Home-School Learning Collaboration – Mathematics

Topics in this cycle: Summer 1	Taught:	Year Group: 7

Key knowledge/concepts to be learnt ('Tell me about….')	Websites/blogs/YouTube links and further reading to deepen and consolidate learning
Constructing, measuring and using geometric notation: • Notation of geometry/drawing and measuring of line segments • Classification of angles • Measuring/drawing angles • Types of triangles and quadrilaterals/other polygons • Constructing triangles • Constructing triangles/other polygons • Interpret and draw Pie Chart	https://vimeo.com/530907546 https://vimeo.com/530905642 https://vimeo.com/481595610 https://vimeo.com/533537045
Developing geometric reasoning • Angles around a point/straight line • Vertically opposite angles • Sum of angles in a triangle • Sum of angles in a quadrilateral • Angle problems • Sum of interior/exterior angles of polygons • Angles in parallel lines	https://vimeo.com/544291201 https://vimeo.com/539065058 https://vimeo.com/542585859 https://vimeo.com/544930098

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Key Vocabulary and Definitions To Be Learnt	
Degree	Units of angle measurement
Acute angle	Angle smaller than 90 degrees
Obtuse angle	Angle greater than 90 degrees
Reflex angle	Angle greater than 180 degrees
Right angle	90 degree angle
Protractor	Mathematical tool to measure size of an angle
Construct	Drawing an accurate image of something, using mathematical tools
Polygon	2d enclosed shape with straight sides
Pair of compasses	Mathematical tool used in constructions to draw circles and arcs

What Will The Assessment Look Like?

During assessment week students will be assessed on questions applying their skills on these units, including problem solving tasks, which could link multiple topics. They may also require the use of a calculator.

Family Learning Opportunities

Support your child at completing their homework and to boost SparxMaths XP level.

Discuss the following questions:

Constructing, measuring and using geometric notation:

- **Notation of geometry/drawing and measuring of line segments**

What is the difference between line and line segment?
What would you measure in mm, cm, etc?
How do we illustrate that angle is 90 degrees?

- **Classification of angles**

Will turning through two acute angles result in turning through obtuse angle?

- **Measuring/drawing angles**

How do we know which scale on the protractor to use to measure an angle?
How do we know where to put the protractor when measuring an angle?
Is it possible to draw an angle of 180 degrees?
Why are there two scales on a protractor?

- **Types of triangles and quadrilaterals/other polygons**

		What is the difference between scalene ana isosceles triangle? Which types of triangles can also be a right-angled? What property does every quadrilateral share? Is a quadrilateral a polygon? Explain why a square is also a rectangle and a parallelogram. When is a polygon regular? • **Constructing triangles** Is it possible to construct a triangle accurately given the side lengths using only a pencil and ruler? Is it possibly to construct a unique triangle given only three sides? • **Constructing other polygons** Is it possible to construct an irregular polygon with equal side lengths? • **Interpret and draw Pie Chart** What do pie chart show us? How do you calculate the angle of a sector of a pie chart? **Developing geometric reasoning** • **Angles around a point/straight line** What do angles on around a point add up to? What do angles on a straight line add up to? • **Vertically opposite angles** When are vertically opposite angles formed? Given an angle formed at the intersection of two lines is it always possible to find all angles around that point? • **Sum of angles in a triangle** What is the sum of interior angles in a triangle? Can a triangle have two right angles? If one of an isosceles triangle angles is 60 degree, is it an equilateral triangle? • **Sum of angles in a quadrilateral** What is the sum of all interior angles in a quadrilateral?

		How can we demonstrate that the sum of interior angles in a quadrilateral is 360 degrees? • **Angle problems** Look at some questions and decide which angle facts are you going to apply to find missing angles. • **Sum of interior/exterior angles of polygons** Explain why the sum of interior angles of any polygon is a multiple of 180 degrees. • **Angles in parallel lines** How do you denote that two or more lines are parallel? **More:** Let's look how to apply you r knowledge of constructions: https://youtu.be/bzJpM5S4Um4?si=co9qecXCvtqltWFl