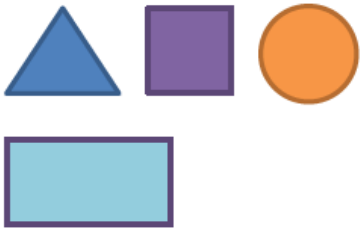
FLUENCY PROGRESSION – GEOMETRY (Properties of Shape)

Year 1 (Properties of Shape)

- Use a feely bag, put your hand in the bag, can you find the triangle? Can you feel the circle? Can you find the rectangle and the square?
- Sort a range of 3D objects (boxes, balls, cans) into groups. Use their shape names to describe the groups you have put them into.
- Label these shapes with their names.



Year 2 (Properties of Shape)

- How many sides does an octagon have?
- Count the sides of this shape and then name it.

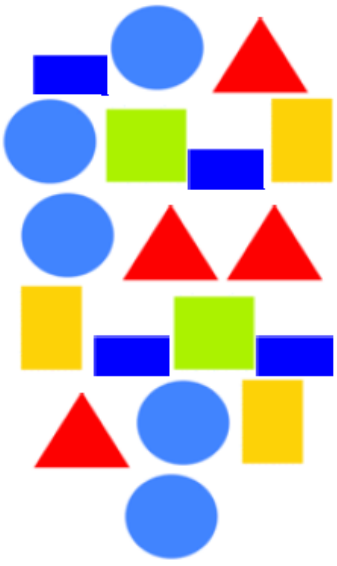
- How many corners does a square have?
- How many faces does a cube have?
- What is my shape?
  I have 5 faces, 8 edges and 5 vertices.
- What is the name given to 2 faces that meet?

Year 2 (Properties of Shape)

- Find 3 different 3D shapes in the classroom.
- Sort the shapes on your tables into 2D and 3D.
- What is my shape?
  It is used in a game with two teams. It has only 1 face.
- Which 2D shape makes 2 of the faces on a cylinder?
- Fill in the missing number:
  A square based pyramid has  faces made from triangles.
- Name a 3D shape that has a rectangle as one of their faces?

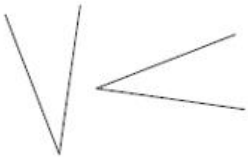
Year 2 (Properties of Shape)

- Draw a pattern to show the following: red triangle, yellow square, blue circle.
- Use the cubes to make a sequence. Can your partner continue it?
- Create a pattern using only these shapes.



Year 3 (Angles)

- Stick the words North, East, South and West on four walls. Ask children to face north then turn to west.
  How many quarter turns have you made?
- Has this angle turned 90° to the left or the right?



- Tick all the angles in this shape.

Year 3 (Angles)

- How many right angles does this circle have?

- Tick the angles that are less than a right angle

- Using 2 sticks or straws, can you make 1, 2 and 4 right angles?

Year 3 (Angles)

- Draw a line so that it is perpendicular to the one given

- Draw a line that is parallel to the one given

- Circle the horizontal line

Year 3 (Properties of Shape)

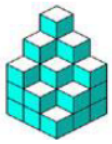
- Draw a 2D shape with a pair of parallel lines. Did your friend draw the same or something different?

- Use these shapes to create a repeating pattern. Leave a space where you have missed out a shape – can your partner guess what the shape should be?

- Label the angles in your shapes – are they greater than or less than 90°

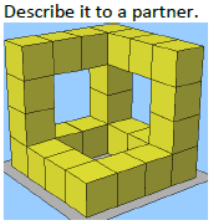
Year 3 (Properties of Shape)

- What is this shape made up of?



Does your partner agree? Can they see anything different?

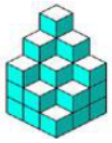
- Can you build this shape? What does it look like when you half turn it? Describe it to a partner.



- 3D shape hunt. Find the shapes hidden in the classroom. Group them together with others.

Year 3 (Properties of Shape)

- What is this shape made up of?



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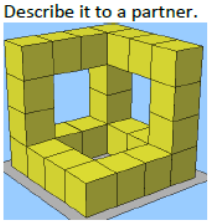


- 3D shape hunt. Find the shapes hidden in the classroom. Group them together with others.

Year 4 (Angles)

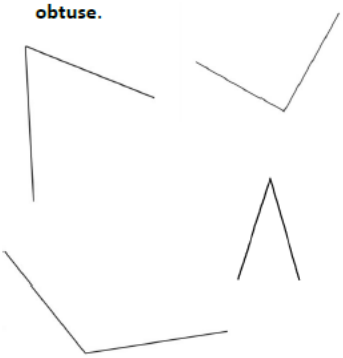
- Label the angles below as **acute**, **right** or **obtuse**.

a)

b)

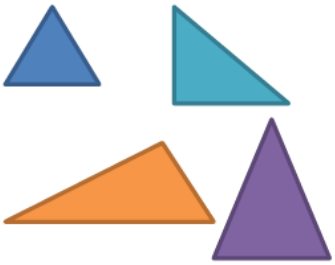
c)

- Order the angles from smallest to largest. Label them **acute**, **right** or **obtuse**.

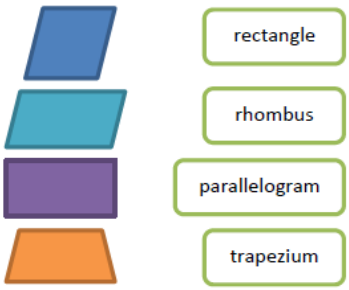


Year 4 (Properties of Shape)

- Label each of the triangles **isosceles**, **scalene** or **equilateral**.



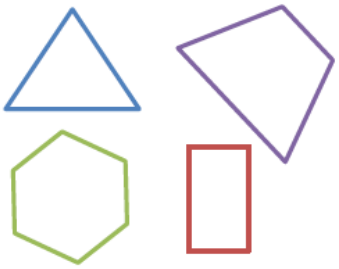
- Match the quadrilaterals to their names.



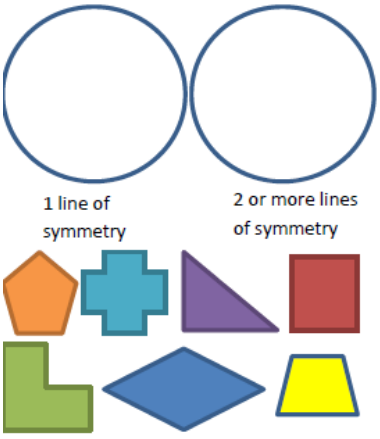
Write down the properties of each of the shapes.

Year 4 (Symmetry)

- Find lines of symmetry in the shapes.



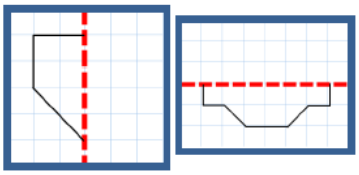
- Sort the shapes into the groups.



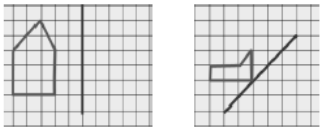
Can you add one more shape to each group?

Year 4 (Symmetry)

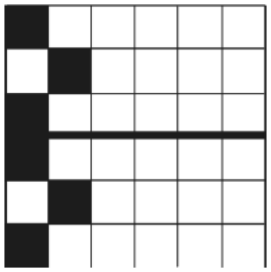
- Complete the shape with respect to the line of symmetry.



- Reflect the shape in the mirror line



- Shade in the squares to complete a symmetrical pattern.



Year 5 (Angles)

- If one angle in a triangle is 38° and another is 68°, what type of angle will the third be?
- Tick all the obtuse angles

47° 107°

98° 90°

- Which number is an angle?

79.4	-60

Explain why.

Year 5 (Angles)

Complete practically

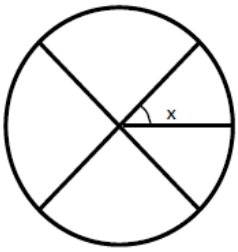
- Draw an obtuse angle that is a multiple of 5 and 3

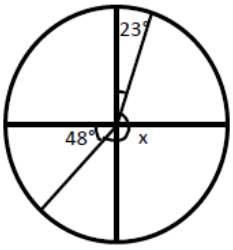
  Can your partner check it?

- Draw an acute angle that has a factor of both 4 and 6
- What do the angles in a triangle add up to?

Year 5 (Angles)

- Work out the missing angles.





Year 5 (Properties of Shape)

- **What shape am I?**

  a) My faces are made up of a square and four triangles.

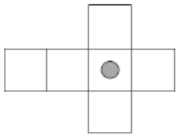
  b) My faces are made up of rectangles and triangles.

- Complete the sentences.

  A tetrahedron has ___ faces. The faces are made from _____.

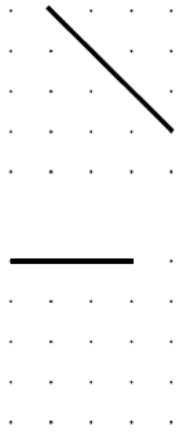
  A cube has ___ faces. The faces are made from _____.

- Draw another dot on the net of the cube below so it has a dot on the opposite face when the 3D shape is constructed.

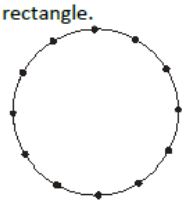


Year 5 (Properties of Shape)

- Complete the rectangles on the grids below.



- Why is a square a special rectangle?
- Join 4 dots together to make a rectangle.

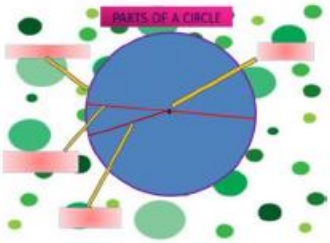


Year 5 (Properties of Shape)

- Name 4 irregular 4 sided polygons.
- Name 5 regular polygons.
- Draw a regular polygon and an irregular polygon on the grids below.

Year (Circles)

- Label the diagram below using the labels provided.

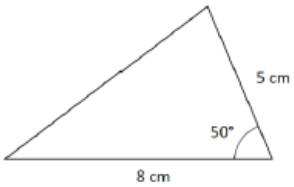


centre | diameter | radius | circumference

- Use the radius of the circles to find the diameter:
  a) 5cm
  b) 3cm
  c) 9cm
- Use the diameter of the circles to find the radius:
  a) 10cm
  b) 12cm
  c) 20cm

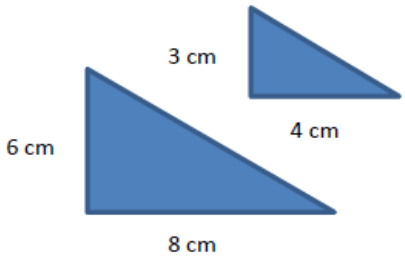
Year 6 (Angles)

- Here is a sketch of a triangle:



Draw an accurate full size diagram of the triangle.

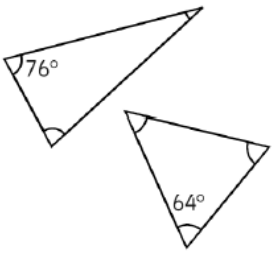
- Draw these two triangles accurately.



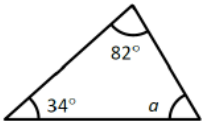
Measure the two other angles. What do you notice?
Measure the other side. What do you notice about the sides?

Year 6 (Angles)

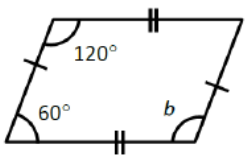
- Find the missing angles in the isosceles triangles.



- Find the missing angle.

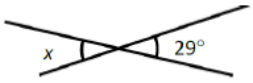


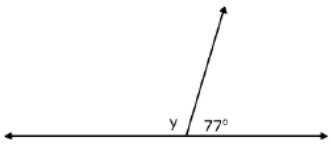
- What is angle b?

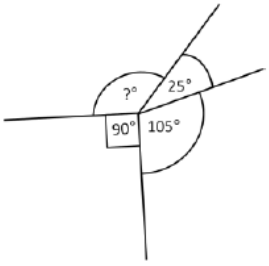


Year 6 (Angles)

- Find the missing angles in the diagrams below.







FLUENCY PROGRESSION – GEOMETRY (Position & Direction)

Year 1 (Position & Direction)

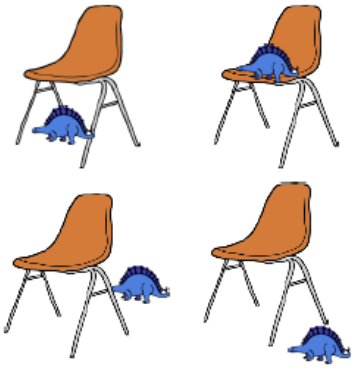
- Identify the position of each item.

Top, Middle or Bottom?
Above or Below?
The blue square is in the ___ row.
The purple circle is _____ the green square.
The black square is in the _____ row _____ the blue triangle.

- Read the following stories and look out for positional language. Can we act out the stories?
  1. We are going on a bear hunt by Michael Rosen
  2. Rosie's Walk by Pat Hutchins
  3. Naughty Bus by Janette Oke
  4. Dinosaur's Day Out by Nick Sharatt

Year 2 (Position & Direction)

- Describe the position of the dinosaur in each picture.



- Here is a ladybird.

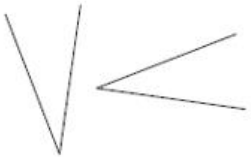
Describe the turn that the ladybird has made in each image.

Can you describe the turn in more than one way?

Year 3 (Position & Direction)

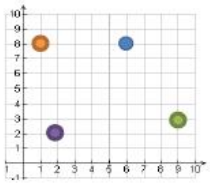
- Stick the words North, East, South and West on four walls. Ask children to face north then turn to west.
  How many quarter turns have you made?

- Has this angle turned 90° to the left or the right?

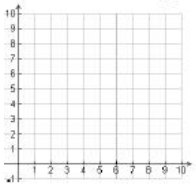


Year 4 (Position & Direction)

- Write the co-ordinates of the coloured dots.

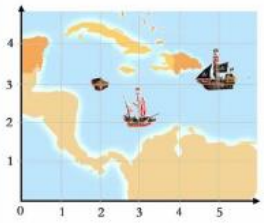


- Draw the shapes on the co-ordinates given.



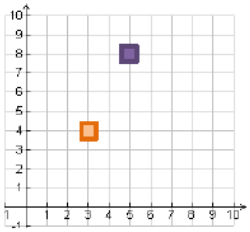
(2, 6)
(6, 2)
(9, 0)

- Write the co-ordinates of the ships on the map.



Year 4 (Position & Direction)

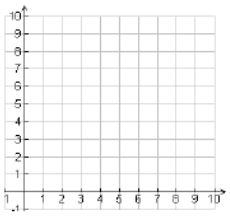
- Describe the movement of the orange square to the purple square.



- The coordinates of point A are (3,2). Point B is 2 squares left and 7 squares up from point A.

  What are the co-ordinates of point B?

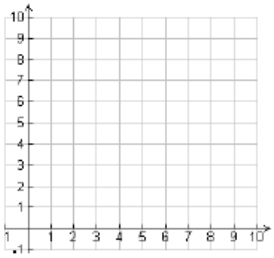
  Plot point A and point B on the grid.



Year 4 (Position & Direction)

- Plot the points on the grid below to make a 2d shape.

(2,9) (2,2) (5,9) (5,2)



Tom draws a shape on the same grid using these co-ordinates.

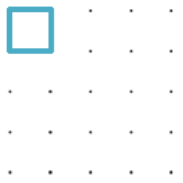
(2,9) (2,6) (5,9) (5,6)

What is the same and what is different about your shape and Tom's shape?

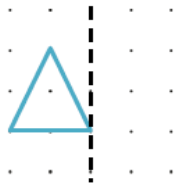
- Write co-ordinates for a friend to plot that make the following shapes:
  a) Triangle
  b) Trapezium
  c) Rhombus

Year 5 (Position & Direction)

- A square is translated two dots to the right and three down. Draw the new square.



- Draw the reflection of the triangle.

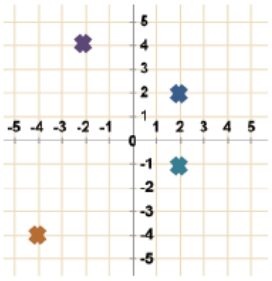


- A triangle is translated 360°.

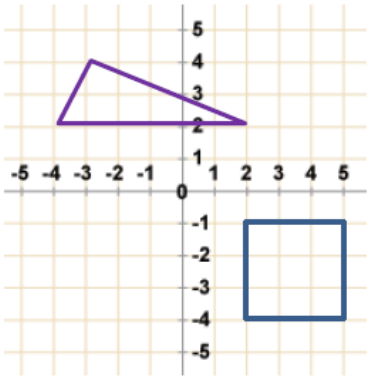
Draw the new triangle.

Year 6 (Position & Direction)

- Describe the position of the crosses marked on the grid.

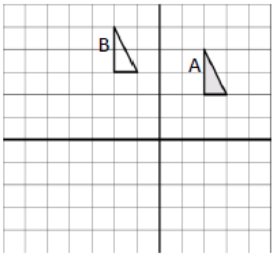


- Write down the co-ordinates of the vertices of the shapes below.

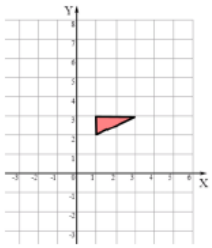


Year 6 (Position & Direction)

- Describe the single translation that takes A to B.



- Reflect the triangle in the y axis.



Hannah translates the triangle 2 squares to the right and 5 squares down.

Find the new coordinates of the triangle.