



# Maths

## Properties of Shape

# Need a coherently planned sequence of lessons to complement this resource?

**Lesson Breakdown**

Below is our suggestion for the most coherent and progressive sequence to teach this area of PlanIt Maths steps on the White Rose Maths scheme of learning although we have not aimed to mirror the exact order in

**2D Shapes (1): Recognise More 2D Shapes**  
Children begin by reviewing the 2D shapes they learnt in year 1. They begin by introducing to quadrilaterals as shapes with four sides and a

**NC Statement:** Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line.  
**Lesson Aim:** To describe the properties of 2D shapes.

**2D Shapes (2): Introducing Polygons**  
In this lesson children learn the definition of a polygon and more specifically they are familiar with already triangle and square. Children are introduced to their reasoning skills to compare regular polygons. This lesson includes children Diving into Mastery activity cards. Children learn to count sides and vertices

**NC Statement:** Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line.  
**Lesson Aim:** To describe the properties of polygons.

**Introduction**

In this geometry unit, children learn to identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line. They learn to identify and describe the properties of 3D shapes, including the number of edges, vertices and faces. Children compare and sort common 2D and 3D shapes and everyday objects. They also learn to identify 2D shapes on the surface of 3D shapes, for example, a circle on a cylinder and a triangle on a pyramid.

**Resources**  
Flat plastic shapes, 3D plastic shapes, camera for recording practical work.

**Solvett Lesson Pack: Triangular Extravaganza**  
How many triangles are hidden in the picture? This Solvett Lesson investigates hidden triangles and guides children to use a systematic counting approach. It encourages children to record their answers and work methodically.

**Assessment Statements**  
By the end of this unit:

children working towards the expected level will be able to:

- name some common 2D and 3D shapes from a group of shapes or in pictures (e.g. triangles, rectangles, squares, circles, cuboids, cubes, pyramids and spheres)
- describe some shape properties
- sort 2D and 3D shapes in simple ways
- read some shape names
- create 2D shapes using geoboards
- make simple 2D and 3D shape patterns
- create 3D shape structures

children working at the expected level will be able to:

- name common 2D and 3D shapes, use general names to name groups of shapes, such as quadrilateral and polyhedron
- recognise regular and irregular polygons in sizes and orientations
- describe the properties of 2D and 3D shapes (language sides, vertices, edges and faces)
- identify vertical lines of symmetry in 2D shapes
- identify 2D faces on 3D shapes
- sort 2D and 3D shapes by their properties
- read and write some shape names
- create 2D shapes using geoboards and draw using straight lines
- make 2D and 3D shape patterns
- create and describe 3D shape structures

**Properties of Shape**  
Maths | Year 2 | Steps to Progression Overview

The aim of this overview is to support teachers using PlanIt Maths to show the most coherent and progressive sequence to teach each area of maths. We also want to fully support teachers who use the White Rose Maths scheme of learning to make full use of the resources available within PlanIt Maths. Wherever possible, lesson packs have been matched to each of the small steps on the White Rose Maths scheme of learning.

**Yearly Overview**

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value		Number: Addition and Subtraction				Measurement: Money		Number: Multiplication and Division			
Spring	Number: Multiplication and Division		Statistics		Geometry: Properties of Shape		Number: Fractions		Measurement: Length and Height		Consolidation	
Summer	Position and Direction		Problem Solving and Efficient Methods		Measurement: Time		Measurement: Mass, Capacity and Temperature		Investigations			

See our [Properties of Shapes Steps to Progression](#) document.

Twinkl PlanIt is our award-winning scheme of work with over 4000 resources.



# Investigate Line Symmetry



# Aim

- To investigate vertical line symmetry.

# Success Criteria

- I can say if a line of symmetry has been drawn correctly.
- I can complete half of a symmetrical shape.
- I can investigate statements about symmetry.

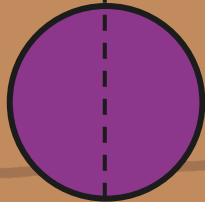
# Remember It



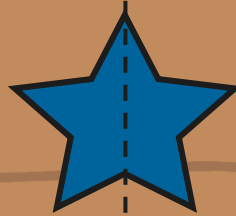
You can draw a vertical line of symmetry on each of these shapes without turning them.



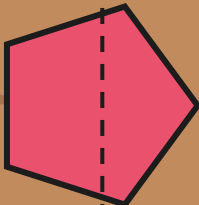
false



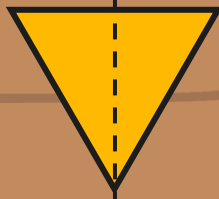
true



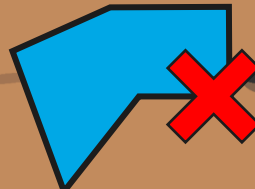
true



false



true



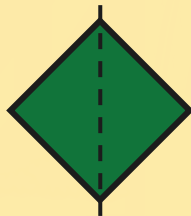
false

Could the other shapes have a vertical line of symmetry drawn on them if they were turned?

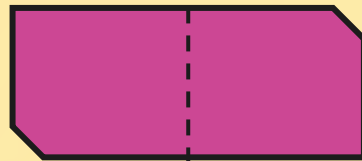
# Vertical Lines of Symmetry



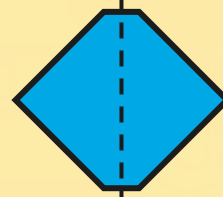
Vertical lines of symmetry have been drawn on these shapes. Has it been done correctly? How do you know?



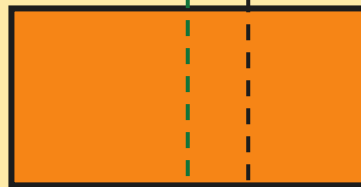
yes



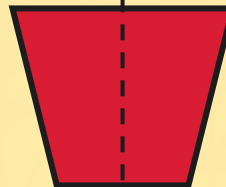
no



yes



no



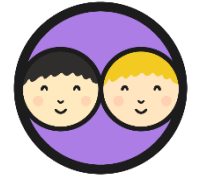
yes

Which of the incorrect ones does have a vertical line of symmetry?

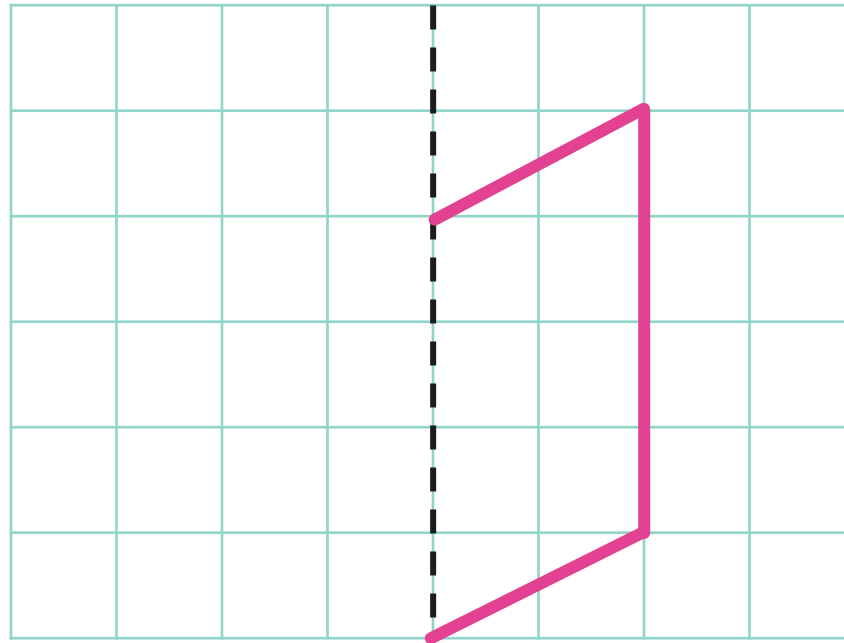
Can you name any of these shapes?



# Symmetrical Shapes

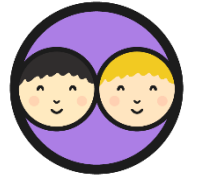


Here is half of a symmetrical shape. What would the other half look like?

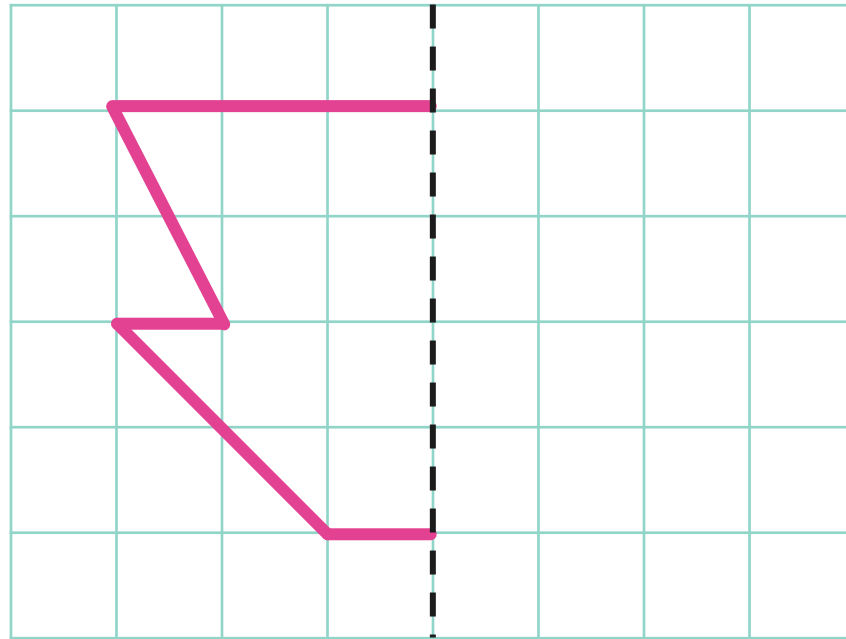


Remember the **line of symmetry** is sometimes called the **mirror line**.

# Symmetrical Shapes

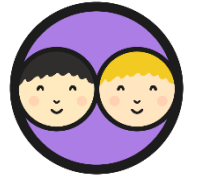


Here is half of a symmetrical shape. What would the other half look like?

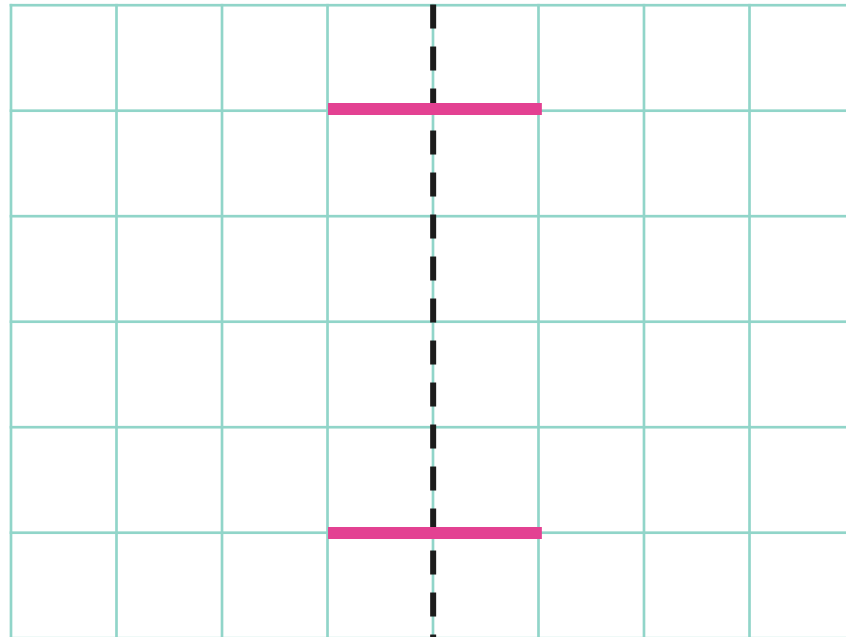




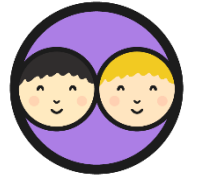
# Symmetrical Shapes



Here is part of a symmetrical shape.



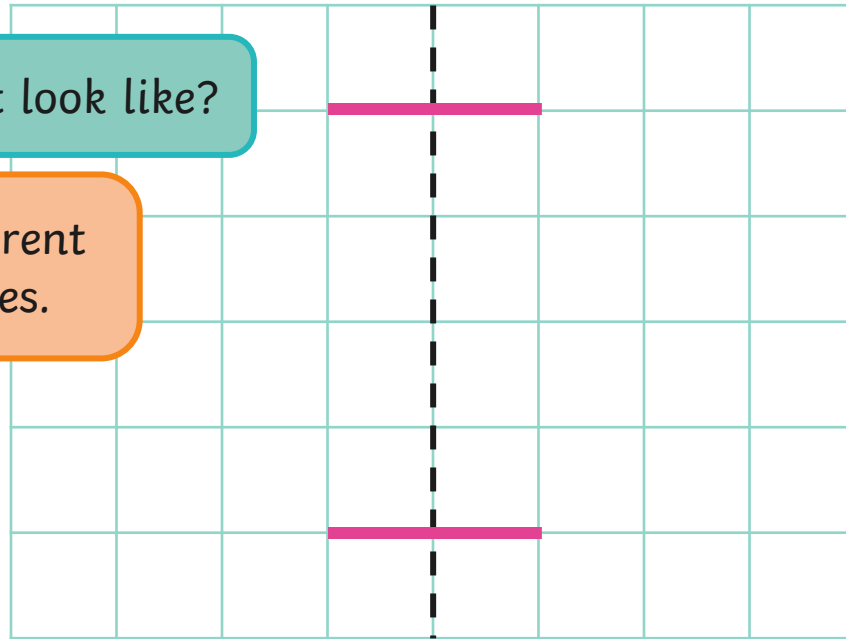
# Symmetrical Shapes



Here is part of a symmetrical shape.

What could it look like?

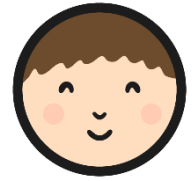
Create 3 different possible shapes.



There are lots of possible shapes that could be made.



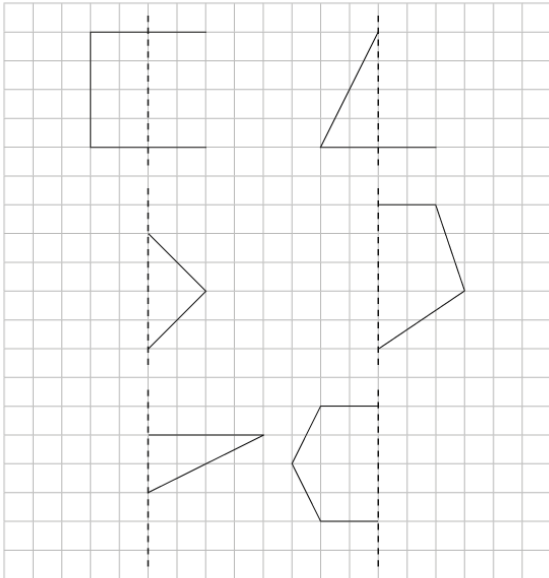
# Complete the Shape



## Complete the Shape

To investigate vertical line symmetry.

Complete the symmetrical shapes.

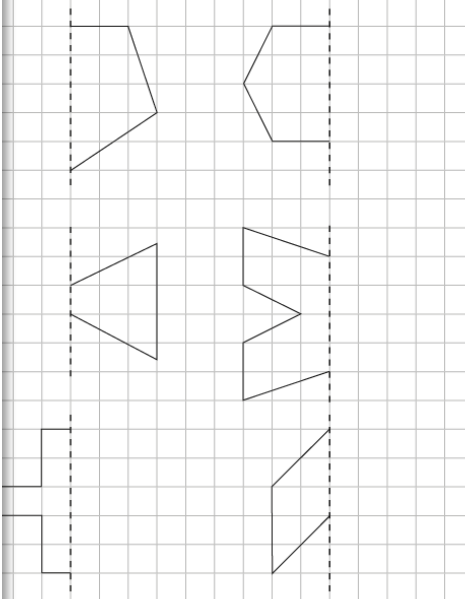


Challenge: Can you name any of these shapes?

## Complete the Shape

To investigate vertical line symmetry.

Complete the symmetrical shapes.

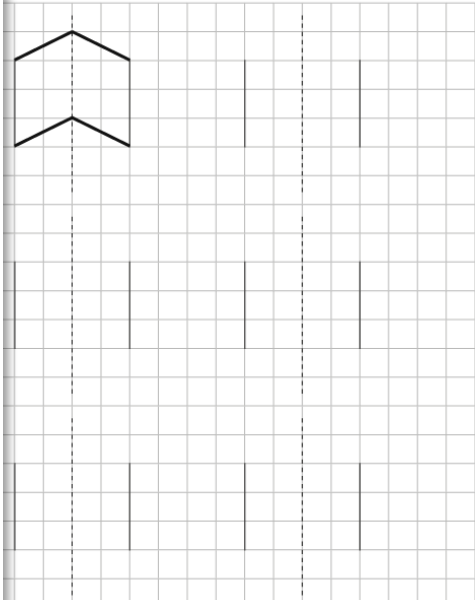


Can you name any of these shapes?

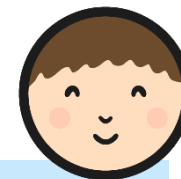
## Complete the Shape

To investigate vertical line symmetry.

Draw symmetrical shapes with these 2 sides.  
One has been done for you.



## Diving into Mastery

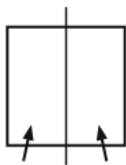


Dive in by completing your own activity!

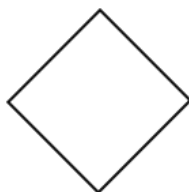
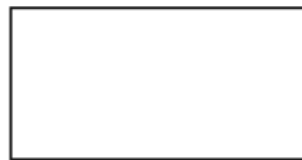
### Investigate Line Symmetry

Draw vertical lines of symmetry on these shapes.  
What shapes do you make by doing this?

Example:



Drawing a line of symmetry on  
this square makes 2 rectangles.



# Alphabet Symmetry



10 letters of the alphabet have vertical lines of symmetry.

True or false? How do you know?



False, 11 letters have a vertical line of symmetry.

# Aim



- To investigate vertical line symmetry.

# Success Criteria

- I can say if a line of symmetry has been drawn correctly.
- I can complete half of a symmetrical shape.
- I can investigate statements about symmetry.

