

**MATHEMATICS Scheme of Work 2023-24: YEAR 7**

(OCR Syllabus)

AUTUMN TERM 1: SEPT - OCT	AUTUMN TERM 2: OCT - DEC	SPRING TERM 1: JAN - FEB
<p style="text-align: center;"><b>Number and Geometry</b></p> <p><b>AO: to revise, consolidate and build on yr 6 skills.</b> The first half term we are revising, consolidating and building on basic number and geometry skills that pupils should have learned in year 6.</p> <p><b>Main texts: Hodder KS3 Maths text books for number and geometry.</b> <b>Number topics:</b> Addition &amp; subtraction with decimals &amp; negative numbers. Multiples, factors and primes. (Incl pr. fact. decomp.) Powers &amp; roots, rounding to dp's and sig. figs. (Explain what sig figs are.) Fractions. (Esp. equivalent fractions and common denom's.) <b>Geometry topics:</b> Perimeters and areas of rectangles and triangles. Circumference and area of a circle. Volumes of common 3D shapes.</p>	<p style="text-align: center;"><b>Geometry, Proportion and Solving equations</b></p> <p><b>AO: to extend previously learned skills in geometry, explore proportional reasoning and start studying algebra.</b> This half term we will extend the geometry work started last half term and then start on algebra, which will be new to most pupils.</p> <p><b>Main texts: Hodder KS3 Maths text books for geometry and algebra.</b> <b>Geometry topics:</b> Calculating angles; learning / exploring properties of shapes. Angles in regular polygons; lines and angles; circle properties Construction triangles plus line bisections and perpendiculars <b>Proportional reasoning topics:</b> Percentages of quantities; converting fractions / decimals. Percentage increase and decrease. Ratio <b>Algebra topics:</b> Using word formulae; using letters. (New to most.) Working with formulae; setting up and solving equations; using brackets. <i>End of term test.</i></p>	<p style="text-align: center;"><b>Functions and Graphs, Number, Handling Data.</b></p> <p><b>AO: to revise function and learn about graphs, study standard form and handling data.</b> Consolidate functions. Start on the various graphing skills needed. We will have 2 weeks on number then last 2 weeks should extend already learned knowledge on handling data.</p> <p><b>Main texts: Hodder KS3 Maths text books for algebra, number and statistics.</b> <b>Graphs topics:</b> Functions; how to correctly draw graph axes. Plotting linear graphs; equation of a straight line. Use of real-life graphs. <b>Number topics:</b> Recap use of powers and roots. The number system, leading to use of standard form. Multiples, factors, primes and the divisibility tests. Standard Form. <b>Handling Data topics:</b> Tables and charts; stem and leaf diagrams. Vertical line charts; pie charts; displaying grouped data.</p>
SPRING TERM 2: FEB - MAR	SUMMER TERM 1: APR - MAY	SUMMER TERM 2: JUN - JUL
<p style="text-align: center;"><b>Number and Geometry</b></p> <p><b>AO: to extend previously learned skills in probability, number and angles.</b> At KS3 pupils need to extend their previous knowledge of simple probability into solving more complex problems. <b>Main texts: Hodder KS3 Maths text books for probability, number and geometry.</b> <b>Probability topics:</b> Introduction to various methods of solving single event problems. Combined events, including space and tree diagrams. Calculating probabilities, including experimental variation. Mean, mode, median and range; frequency. <b>Number topics:</b> Prime factor decomposition, HCF &amp; LCM using index notation <b>Geometry topics:</b> Angles at a point; on a straight line; in common shapes. How to apply angle facts to solve problems; similarity. <i>Test.</i></p>	<p style="text-align: center;"><b>Geometry</b></p> <p><b>AO: to extend geometry knowledge and understanding.</b> At KS3 pupils need to extend existing geometry knowledge and start new topics. <b>Main texts: Hodder KS3 Maths text books for geometry.</b> <b>Geometry topics:</b> Pythagoras' theorem. (Last years Yr 7 struggled with this, we may need 2 weeks.) If time &amp; pupils are able - introduce the trig functions. Scale drawings. Properties and representations of 2D and 3D shapes. (2 weeks.)</p>	<p style="text-align: center;"><b>Number and Geometry</b></p> <p><b>AO: to extend geometry knowledge and understanding.</b> At KS3 pupils need to extend existing geometry knowledge and start new topics. <b>Main texts: Hodder KS3 Maths text books for geometry.</b> <b>Geometry topics:</b> Transformations: Rotations (including rotational symmetry). Reflections (including line symmetry). Enlargements (including showing how this connects to similarity). Translations (include the 'recording number and direction of steps whilst moving round the school' practical lesson).</p> <p>Revision, <i>end of year exams.</i> School trips.</p>

