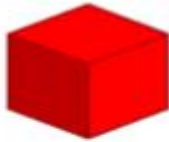


Match the shape to its name.



cube

cylinder

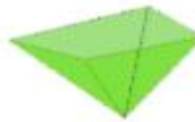
cuboid

pyramid

cone

sphere

Circle the cubes. Tick the pyramids.



Lucy has built a model.

Complete the sentences to describe Lucy's model.

There are \_\_\_ cuboids.

There are \_\_\_ cylinders.

There are \_\_\_ pyramids.

There are \_\_\_ cubes.



## Mathematical Talk

Can we see any 3D shapes in the classroom?

Do cubes all look the same?

Is a pyramid only a pyramid when the point is at the top?

## Mathematical Talk

Do all cuboids look the same as each other?

How are they different?

Take two different cylinders. What's the same about them?

What's different?

# 3D Shapes

## Reasoning and Problem Solving

The shapes below are shadows of a 3D shape.



What could the 3D shape be?

Place a 3D shape in a feely bag.  
What shape could it be?



Explain how you know.

The square could be a shadow of a square based pyramid, cuboid or cone.  
The circle could be a shadow of a cylinder, sphere or cone.

Possible answer:  
I think it is a cuboid because I cannot feel any curved surfaces but I can feel a long and smaller face.

The bottom of a 3D shape is hidden.



What shape could it be?

Explain how you know.

Possible answers:

Cube  
Cuboid

Circle the odd one out in each group.



Place the shapes in the correct groups.

cylinders

cuboids

a

b

c

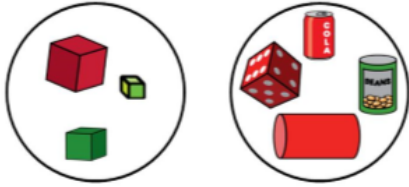
d

e

# Sort 3D Shapes

## Reasoning and Problem Solving

Some 3D shapes have been sorted.



Have the shapes been sorted correctly?

Explain how you know.

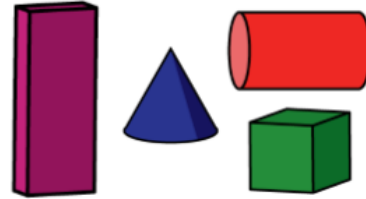
How else could the shapes be sorted?

Possible answers

The shapes have been sorted into colour. The green tin of beans and the red cube need to be moved.

The shapes have been sorted into cylinders and cubes. The dice needs to be moved.

How many ways can you sort the shapes into groups?



Possible answers:

Straight faces and curved surfaces.

Shapes with a circular face and shapes with a square face

Big shapes and small shapes

Trace around the shapes and write their names beneath them.



Choose a 3D object. Use one of the faces as a stencil to draw around. Name the shape that you have drawn. How many different 2D shapes can you draw using 3D shapes as a stencil?

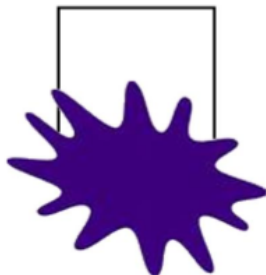
Circle the triangles and tick the rectangles.



# 2D Shapes

## Reasoning and Problem Solving

Part of a shape is hidden.



It could be a square because it can have 4 sides the same length.

It could be a rectangle because it could have 2 longer sides.

What shape could it be?

Is there more than one possibility?

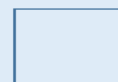
Explain your thinking.

Here is part of a shape.



Possible answers:

Children could continue the shape to make a square, rectangle or triangle.



How many different ways can you complete the shape using one or more straight lines?

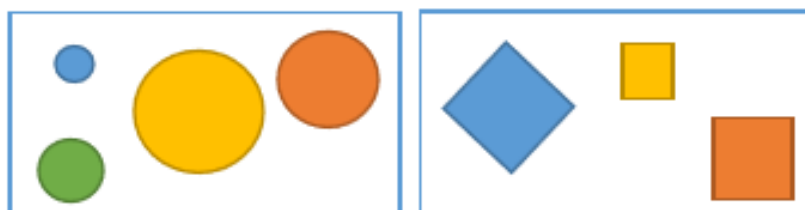
Compare yours with a partner.

What is the same and what is different?

Circle the odd one out in each group.



How are the shapes grouped?  
Label each group.



Use a selection of triangles, rectangles, squares and circles.  
Put your shapes into groups.  
Ask a friend to label the groups.

# Mathematical Talk

What is the same about all the rectangles?

What is the same about a square and a rectangle? What's different?

Why is the shape the odd one out? Could another shape be the odd one out?

## Sort 2D Shapes

### Reasoning and Problem Solving

Use a selection of triangles, rectangles, squares and circles.



Put your shapes into groups.

Ask a partner to label your groups.

How many groups can you create?

Possible ways of sorting:

Colour, name of shape, number of sides.

Look at the square and rectangle below.

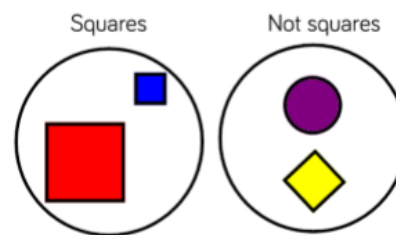


What is the same and what is different?

The square and the rectangle both have 4 sides.

The rectangle has 2 short sides and 2 long sides.

Simon has sorted some shapes.



Has he sorted them correctly?

Explain how you know.

Simon has not sorted them correctly.

The yellow shape is a square; it is just a different way round.

# Mathematical Talk

How can we describe the pattern? What will come next? What's the same and what's different about the first two caterpillar patterns?

What does 1st mean? What colour will come after red?

Let's look at a cone and cube- what shapes can you see on a cone? What shape can you see on a cube?

Continue the patterns.



Can you create your own using two colours?



Using blocks, cubes or paint, create and continue the pattern:

1<sup>st</sup> – Red

2<sup>nd</sup> – Green

3<sup>rd</sup> – Red

The pattern below has been created by printing 3D shapes.



What 3D shape below would you use next to continue the pattern?



Cone



Cube

## Reasoning and Problem Solving

Fred and Emma have each created a pattern.



Our patterns are exactly the same.

Emma

Our patterns are different.



Fred

Who do you agree with?

Explain your answer.

Fred is correct because the triangle is in a different orientation.

Which shape could go in the grey box?



How can you check?

Can you make a different pattern with the same shapes?

The cylinder should go in the grey box

I can check by getting the shapes out and seeing if it repeats correctly.