

## Lesson 1

### Count sides on 2D shapes

1 Complete the sentences to describe the shapes.

a)



A pentagon has  sides.

b)



A triangle has  sides.

c)



A  has  sides.

d)



A  has  sides.

2 Tick the 4-sided shapes.


☐

☐

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Did your partner tick the same shapes?

3 Tick the 6-sided shapes.


☐

☐

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☐

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Compare answers with a partner.

4 Complete the table.

Name	Shape	Number of sides
		3
pentagon		
		6
square		
		8

5



This shape is a triangle.



Is Amir correct?

How do you know?

6 Use 15 lolly sticks to make three shapes.



Draw your shapes.



Did your partner make the same shapes?

What happens if you use more or fewer lolly sticks?

## Count vertices on 2D shapes

White  
Rose  
Maths

- 1 Complete the sentences to describe the shapes.

a)



A pentagon has  vertices.

b)



A triangle has  vertices.

c)



A  has  vertices.

d)



A  has  vertices.

- 4 How many vertices does each shape have?

a)




b)




c)




d)




e)




f)




How did you count the vertices?

- 2 Tick the shapes with 4 vertices.


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Compare answers with a partner.

- 3 Tick the shapes with 6 vertices.


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Talk to a partner about your answers.

5



My shape has more vertices than a triangle, but fewer than a hexagon.

What shape could Ron have?

Compare answers with a partner.

- 6 Rosie is making a pattern out of shapes.

a) How many vertices are in each term of her pattern?








b) What do you notice?

c) How many vertices will the next term have?

d) Create your own pattern with shapes.

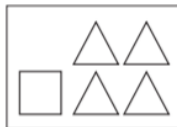
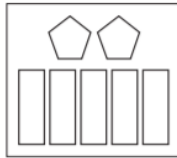
Count the number of vertices in each term.



## Lesson 2

### Count faces on 3D shapes

1 Match the shapes to the faces.



4 Match the description to the shape.

1 circular face and  
1 curved surface



2 circular faces and  
1 curved surface



4 triangular faces



5



A cube is the  
only 3D shape with  
6 faces.

Alex has made a mistake.

Name another 3D shape that has 6 faces.

\_\_\_\_\_

2 Complete the table.

Shape	Name	Number of faces

3



My shape has  
one curved surface.

What shape is Jack describing? \_\_\_\_\_

6 Dexter has 5 of the same 3D shapes.



In total, my  
shapes have 10  
circular faces.

What shapes has Dexter got?

Dexter has got 5 \_\_\_\_\_

7 Dora wants to put a sticker on each face of some cubes.

She has 60 stickers.

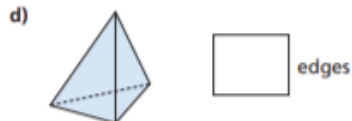
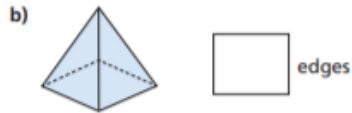
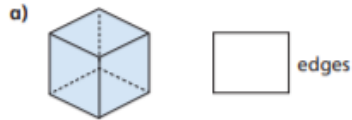
How many cubes can she cover in stickers?

Dora can cover  cubes in stickers.

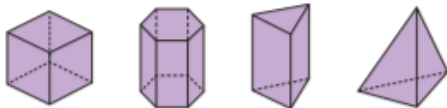
## Count edges on 3D shapes



1 How many edges does each shape have?



4 Use the clues to label the shape with the correct letter.



\_\_\_\_\_

- Shape A has an odd number of edges.
- Shape B has the most edges.
- Shape C has the same number of edges as a cube has faces.
- The edges of shape D are all the same length.

5 Write the name of two 3D shapes that have the same number of edges.

\_\_\_\_\_ and \_\_\_\_\_

2 Complete the table.

Shape	Name	Number of edges	Number of faces

3



3D shapes always have more edges than faces.

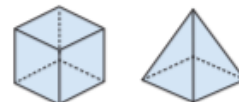
Do you agree? \_\_\_\_\_

Why?

6



A cube has 6 faces and 12 edges, so a square-based pyramid must have 5 faces and 10 edges. The number of edges is always double the number of faces.



Do you agree with Teddy? \_\_\_\_\_

Why?

7 This hexagonal prism has 18 edges.



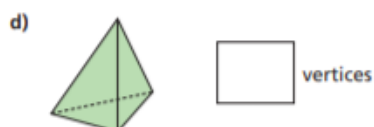
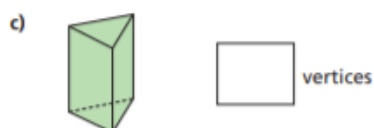
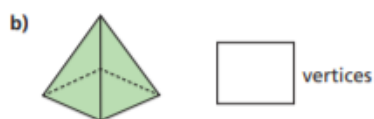
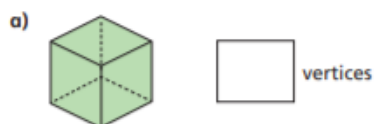
How many edges do you think a pentagonal prism has?

Why do you think this?

## Count vertices on 3D shapes

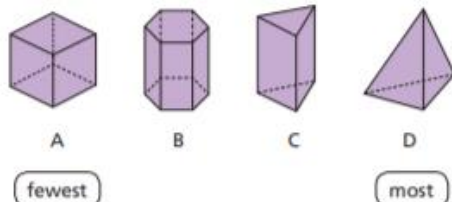
Rose Maths

1 How many vertices does each shape have?



3 Write the shapes in order of the number of vertices.

Start with the shape that has the fewest vertices.







4 Complete the sentences.

more

fewer

- a) A cube has \_\_\_\_\_ vertices than a sphere.
- b) A sphere has \_\_\_\_\_ vertices than a cone.
- c) A triangular prism has \_\_\_\_\_ vertices than a cuboid.

2 Complete the table.

Shape	Name	Number of vertices
		
		
		
		

Write the name of a different 3D shape with no vertices.

5 Match each shape to the correct label.

< 5 vertices

= 5 vertices

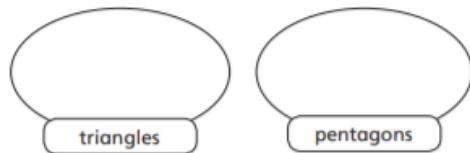
> 5 vertices



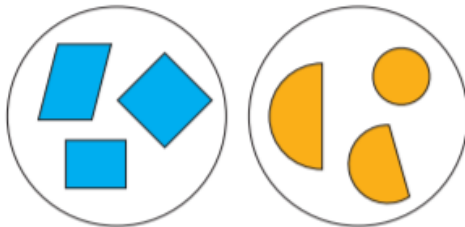
## Lesson 3

### Sort 2D shapes

- 1 Draw lines to sort the shapes into groups.

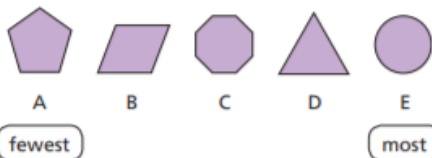


- 2 How have the shapes been sorted?



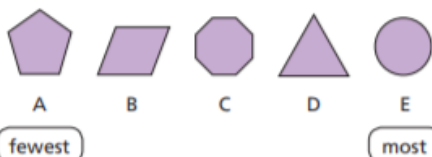
- 4 a) Sort the shapes in order of the number of sides.

Start with the shape that has the fewest sides.



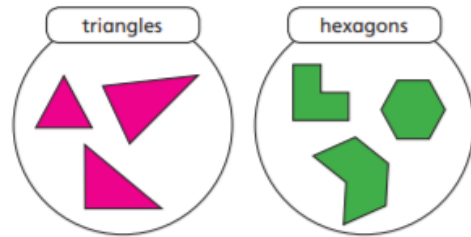
- b) Sort the shapes in order of the number of vertices.

Start with the shape that has the fewest vertices.



- c) What do you notice about your answers to part a) and part b)?

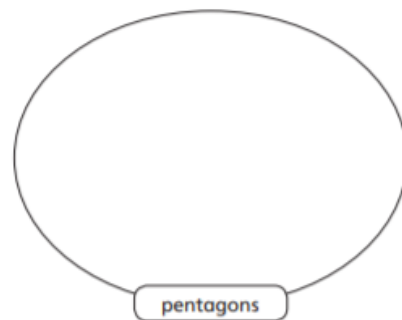
- 3 Eva sorts some shapes.



- a) Is Eva correct? \_\_\_\_\_

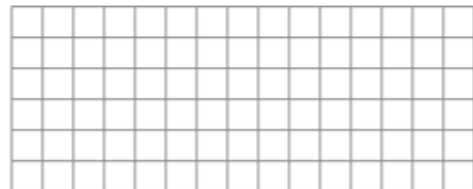
How do you know?

- b) Draw a group of three different pentagons.

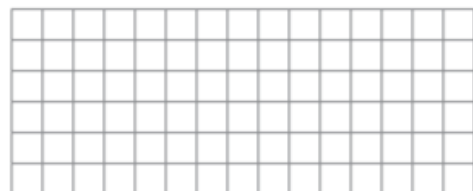


- 5 Draw three different shapes in each group.

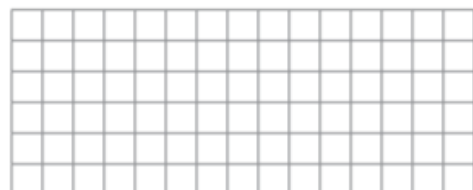
shapes with 4 sides



shapes with an odd number of vertices



shapes with an even number of sides



## Sort 3D shapes

- 1 Circle the odd one out in each group and complete the sentences.

a)



The odd one out is a \_\_\_\_\_.

b)



The odd one out is a \_\_\_\_\_.

- 2 Tick the shape that could go in the group.

has a curved surface



- 5 Write the name of a 3D shape that could go in each group.

has 5 vertices



has 12 edges

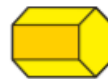


has 1 curved surface

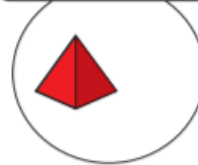


Can you think of any other shapes to go in each group?

- 3 Tick the shape that could go in both groups.



odd number of faces



even number of vertices



- 4 How have the shapes been grouped?



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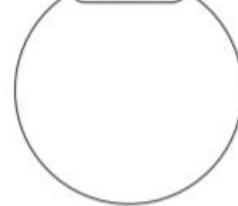
- 6 a) Draw lines to sort the shapes into two groups.



Group A



Group B



- b) Give each of your groups a label.

Group A: \_\_\_\_\_

Group B: \_\_\_\_\_

Compare answers with a partner.

## Lesson 4

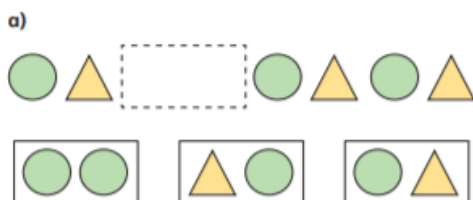
### Make patterns with 2D shapes

Write  
Rose  
Maths

1 Draw the next two shapes in each pattern.



2 Tick the shapes that fit in each pattern.

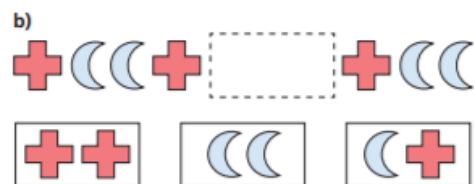


4 Mo makes a pattern using 4 rectangles, 4 triangles and 4 circles.

What could Mo's pattern be?

Draw two different possibilities.

5 Draw the 10th shape for each pattern.



3



My pattern goes:  
circle, triangle, square,  
then it repeats.

a) Draw the first 9 shapes in Rosie's pattern.

b) What is the name of the 10th shape in the pattern?

c) What is the name of the shape to the right of the 5th shape?

6 Write your own repeating pattern of shapes.

For example: circle, rectangle, rectangle, circle, rectangle, rectangle ...

\_\_\_\_\_

\_\_\_\_\_

Swap with a partner and draw each other's patterns.

7 Draw a shape in each box to make a repeating pattern.

You may want to practise on a whiteboard.




## Make patterns with 3D shapes

1 Draw the next shape in each pattern.



4 Tick the row that shows the pattern.

a) cube, sphere, cone, cube, sphere, cone



b) cylinder, pyramid, pyramid, cylinder, pyramid, pyramid



2 What is the name of the 3rd shape in the pattern?



\_\_\_\_\_

3 Here is a pattern made with 3D shapes.



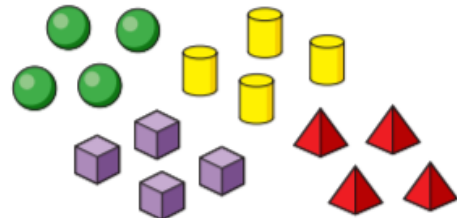
a) Write the name of the 4th shape in the pattern.

\_\_\_\_\_

b) What would the 13th shape in the pattern be?

\_\_\_\_\_

5 Eva is making a pattern using these shapes.



a) What pattern could Eva make?

b) Can you arrange Eva's shapes to make a symmetrical pattern?

c) Compare answers with a partner.