table>

Example 1
Let's look at our next shape.

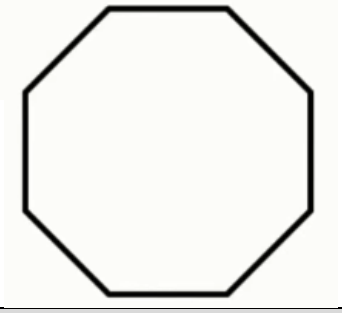
How many sides does it have? How many vertices does it have?

This is a _____.
It has _____ sides.
It has _____ vertices.



This is a _____.
It has _____ sides.
It has _____ vertices.

Example 2
use the speaking frame to talk about the properties of this shape.
This is a _____.
It has _____ sides.
It has _____ vertices.



Example 3

Independent Tasks

Challenge 1

What shape am i?

1. I have four straight sides, which are of equal length. I have four vertices. What am I?
2. I have three straight sides. I have three vertices. What am I?
3. I have four straight sides. I have four vertices. My opposite sides are of the same length. What am I?
4. I have six straight sides and six vertices. What am I?
5. I have one straight side and one curved side. What am I?
6. I have one curved side and no vertices. What am I?
7. I have 5 straight sides and 5 vertices. What am I?
8. I have eight straight sides and eight vertices. What am I?

Challenge 2

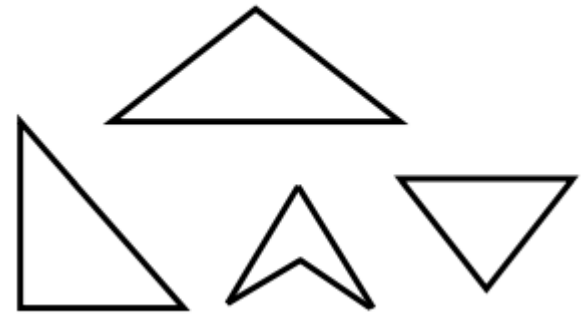
Fill in the table below for each shape. You might need to draw it out into your book.

Shape	Sides	Vertices	Name of shape

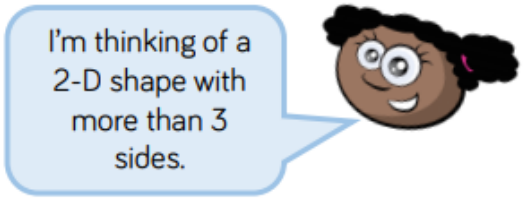
Challenge X

1.

Which shape is the odd one out?
Explain your reasoning.

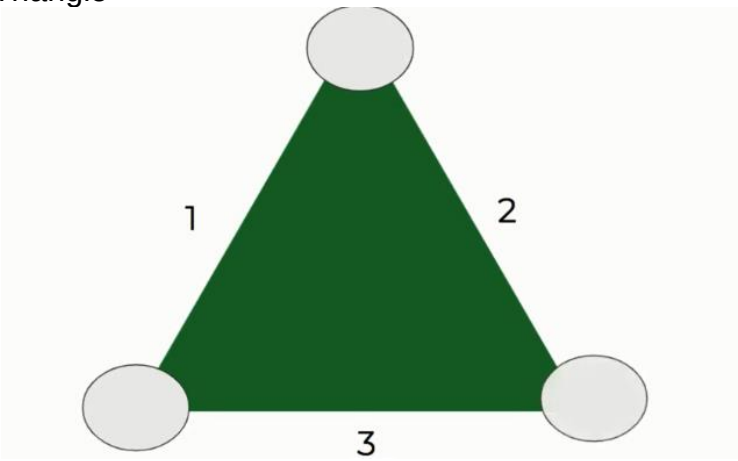
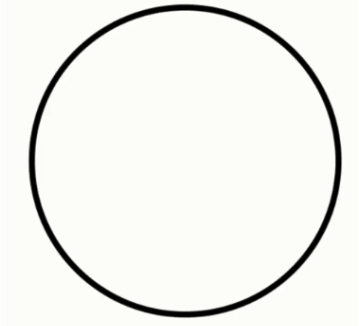


2.



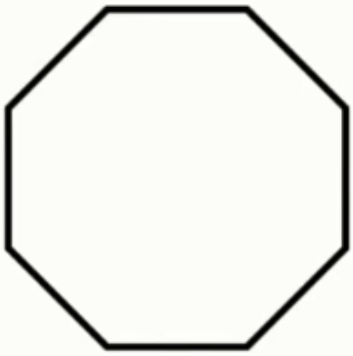
What shape could Whitney be thinking of?
Are there any other shapes it could be?
What shape is Whitney definitely not thinking about? How do you know?

Mark Scheme – Lesson 1

Independent Tasks
Main teaching
Triangle    It has 3 sides and 3 vertices. Example 1 The circle has one side and 0 vertices. 

Example 2

This is a rectangle. It has 4 sides and 4 vertices.



Example 3

This is an octagon. It has 8 sides and 8 vertices.

Challenge 1

1. Square
2. Triangle
3. Rectangle
4. Hexagon
5. Semi-circle
6. Circle
7. Pentagon
8. Octagon

Challenge 2

Shape	Sides	Vertices	Name of shape
	1	0	Circle
	3	3	Triangle
	4	4	Square
	4	4	Rectangle
	5	5	Pentagon
	6	6	Hexagon
	8	8	Octagon
	2	2	Semi-circle

Challenge X

1. Three of the shapes are triangles, one is not. Three of them have three sides, one has four. Other answers can be accepted with a clear explanation.

2. Possible examples: square rectangle pentagon hexagon octagon Whitney is not thinking of a triangle because it only has 3 sides.

Lesson 2		
Learning Intention: **WALT** identify right angles in shapes	**Key Vocabulary:** 2D shape Sides Vertices Quadrilateral Curved straight vertex right angle	**What you will need:** Computer, tablet or phone for the starter Maths book Pencil Video: Year 2 Maths Lesson 2

Starter

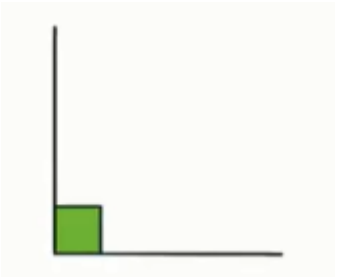
Log into Numbots https://play.numbots.com/?#/game/game-mode.

Go onto 'Story Mode'. Spend 5 minutes completing the challenges.

Main Teaching

Watch Year 2 Maths S2 week 5 lesson 2 to guide you through the lesson.

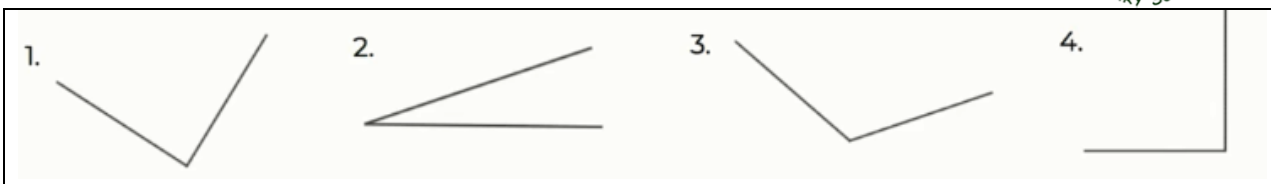
Today we are going to continue looking at 2D shapes!!
We are going to be learning about **right angles.** What is a right angle?



A right angle is an angle that measures at 90 degrees.
It is also known as a quarter turn because it is a quarter turn of a full turn.

They can be found where 2 lines meet to make an 'L' shape.
A right angle can usually be found in the corner of a rectangle or a square.

Look at the following angles. Which one is a right angle?

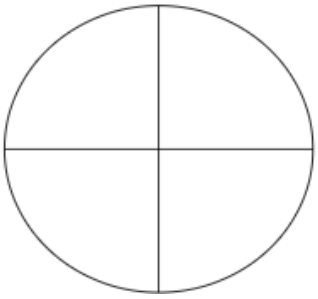


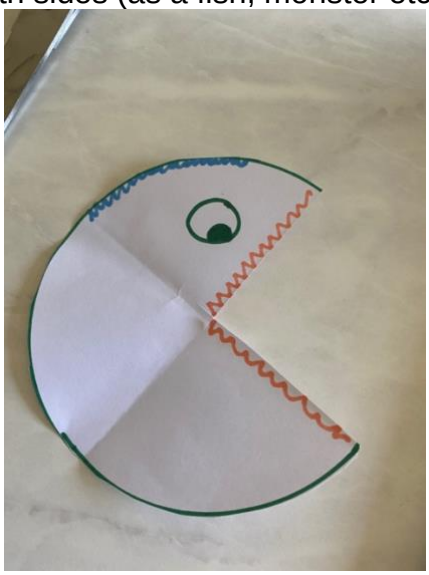
We are going to make our own right-angle finders and find different objects around the house!

If you are able to, print the angle eater below and cut out his mouth. If not, follow these instructions to make your own.

Making an angle eater

1. Draw around something circular in your house.
2. Cut out the circle, then fold it in half.
3. Next, fold in half again to make a cross (see below).
4. Cut out one of the quarters and discard.
5. Decorate the angle eater on both sides (as a fish, monster etc).





Angle eater

Using the angle eater, we are going to find objects around the house that have a right angle!

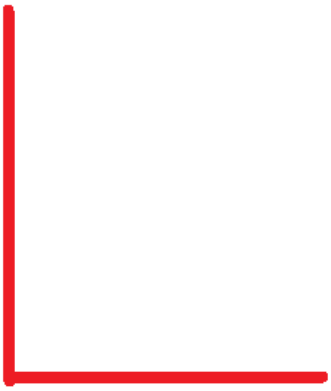
<u>Example 1</u>
Let's look at my television! I am going to use the angle eater to check if it's a right angle.

Example 2

Let's look at this book! I am going to use the angle eater to check if it's a right angle.

Example 3

Let's look at this photo frame! I am going to use the angle eater to check if it's a right angle.

Independent Tasks
Challenge 1
Using your right-angle eater, look around your house. Can you find 10 items that have a right angle? Draw a picture of them and label the right angle.
Challenge 2
Look at the shapes below. Which ones have a right angle?   Can you think of any more 2D shapes that have a right angle?
Challenge X
1. How many right angles does a rectangle have? 2. Is this a right angle?  3. A right angle is a... (finish the sentence)

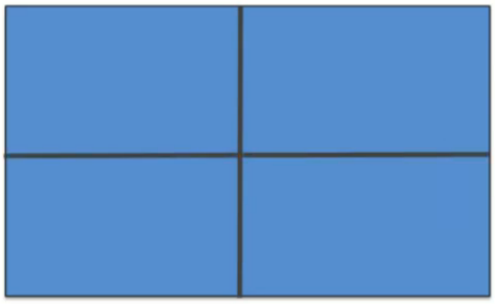
Mark Scheme – Lesson 2

Independent Tasks

Challenge 1
Children to find items around the house and check if they're a right angle.
Challenge 2
Only the square and the rectangle are right angles.
Challenge X
1. A rectangle has 4 right angles. 2. Yes, it is a right angle. 3. A right angle is a 90-degree angle.

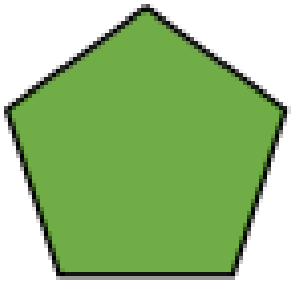
Lesson 3		
Learning Intention: **WALT** recognise lines of symmetry in 2D shapes	**Key Vocabulary:** Symmetry Half Exact 2D shape Identical	**What you will need:** Computer, tablet or phone for the starter Maths book Pencil Video: Year 2 Maths Lesson 3
Starter		
https://www.bbc.co.uk/bitesize/topics/zjv39j6/articles/ztpwdmn watch the following videos on BBC bitesize to learn all about 2D shapes!		
Main Teaching		
Watch Year 2 Maths S2 week 5 lesson 3 to guide you through the lesson. Today we are going to be learning all about 'lines of symmetry' in 2D shapes. Symmetry means something is the same on both sides. A shape has **symmetry** if a central dividing line (a mirror line) can be drawn on it, to show that both sides of the shape are exactly the same. First, start by getting a piece of paper. Fold it in half. Then cut the following shape out. Once you open the paper, you will see there is a line in the middle. Look at your shape and say '**yes, my shape has a line of symmetry because _____'.** Use some of the words in our key vocabulary for this lesson. Now let's look at symmetry in 2D shapes. Example 1 How many lines of symmetry do you think this rectangle has?		

This rectangle has 2 lines of symmetry.



Example 2
How many lines of symmetry does this triangle have?

Example 3
How many lines of symmetry does this pentagon have?



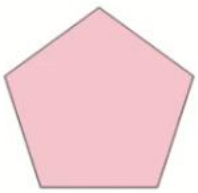
Independent Tasks

Challenge 1

Find out how many lines of symmetary these shapes have. Write your answer down in your books.

1.

3.

5. 

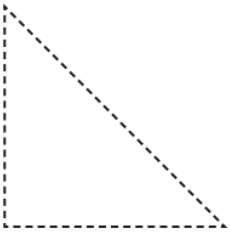
2.

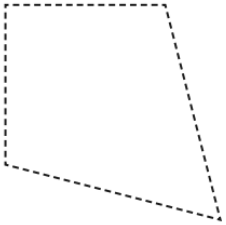
4.

Challenge 2

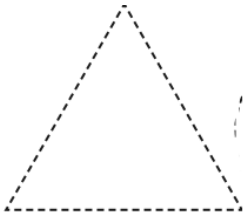
Find out how many lines of symmetary these shapes have. Write your answer down in your books.

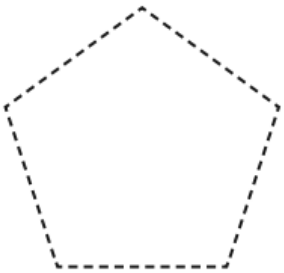
1.

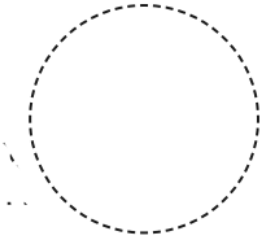
2. 

3. 

4.

5. 

6 . 

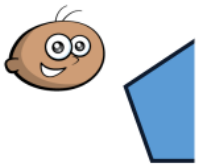
6. 

8.

Challenge X

1.

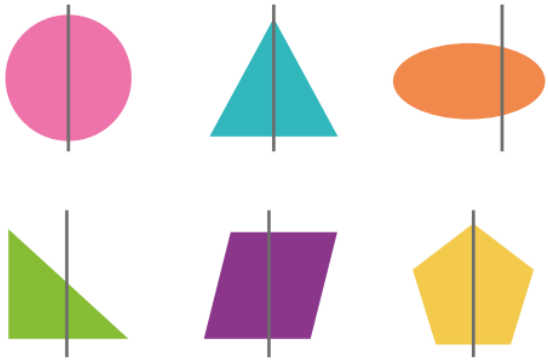
Tommy has placed a mirror on the vertical line of symmetry. This is what he sees:



Can you complete the other half of the shape?

2.

Tick the shapes with a correct line of symmetry.



Draw a vertical line of symmetry on each of these shapes.

Mark Scheme – Lesson 3

Independent Tasks

Challenge 1

Questions	Answers
1.	4 lines of symmetry
2.	2 lines of symmetry
3.	1 line of symmetry
4.	3 lines of symmetry
5.	5 lines of symmetry

Challenge 2

1

parallelogram = 0

irregular

2

right angled triangle = 1

irregular

3

kite = 1

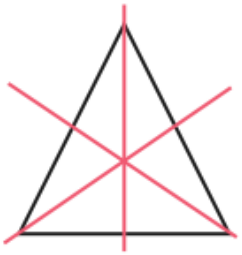
irregular

4

rectangle = 2

irregular

5



equilateral triangle = 3

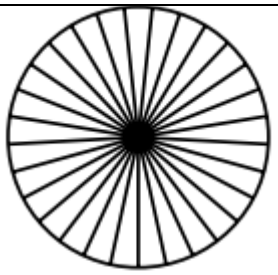
regular

6

pentagon = 5

regular

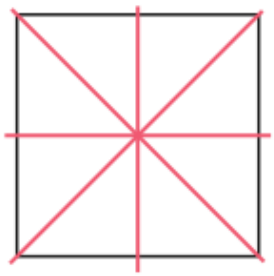
7



circle = infinite line symmetry

regular

8



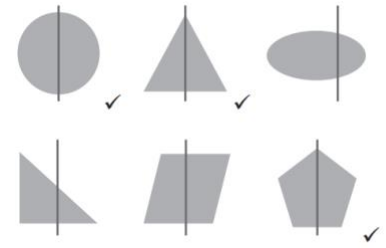
square = 4

regular

Challenge X

1.

2.



Children should have drawn lines of symmetry on the shapes:

Lesson 4		
Learning Intention: **WALT** name and describe 3D shapes	**Key Vocabulary:** Edge Face Curved Vertices or vertex 3D shape	**What you will need:** Computer, tablet or phone for the starter Maths book Pencil Video: Year 2 Maths Lesson 4

Starter

Click on the link and play the 2D shape game for 5 minutes
http://www.learnalberta.ca/content/me3usa/flash/index.html?goLesson=14.

Main Teaching

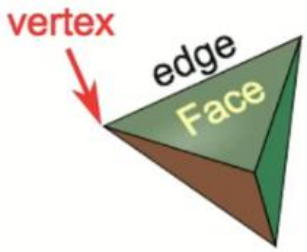
Follow Year 2 Maths S2 Week 5 Lesson 4 to guide you through the video.

Today we are going to be naming and describing 3D shapes.
3D shapes have faces (sides), edges and vertices (corners).

Faces
A face is a flat or curved surface on a 3D shape. For example, a cube has six faces, a cylinder has three and a sphere has just one.

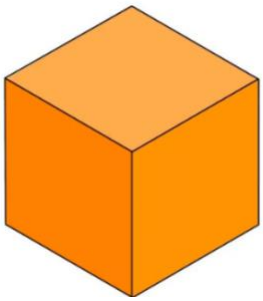
Edges
An edge is where two faces meet. For example, a cube has 12 edges, a cylinder has two and a sphere has none.

Vertices
A vertex is a corner where edges meet. The plural is vertices. For example, a cube has eight vertices, a cone has one vertex and a sphere has none.



3D shapes are all around us!! Can you think of any? Have a look around your house and see what 3D shapes you can find.

How are 3D shapes different from 2D shapes? Have a think…



So 2D shapes are flat and the cube isn't flat. The square has sides and 3D shapes have edges. The edge is the line where 2 faces meet on a 3D shape.

Example 1

Have a look around your house. Find a 3D shape. Use the speaking frame to describe it.
The _____ (name of object/thing) is an example of a _____ (name of 3D shape).

The *golf ball* is an example of a *sphere.*

Example 2

Have a look around your house. Find a 3D shape. Use the speaking frame to describe it.
The _____ (name of object/thing) is an example of a _____ (name of 3D shape).

The *candle* is an example of a *cylinder.*

Example 3

Have a look around your house. Find a 3D shape. Use the speaking frame to describe it.
The _____ (name of object/thing) is an example of a _____ (name of 3D shape).

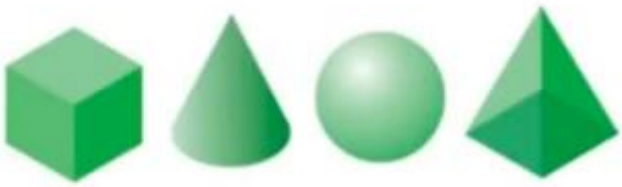
The *ox cube is* an example of a *cube.*

Independent Tasks

Challenge 1

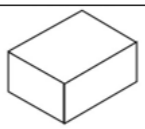
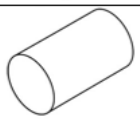
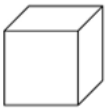
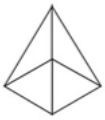
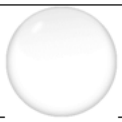
Choose the shapes from below to match the description.

1. I have one curved face. I have 0 edges. I have 0 vertices. What shape am I?
2. I have 6 faces. All my faces are 4-sided. I have 8 vertices. What shape am I?
3. How many vertices does a square based pyramid have?
4. I have 8 edges, 5 vertices and 5 faces. What shape am I?
5. What shape has the most edges?



Challenge 2

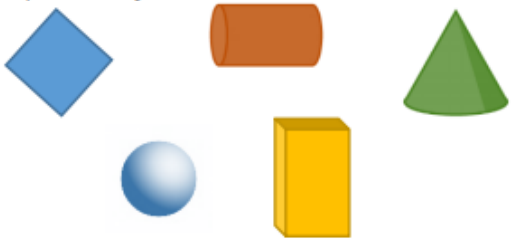
Fill in the table below for these 3D shapes.

	Name of shape	Number of faces	Number of vertices (corners)	Number of edges
				
				
				
	Triangular _____			
	Square-based _____			
				

Challenge X

1.

Which shape is the odd one out?
Explain why.



2.

Whitney says,

I have a 3-D shape with 2 square faces and 4 rectangular faces.

What shape does Whitney have?

Play this game with a friend. Describe the faces of a 3-D shape and they need to guess what it is.

3.

Teddy says my 3-D shape has 6 faces.
Mo says he must have a cube.
Is Mo correct?
Explain your answer.

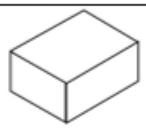
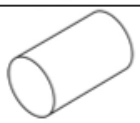
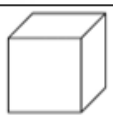
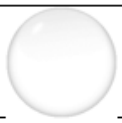
Mark Scheme – Lesson 4

Independent Tasks

Challenge 1

1. Sphere
2. Cube
3. 5 vertices
4. Square-based pyramid
5. Cube

Challenge 2

	Name of shape	Number of faces	Number of vertices (corners)	Number of edges
	Cuboid	6	8	12
	Cyclinder	3	0	2
	Cube	6	8	12
	Triangular Based prism	5	6	9
	Square-based pyramid	5	5	8
	Sphere	1	0	0

Challenge X

1. The square is the odd one because it is the only 2-D shape or flat shape.
2. Whitney has a cuboid.
3. No because Teddy could have a cube or a cuboid.

Lesson 5		
Learning Intention: **WALT** identify 2D shapes on the surface of 3D shapes	**Key Vocabulary:** 2D shapes 3D shapes Face Edge Surfaces Side	**What you will need:** Computer, tablet or phone for the starter Maths book Pencil Video: Year 2 Maths Lesson 5

Starter

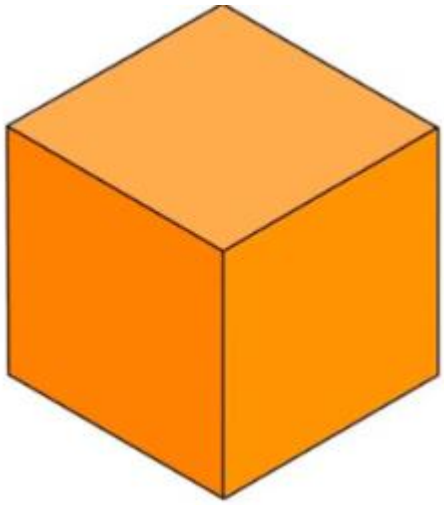
Watch the videos on BBC bitesize and complete the quiz.
https://www.bbc.co.uk/bitesize/topics/zjv39j6/articles/zgqpk2p.

Main Teaching

Watch Year 2 Maths S2 Week 5 Lesson 5 to guide you through the video.

Today we are going to be looking at both 2D and 3D shapes. We're going to look at 2D shapes on the surface of 3D shapes.

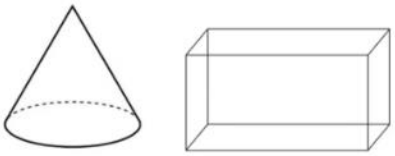
Look at the cube below. How would you describe it?

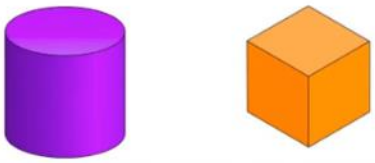


The cube has 6 faces, 12 edges and 8 vertices.
Let's describe the cube without using the terms 'edges', 'vertices' or 'faces'.

The cube has 6 square faces.

Look at the shapes below. We need to match the shape to the description.





This shape has 6 square faces.

The base of this shape is a circle.

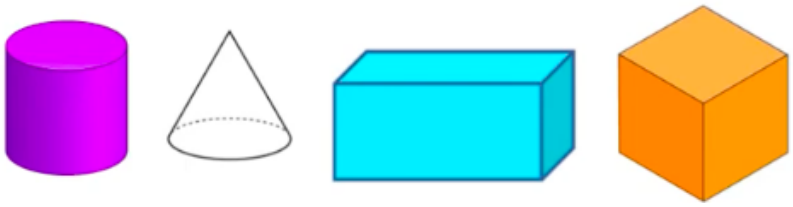
The base and top of this shape are circles.

This shape has 6 rectangular faces.

Example 1

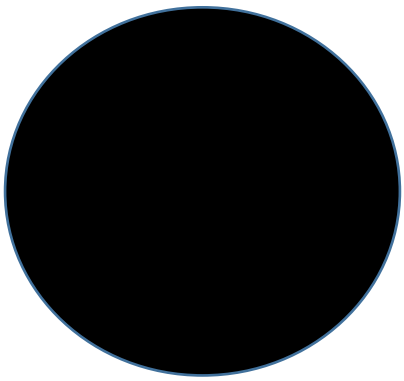
Let's look at this shadow of a 3D shape. What shape/shapes might it belong to?

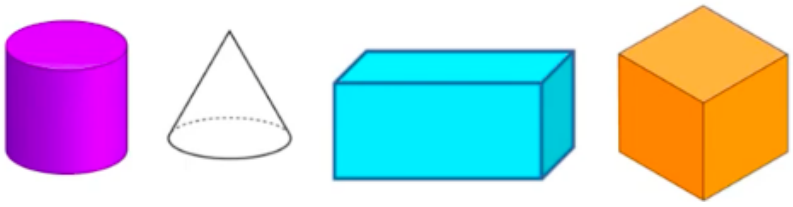
This is the shadow of a 3-D shape. What shape or shapes might it belong to?
Choose from the options below.



Example 2

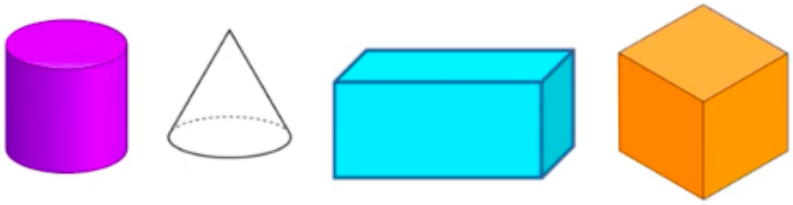
Let's look at this shadow of a 3D shape. What shape/shapes might it belong to?





Example 3

Let's look at this shadow of a 3D shape. What shape/shapes might it belong to?



Independent Tasks

Challenge 1

What 3D shape might these shadows belong to? Explain why.

1.

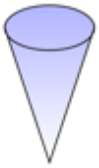
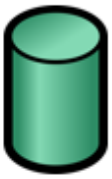
2.

3.

Could any of the shadows belong to more than one shape? Which ones?

Challenge 2

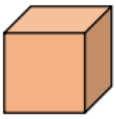
Can you spot the 2D shapes on the 3D shapes?

	Name of 3D shape _____ 2D shape I can see _____
	Name of 3D shape _____ 2D shape I can see _____
	Name of 3D shape _____ 2D shape I can see _____
	Name of 3D shape _____ 2D shapes I can see _____ _____
	Name of 3D shape _____ 2D shape I can see _____
	Name of 3D shape _____ 2D shapes I can see _____ _____

Challenge X

1.

Compare these 3-D shapes.



What is the same and what is different?

2.

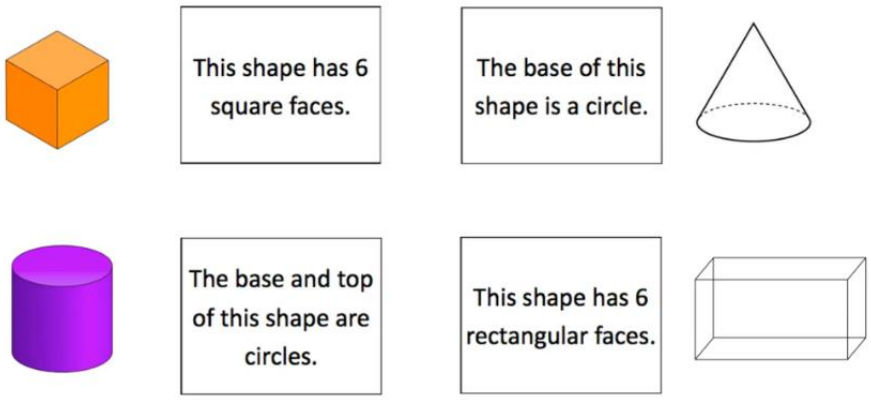
Eva says her 3-D shape has 12 edges.

Dora says she could have a cube, cuboid or square-based pyramid.

Is Dora correct?
Explain your answer.

Mark Scheme – Lesson 5

Independent Tasks
Main teaching



Example 1
It could be the cube or cuboid.

Example 2
it could be the cylinder or the cone.

Example 3
It is the cuboid.

Challenge 1
1. A cuboid because it has 6 rectangular faces. 2. A pyramid, square based pyramid or a triangular prism because it has triangular faces. 3. A cube or cuboid because a cube has 6 square faces and cuboid has 2 square faces.

Challenge 2
1. Cube – 2D is a square 2. Cone – 2D shape is a circle 3. Cuboid – 2D shape is a rectangle 4. Square based pyramid – 2D is a square and triangle 5. Cylinder – 2D shape is a circle 6. Triangular prism – 2D shape is a triangle and a rectangle

Challenge X
1. Same – both have square faces, 6 faces, 12 edges, don't roll, can stack, no curved edges. Different – name, colour, size, one only has square faces the other has squares and rectangles…. 2. Dora is not correct, because a square-based pyramid has 8 edges.