



Knowledge Organiser Focus:

2D geometry

I should already know:

The names of the different 2d shapes

How to measure an angle

I will learn:

How to draw and measure angles

To remember certain angle facts

To find unknown angles using angle facts

The types of symmetry

How to classify shapes

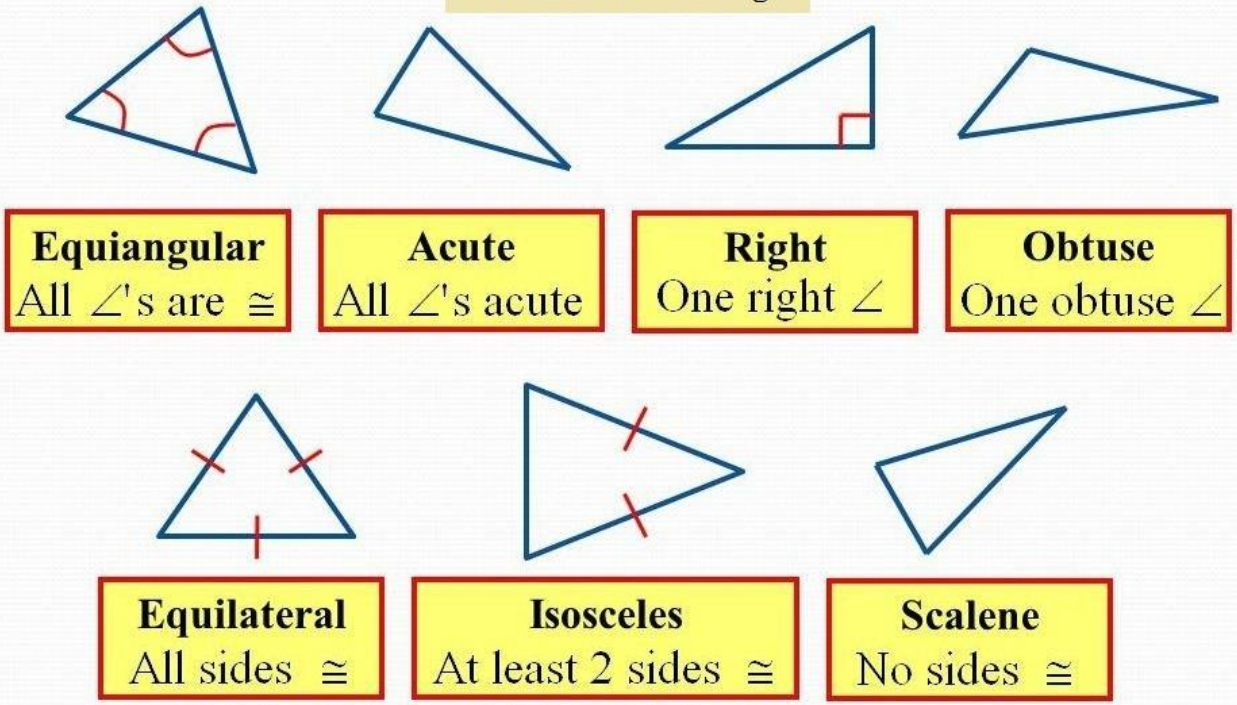
This will help in the future:

We will learn to recognise and use properties of shapes so we can apply this knowledge to problem solving context later in our learning.

Key Words

Angle	The amount of turn to get from one position to another
Parallel	Straight lines that go in the same direction and so stay the same distance apart
Perpendicular	Lines that are at 90° to each other
Property (shape)	Something that can be used to describe a shape
Quadrilateral	Any shape made of 4, straight sides

Classification of Triangles



Greater Depth Challenge

Can you create a flow chart to show how to classify the different triangles and quadrilaterals?

Further Reading

Hegarty Maths



Unit 7 – angles

Question	Answer	Example
What is an angle less than 90°?	Acute Angle	
What is an angle between 90° and 180°?	Obtuse Angle	
What is an angle greater than 180°?	Reflex	
What is a right angle	90°	
What do adjacent angles on a straight line add to?	180°	 $a + b = 180^\circ$
What do angles around a point sum to?	360°	 $a + b + c = 360^\circ$
What does parallel mean?	2 lines at an equal distance apart that never meet	
What does perpendicular mean?	2 lines that meet at a 90° angle	
What is special about vertically opposite angles?	Equal	
What is special about alternate angles?	Are equal	
What is special about corresponding angles?	Are equal	
What is special about allied (or co-interior) angles?	Add up to 180°	

Unit 8 – classifying 2D shapes

Question	Answer	Example
What is the order of rotational symmetry?	The number of times the shape fits exactly on itself in one full turn	Rotational symmetry = 3
What is a vertex?	Where two lines meet to form an angle	
What is reflective symmetry?	If the shape can be divided into two identical halves by drawing a straight line	
What are the properties of an equilateral triangle?	All angles are the same size and all sides are the same length.	
What are the properties of a scalene triangle?	All angles are different sizes and all sides are different lengths.	
What are the properties of a right-angled triangle?	Contains one angle of 90°	
What are the properties of an isosceles triangle?	Has 2 sides of equal length and 2 angles of equal size	
Interior angles in a triangle...	sum to 180°	 $a + b + c = 180^\circ$
What are the properties of a square?	<ol style="list-style-type: none"> All of its sides are the same length. All of its angles are equal-90° It has 2 pairs of parallel sides 	
What are the properties of a rectangle?	<ol style="list-style-type: none"> Opposite sides are the same length All of its angles are equal-90° It has 2 pairs of parallel sides 	
What are the properties of a rhombus?	<ol style="list-style-type: none"> All sides are the same length None of its angles are 90° It has 2 pairs of parallel sides 	

Unit 8 – classifying 2D shapes

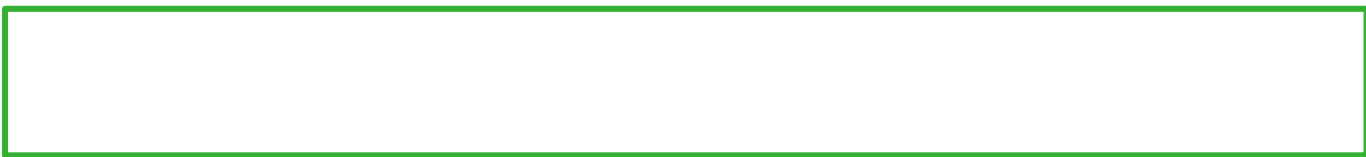
What are the properties of a parallelogram?	<ol style="list-style-type: none"> Opposite sides are the same length None of its angles are 90° It has 2 pairs of parallel sides 	
What are the properties of a kite?	<ol style="list-style-type: none"> Adjacent sides are the same length 1 pair of opposite angles are equal It has 0 pairs of parallel lines 	
What are the properties of a trapezium?	<ol style="list-style-type: none"> It has 1 pairs of parallel lines In the special case of an isosceles trapezium it has 1 pair of opposite sides of equal length 	
What do interior angles of a quadrilateral sum to?	360°	 $a + b + c + d = 360^\circ$

Unit 9 – Constructing Triangles and Quadrilaterals

What is the radius	The distance from the centre to the circumference of the circle	
What is the diameter?	A straight line going through the centre connecting 2 points on the circumference.	
What is the arc?	Part of the circumference	
What is the circumference?	The distance round the outside of a circle	



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Unit 8 – classifying 2D shapes		
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Interior angles in a triangle...		
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What are the properties of a kite?		
What are the properties of a trapezium?		
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