THIRD SPACE LEARNING

Ready-to-go Lesson Slides Year 2

Please note:
2-D and 3-D shapes will be needed for this lesson.

Geometry: Properties of Shapes

Lesson 8

Spr3

At Third Space Learning we provide personalised online lessons from specialist maths tutors to support the target groups in your school.

These ready-to-go slides are designed to work alongside our interventions to supplement quality first teaching and raise attainment in maths for all pupils.

To find out more about how you could use our 1-to-1 interventions year-round to boost maths progress in your school then get in touch:

020 3771 0095
hello@thirdspacelearning.com

Boosting maths progress through 1-to-1 conversations…

THIRD SPACE LEARNING

To count faces on 3-D shapes

Success Criteria:

- ❑ I know what a "face" is on a 3D shape.
- ❑ I can count faces on 3D shapes
- ❑ I know the difference between curved surfaces and faces

Starter:

Here is a number pattern.

1, 2, 2, 3, 1, 2, 2, 3…

Can you represent this pattern with 2-D shapes?

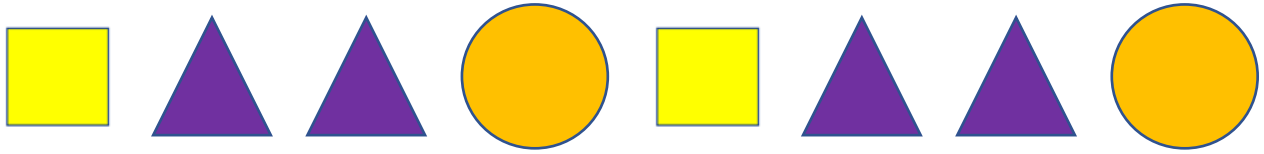
To count faces on 3-D shapes

Starter:

Here is a number pattern.

1, 2, 2, 3, 1, 2, 2, 3…

Can you represent this pattern with 2-D shapes?

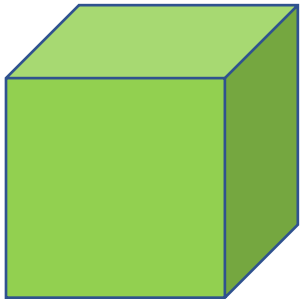


This is one possible answer.
There are other ways of making this pattern.

To count faces on 3-D shapes

Talking Time:

Here is a cube.
Which 2-D shapes would you be able to see if you looked at all the faces on this 3-D shape?
Can you draw what you would be able to see?



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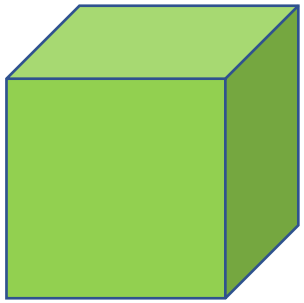
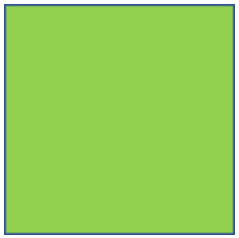


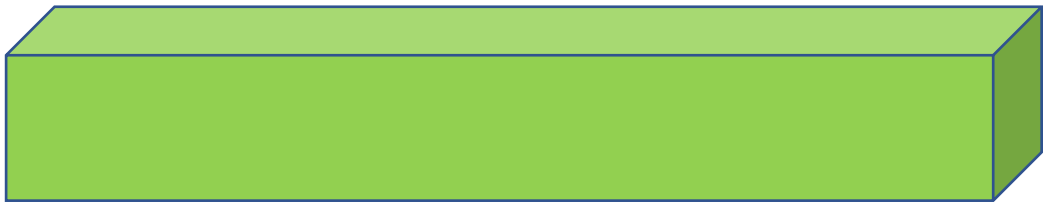
You would see **six square** faces on the cube.
So, you would need to draw six of these:



To count faces on 3-D shapes

Talking Time:

Here is a cuboid.
Which 2-D shapes would you be able to see if you looked at all the faces on this 3-D shape?
Can you draw what you would be able to see?



To count faces on 3-D shapes

Talking Time:

Here is a cuboid.
Which 2-D shapes would you be able to see if you looked at all the faces on this 3-D shape?
Can you draw what you would be able to see?

You would see **four rectangular** and **two square** faces on the cuboid.
So, you would need to draw

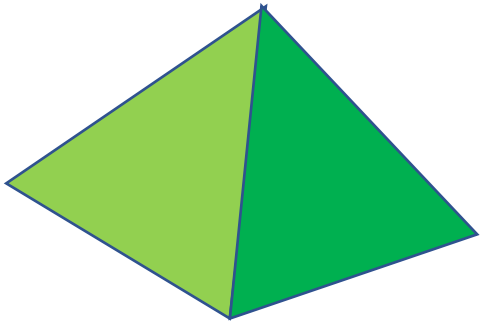
four of these

and two of these.

To count faces on 3-D shapes

Talking Time:

Here is a square-based pyramid.
Which 2-D shapes would you be able to see if you looked at all the faces on this 3-D shape?
Can you draw what you would be able to see?



To count faces on 3-D shapes

Talking Time:

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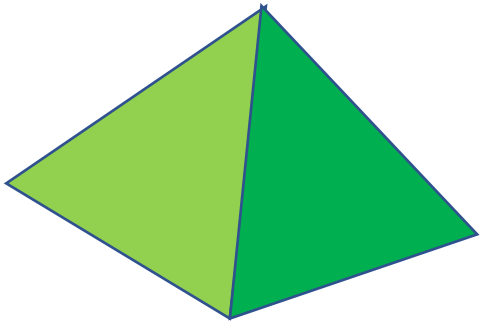
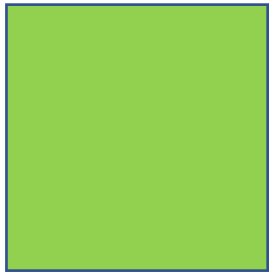


You would see **four triangular faces** and **one square face** on the square-based pyramid.
So, you would need to draw

four of these  and one of these  .

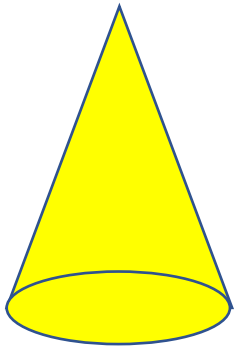
To count faces on 3-D shapes

Talking Time:

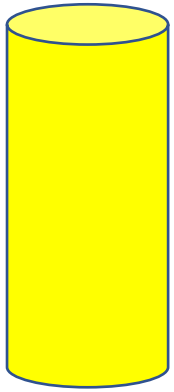
Alena has a 3-D shape.
She looks closely at the shape and she can see

- 2 faces that are circles
- 1 curved surface

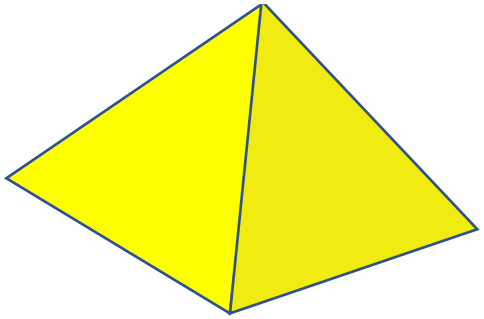
Which of these 3-D shapes is Alena looking at and how do you know?



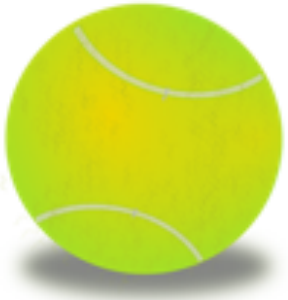
cone



cylinder



square-based pyramid



sphere

To count faces on 3-D shapes

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She looks closely at the shape and she can see

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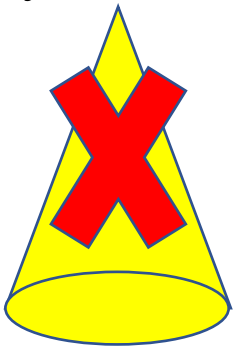
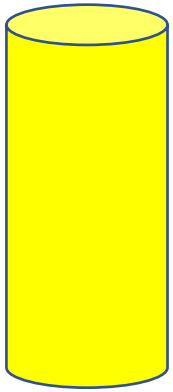
- 1 curved surface

Which of these 3-D shapes is Alena looking at and how do you know?

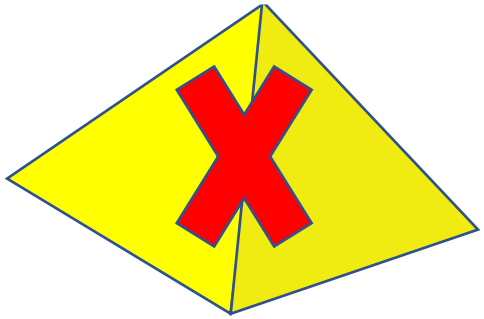


cone

This only has 1 circular face.



cylinder



square-based pyramid

This has no curved surfaces or circular faces.

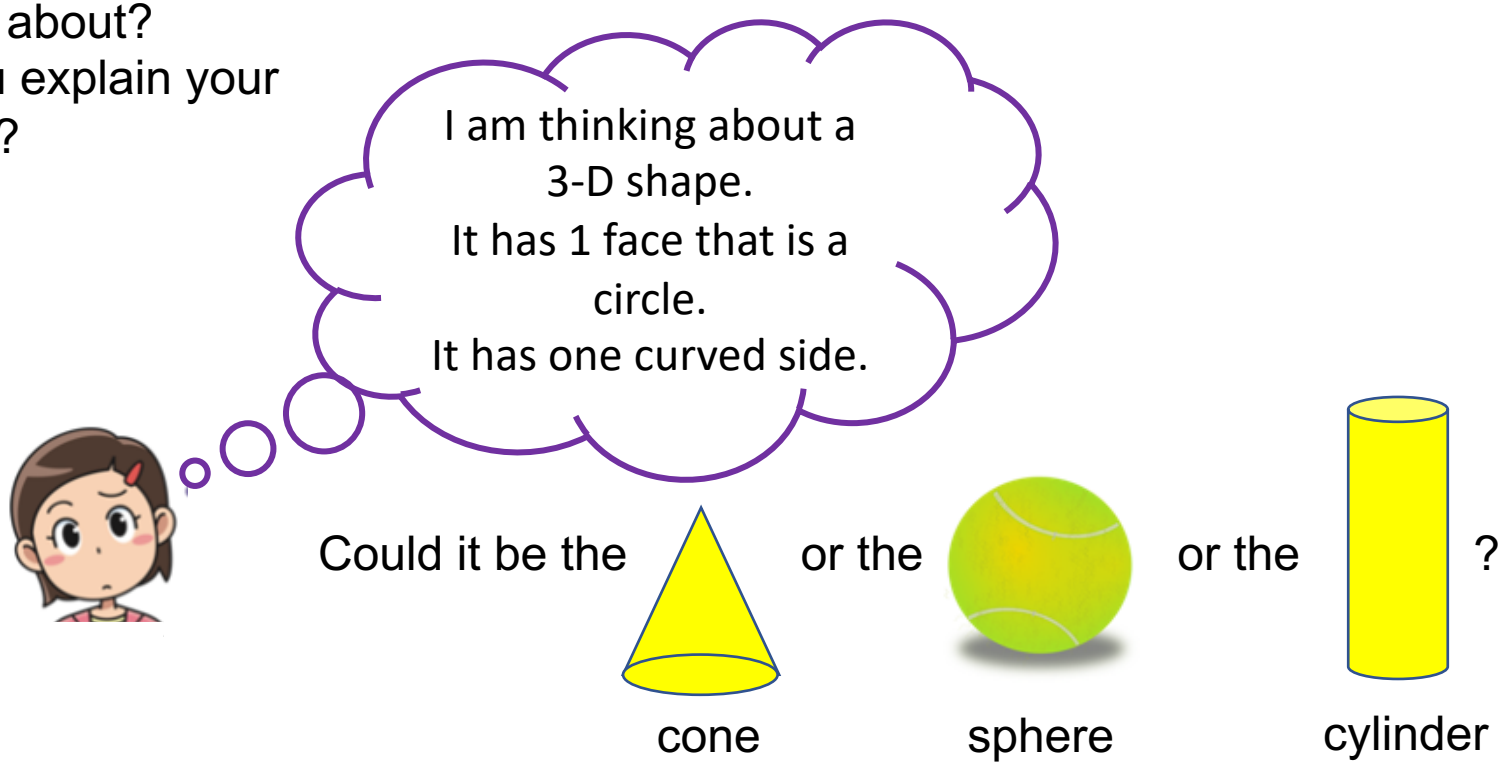
sphere

This only has 1 curved surface.

To count faces on 3-D shapes

Activity 1:

Darcey is thinking about a 3-D shape.
Can you work out which 3-D shape Darcey is thinking about?
Can you explain your thinking?



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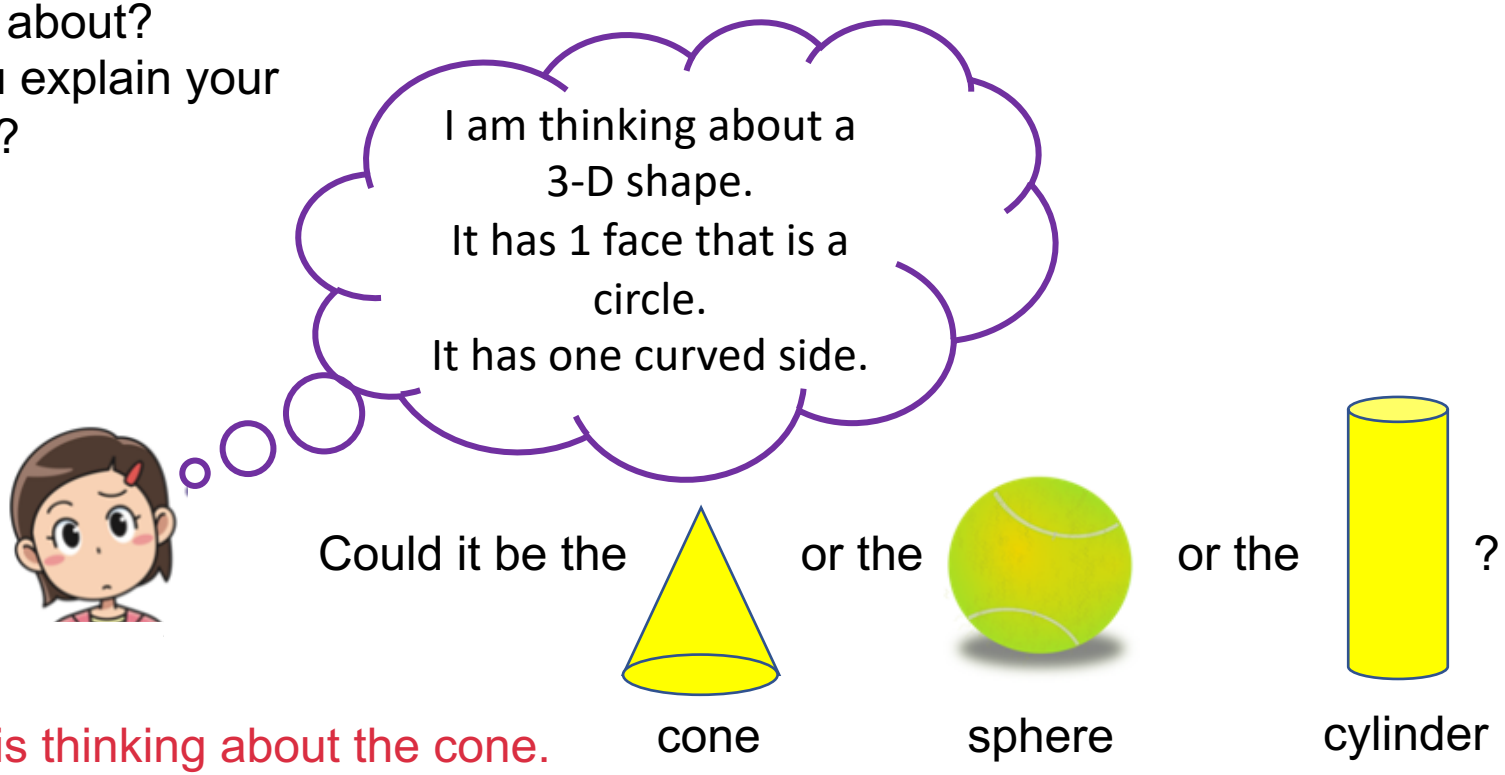
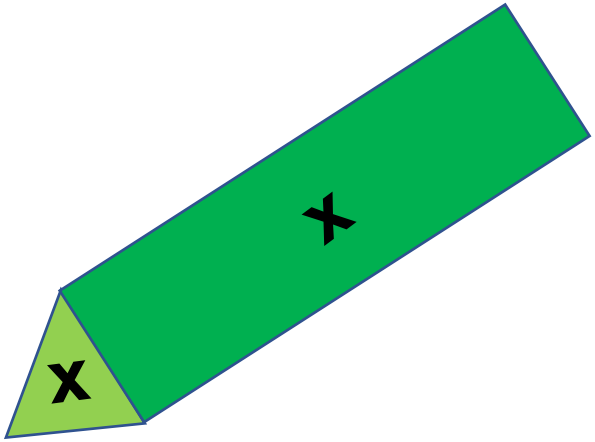


Darcey is thinking about the cone.
The sphere has no faces and the cylinder has 2 circular faces.

To count faces on 3-D shapes

Talking Time:

This is a triangular prism.
Jenson is counting the faces of the shape and he marks each face that he has counted with a cross.
How many crosses will Jenson write on this prism?



To count faces on 3-D shapes

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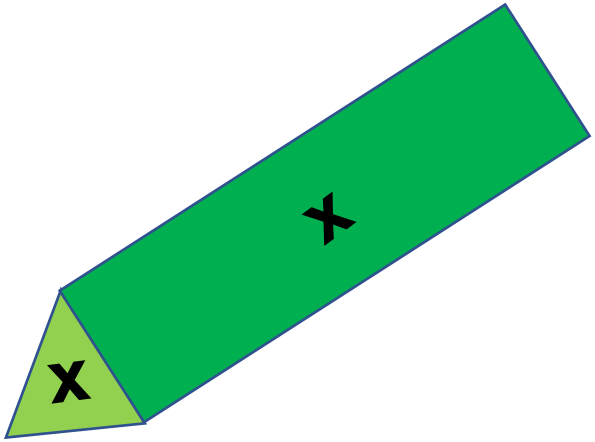
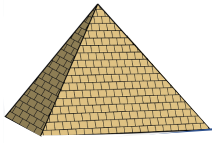


The triangular prism has five faces.
There are 3 rectangular ones and two triangular ones.
So, Jenson will write 5 crosses on the 3-D shape.

To count faces on 3-D shapes

Talking Time:

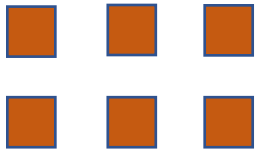
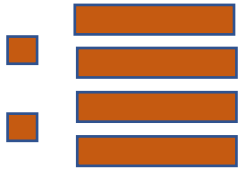
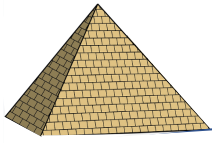
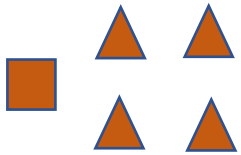
Can you complete this table of real-life 3-D objects?

shape	name of shape	number of flat faces	draw the faces
			
			
			
			

To count faces on 3-D shapes

Talking Time:

Can you complete this table of real-life 3-D objects?

shape	name of shape	number of flat faces	draw the faces
	cube	6	
	cuboid	6	
	square-based pyramid	5	
	triangular prism	5	

To count faces on 3-D shapes

Talking Time:

Jenson now has a sphere.
He is working out how many faces it has.
He thinks that it has lots!
Is he right?
Why? Why not?

To count faces on 3-D shapes

Talking Time:

Jenson now has a sphere.
He is working out how many faces it has.
He thinks that it has lots!
Is he right?
Why? Why not?

Jenson is not correct.
A sphere has no faces.
It only has one curved surface.

To count faces on 3-D shapes

Talking Time:

Can you complete this table of real-life 3-D objects?

shape	name of shape	number of flat faces	number of curved surfaces
			
			
			

To count faces on 3-D shapes

Talking Time:

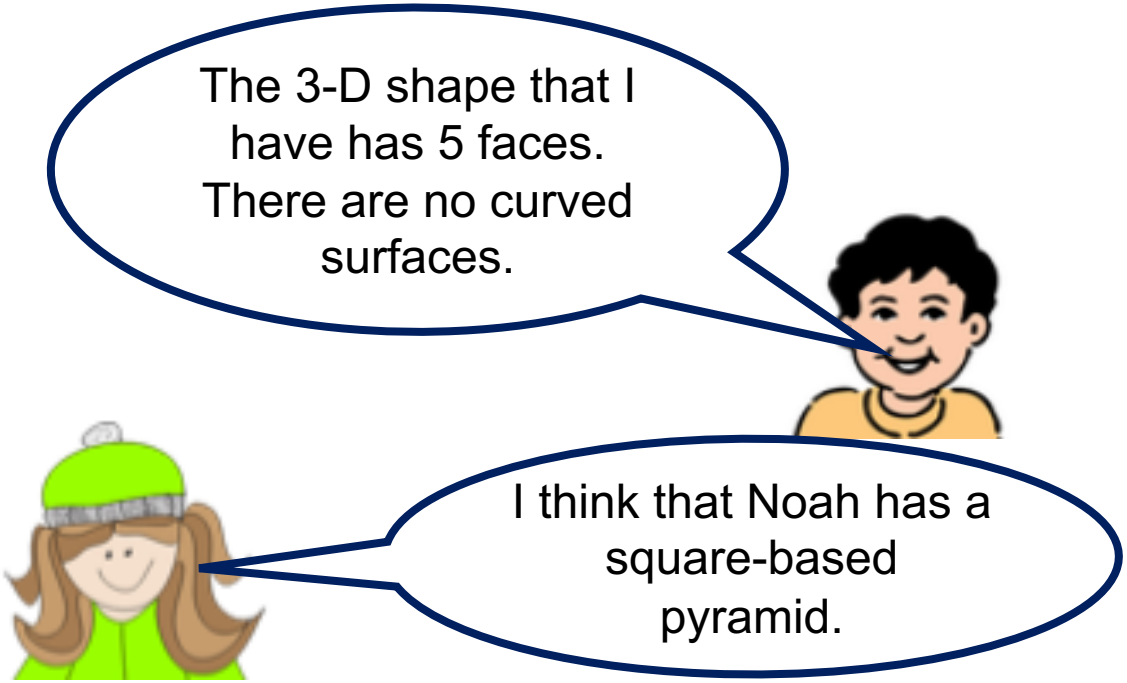
Can you complete this table of real-life 3-D objects?

shape	name of shape	number of flat faces	number of curved surfaces
	cone	1	1
	sphere	0	1
	cylinder	2	1

To count faces on 3-D shapes

Activity 2:

Noah has a 3-D shape.
Evie guesses what that 3-D shape is.
Do you agree with Evie's guess?
Why? Why not?
Could there be another answer?



To count faces on 3-D shapes

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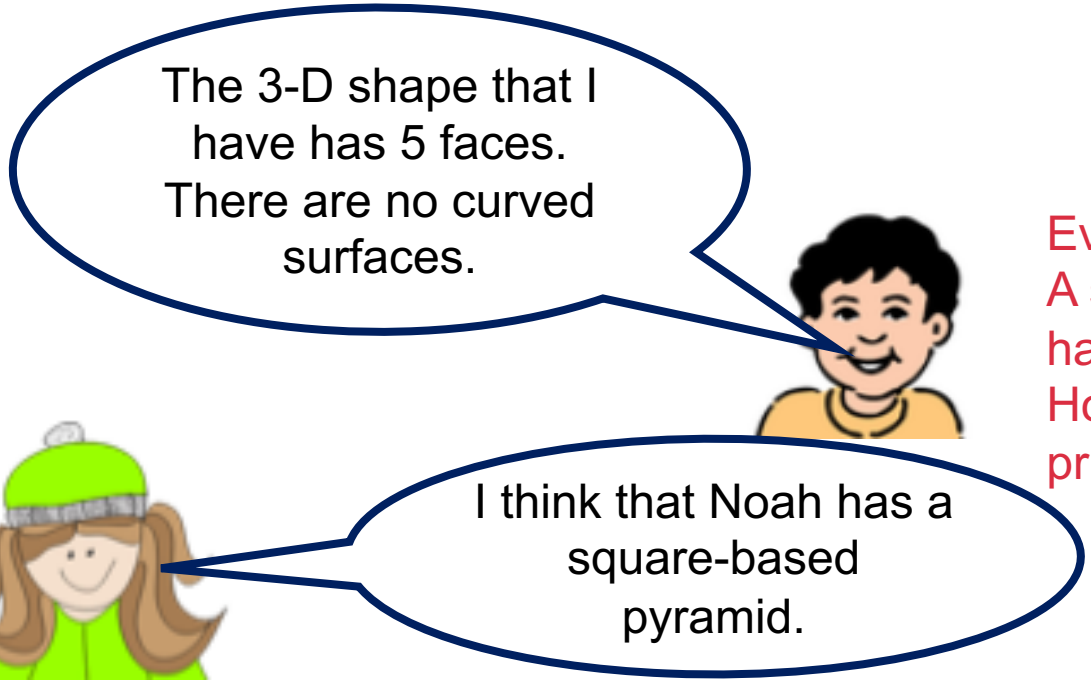

Evie could be right.
A square-based pyramid DOES have 5 faces.
However, so does a triangular prism. Noah could have either shape.

To count faces on 3-D shapes

Activity 3:

Bella is sorting some 3-D shapes.
Can you sort the shapes as well?
Does your sorting match Bella's answer on the next slide?

shapes with flat faces

shapes with curved surfaces

shapes with both

To count faces on 3-D shapes

Activity 3:

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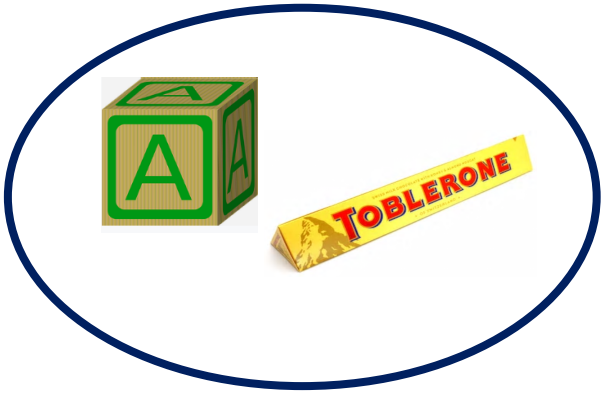
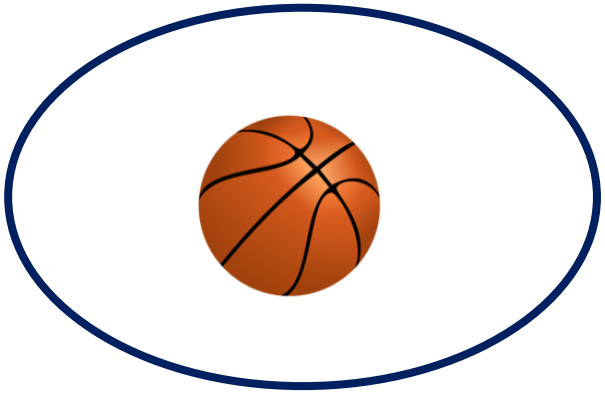


shapes with flat faces



shapes with curved surfaces

shapes with both

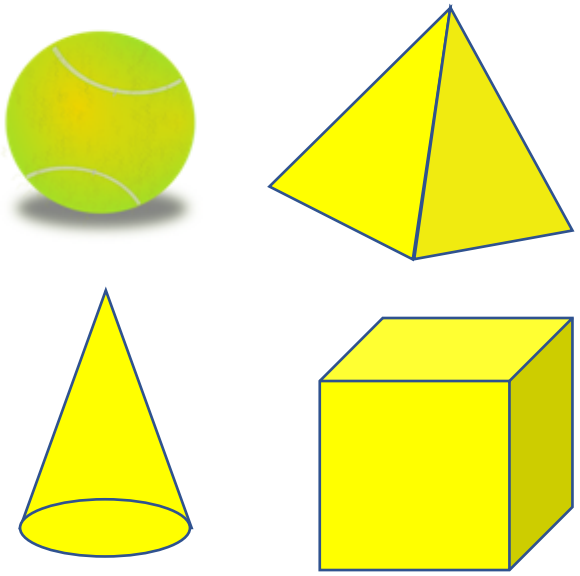
To count faces on 3-D shapes

Evaluation:

Can you use the clues to guess which 3-D shape I am thinking of?

The shape that I am thinking of

- has at least one face
- has a square face
- has more than one different shaped face



To count faces on 3-D shapes

Success Criteria:

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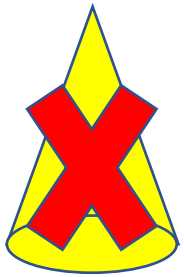

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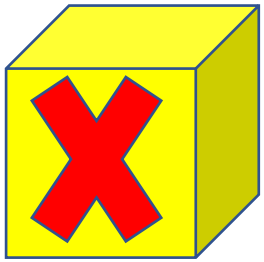
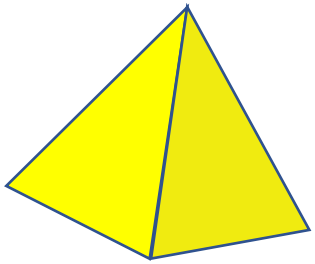


I am thinking of the square-based pyramid.



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