

# Reasoning and Problem Solving

## Step 4: Sort 2D shapes

Teaching note: We recommend that this resource is printed in colour.

### National Curriculum Objectives:

Mathematics Year 1: (1G1a) [Recognise and name common 2-D shapes \[for example, rectangles \(including squares\), circles and triangles\]](#)

### Differentiation:

Questions 1, 4 and 7 (Problem Solving)

**Developing** Spot the mistake when sorting two groups of shapes. Shapes include circles, triangles and squares of various orientation. Shapes are consistent sizes and colours.

**Expected** Spot the mistake when sorting two groups of shapes. Shapes include circles, triangles, rectangles and squares of various orientation, size and colour.

**Greater Depth** Spot mistake when sorting two groups of shapes. Shapes include circles, triangles, rectangles, squares, pentagons and hexagons of various orientation, colour and size.

Questions 2, 5 and 8 (Problem Solving)

**Developing** Sort the shapes into two groups by colour or type. Shapes include circles, triangles and squares of various orientation. Shapes are consistent sizes and colours.

**Expected** Sort the shapes into three groups by colour, size or type. Shapes include circles, triangles, rectangles and squares of various orientation and colour. Shapes are consistent sizes.

**Greater Depth** Sort the shapes into four groups by colour, size or type. Shapes include circles, triangles, rectangles, squares, pentagons and hexagons of various orientation, colour and size.

Questions 3, 6 and 9 (Reasoning)

**Developing** Identify and explain how the shapes can be sorted into 2 groups. Shapes include circles, triangles and squares of various. Shapes are consistent sizes and colours.

**Expected** Identify and explain how the shapes can be sorted into 3 groups. Shapes include circles, triangles, rectangles and squares of various orientation, size and colour.

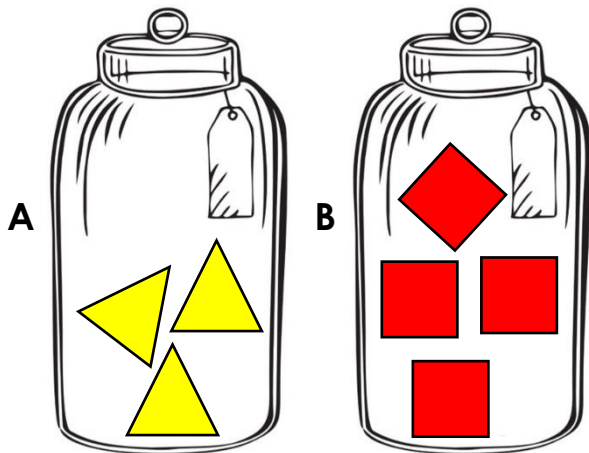
**Greater Depth** Identify and explain how the shapes can be sorted into 4 groups. Shapes include circles, triangles, rectangles, squares, pentagons and hexagons of various orientation, colour and size.

More [Year 1 Shape](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

## Sort 2D shapes

1a. Spot the mistake below.



A

B

Squares

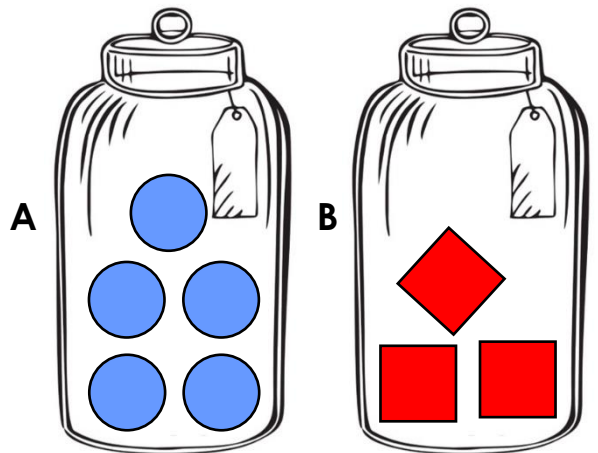
Triangles



PS

## Sort 2D shapes

1b. Spot the mistake below.



A

B

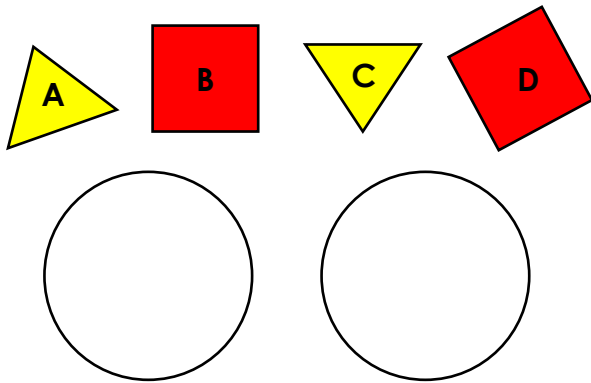
Circles

Triangles



PS

2a. Sort the shapes below.

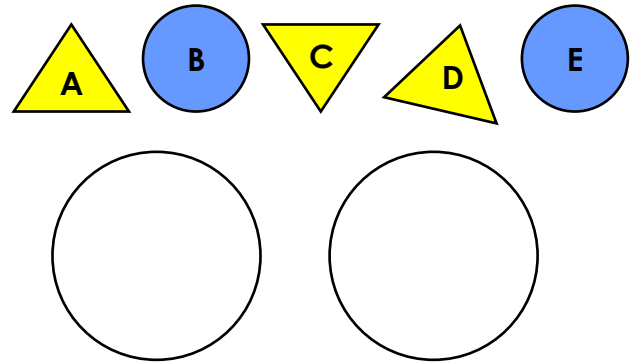


How many different ways can you sort them?



PS

2b. Sort the shapes below.

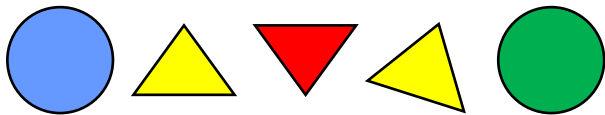


How many different ways can you sort them?



PS

3a. The children have five shapes.



Jessie

The shapes can be sorted into 3 groups.



Rob

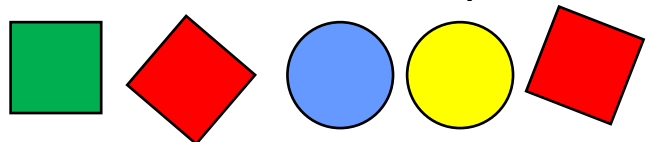
The shapes can be sorted into 2 groups.

Who is correct? Explain your answer.



R

3b. The children have five shapes.



Alina

The shapes can be sorted into 2 groups.

The shapes can be sorted into 3 groups.



Lee

Who is correct? Explain your answer.

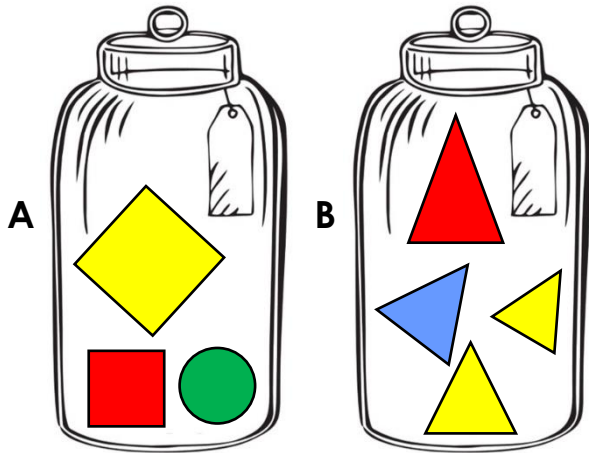


R

## Sort 2D shapes

## Sort 2D shapes

4a. Spot the mistake below.



A

B

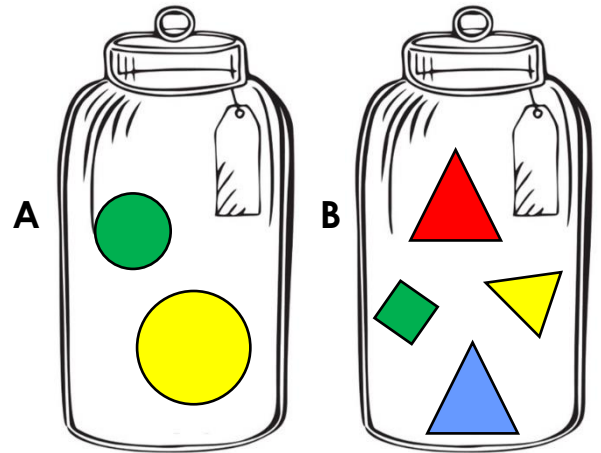
Squares

Triangles



PS

4b. Spot the mistake below.



A

B

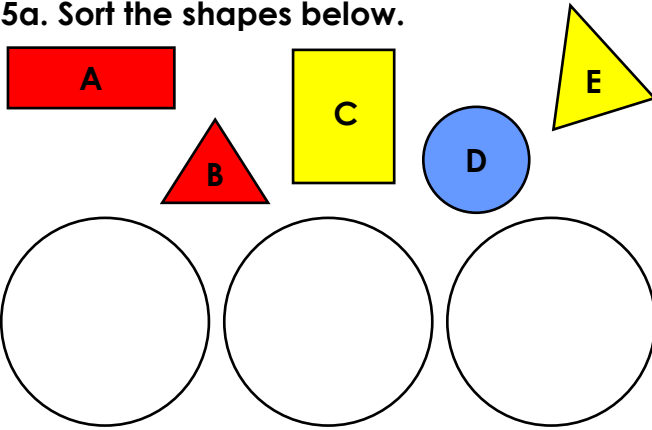
Circles

Triangles



PS

5a. Sort the shapes below.

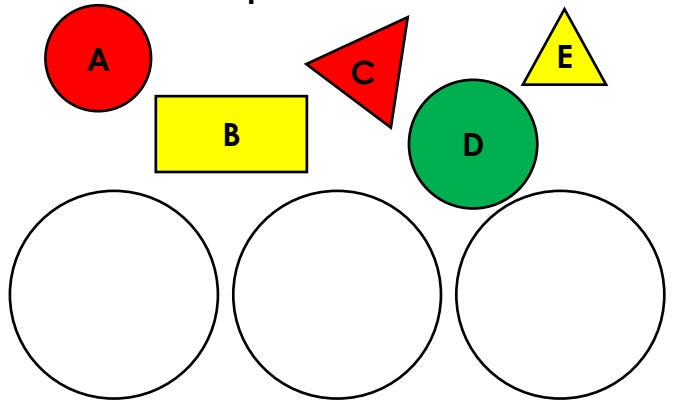


How many different ways can you sort them?



PS

5b. Sort the shapes below.

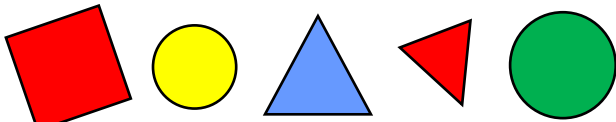


How many different ways can you sort them?



PS

6a. The children have five shapes.



The shapes can be sorted into 3 groups.

Kay

The shapes can be sorted into 2 groups.



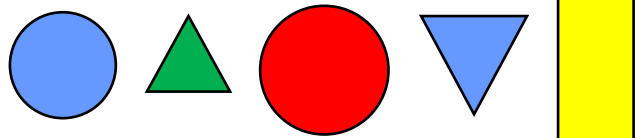
Matt

Who is correct? Explain your answer.



R

6b. The children have five shapes.



The shapes can be sorted into 2 groups.

Pat

The shapes can be sorted into 3 groups.



Sal

Who is correct? Explain your answer.

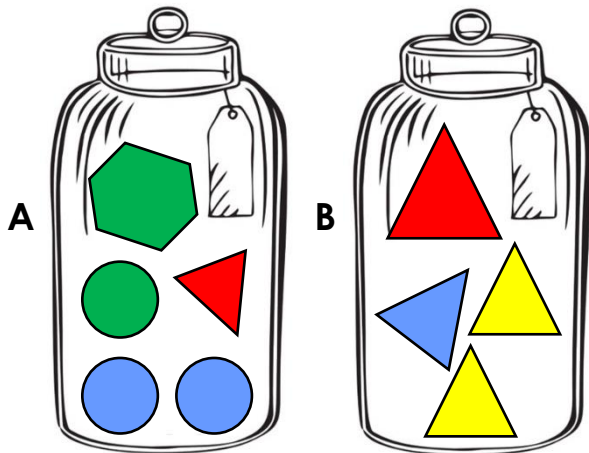


R

## Sort 2D shapes

## Sort 2D shapes

7a. Spot the mistake below.

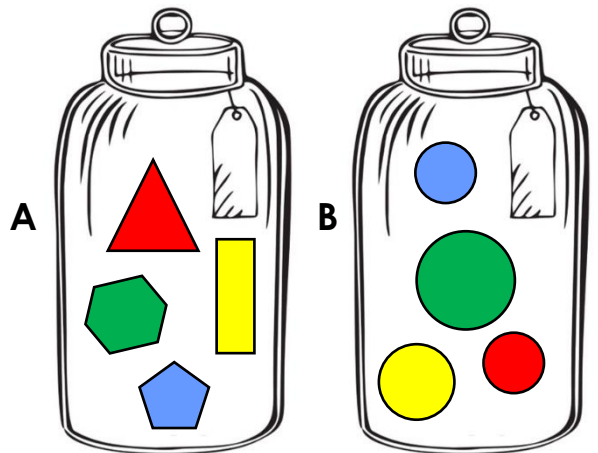


Not triangles

Triangles

PS

7b. Spot the mistake below.

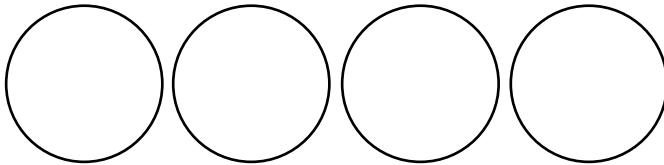
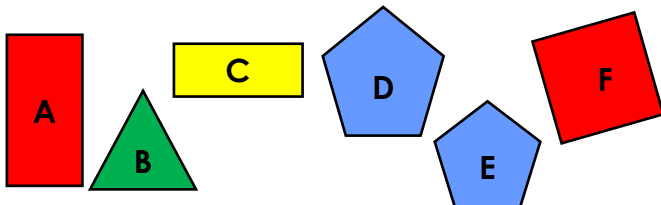


Circles

Not circles

PS

8a. Sort the shapes below.

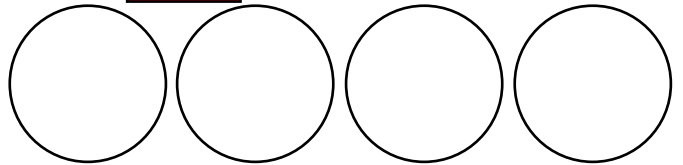
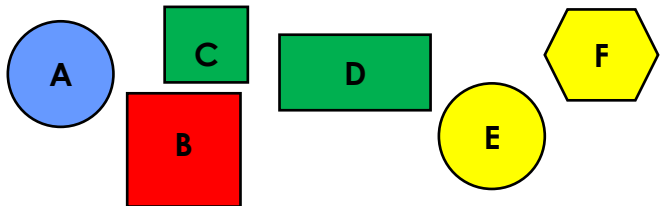


How many different ways can you sort them?



PS

8b. Sort the shapes below.

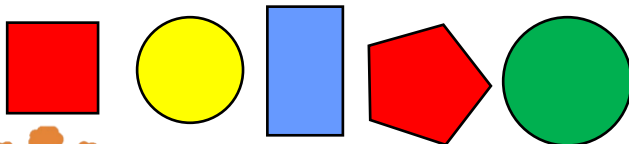


How many different ways can you sort them?



PS

9a. The children have five shapes.



Suzi

The shapes can be sorted into 3 groups.

The shapes can be sorted into 4 groups.



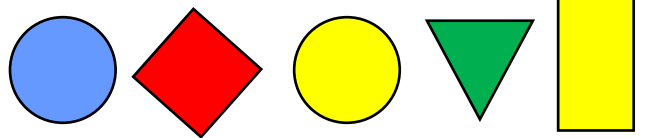
Tom

Who is correct? Explain your answer.



R

9b. The children have five shapes.



Emma

The shapes can be sorted into 2 groups.

The shapes can be sorted into 4 groups.



Mo

Who is correct? Explain your answer.



R

## Reasoning and Problem Solving Sort 2D shapes

### Developing

- 1a. The labels are on the wrong jars.  
2a. Triangles (A, C) and squares (B, D). You can sort the shapes in two different ways, by shape or by colour.  
3a. Rob; the shapes can be sorted into 2 groups (circles and triangles).

### Expected

- 4a. Jar A contains a circle.  
5a. Rectangle (A, C), triangle (B, E) and circle (D). You can sort the shapes in two different ways, by shape or by colour.  
6a. Kay; the shapes can be sorted into 3 groups (squares, circles and triangles).

### Greater Depth

- 7a. Jar A contains a triangle.  
8a. Rectangle (A, C), square (F), triangle (B), not rectangles, squares or triangles (D, E). You can sort the shapes in two different ways, by shape or by colour.  
9a. Tom; the shapes can be sorted into 4 groups (squares, circles, rectangles and not squares, circles or rectangles). He can also group them by colour (green, blue, red and yellow).

## Reasoning and Problem Solving Sort 2D shapes

### Developing

- 1b. Jar B should be labelled 'squares'.  
2b. Triangles (A, C, D) and circles (B, E). You can sort the shapes in two different ways, by shape or by colour.  
3b. Alina; the shapes can be sorted into 2 groups (squares and circles).

### Expected

- 4b. Jar B contains a square.  
5b. Rectangle (B), circle (A, D) and triangle (C, E). You can sort the shapes in two different ways, by shape or by colour.  
6b. Sal; the shapes can be sorted into 3 groups (rectangles, circles and triangles).

### Greater Depth

- 7b. The labels are on the wrong jars.  
8b. Circle (A, E), square (B, C), rectangle (D), not circle, square or rectangle (F). You can sort the shapes in two different ways, by shape or by colour.  
9b. Mo; the shapes can be sorted into 4 groups (circles, squares, triangles and rectangles). He can also group them by colour (blue, red, yellow and green).