

## Key Stage 3 Maths

In order to teach and support every pupil at The Observatory School, we aim to personalise their learning as much as possible. Throughout the Maths Curriculum, the policy is to set pupils based on their ability, enabling the learning to be more appropriately structured and to meet the needs of every pupil.

We pride ourselves in offering a rich, balanced and progressive curriculum. We actively promote our pupils to develop their reasoning, problem solving and numerical fluency. The Mathematics department uses STEAM links and projects to promote industry and cross curricular links.

Newton Year 7 Social	Baseline assessment  Number and Place Value- Count to 1000 and backwards Explore number values.  Multiplication tables (in particular 2, 5 and 10)	Addition & Subtraction- dependent on pupils' ability  Statistics	Multiplication tables (1-12)  Long Multiplication and Division. Problem Solving- dependent on pupils' ability. Some pupils may focus on their multiplication tables	Fractions- Equivalent Fractions, Comparing fractions with the same/ a different denominator Adding and Subtracting Fractions	Geometry- Properties of 2D and 3D shapes.  Lines of Symmetry Angles  Position and direction	Measurement- length/height weight/capacity Telling the time Understanding money Perimeter and Area
Parks Year 7 Sensory	Baseline assessment	Addition & Subtraction- dependent on	Multiplication tables (1-12)	Fractions- Equivalent Fractions,	Geometry- Properties of 2D and 3D shapes.	Measurement- length/height weight/capacity

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	<p>Number and Place Value- Count to 1000 and backwards Explore number values.</p> <p>Multiplication tables (in particular 2, 5 and 10)</p>	<p>pupils' ability</p> <p>Statistics</p>	<p>Long Multiplication and Division. Problem Solving- dependent on pupils' ability. Some pupils may focus on their multiplication tables</p>	<p>Comparing fractions with the same/ a different denominator Adding and Subtracting Fractions</p>	<p>Lines of Symmetry Angles</p> <p>Position and direction</p>	<p>Telling the time Understanding money Perimeter and Area</p>
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Curie Year 8 Sensory	<p>Baseline Assessment</p> <p>Number calculations - written methods for all 4 operations</p> <p>Problem solving using the 4 operations</p> <p>Estimating (inverse operations)</p>	<p>Prime numbers, factors, multiples, squared numbers and square roots</p> <p>BIDMAS</p> <p>Problem solving</p> <p>Estimating (rounding)</p>	<p>Ratio, proportion and rates of change</p> <p>Ratio notation</p> <p>Changing between units of time, length, area, volume, capacity and mass</p>	<p>Fractions, decimals and percentages</p> <p>Comparing, calculating and ordering fractions, decimals and percentages</p>	<p>Geometry</p> <p>Properties of 2D and 3D shapes</p> <p>Parallel and perpendicular lines, right angles</p> <p>Translations/rotations /reflections</p>	<p>Statistics (Mean, mode and median)</p> <p>Algebra</p> <p>Use of algebra notation</p> <p>Simplifying algebraic notations</p>
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Anderson Year 9 Sensory	<p>Number Calculations</p> <p>Baseline assessment</p> <p>Written and mental methods - using all 4 operations.</p> <p>Sequences and equations (nth term, finite and infinite, arithmetic sequences, multiples).</p>	<p>Statistics (analysing data)</p> <p>Analysing and Displaying data using tables and graphs. Calculating averages from data.</p>	<p>Fractions, decimals and percentages</p> <p>Geometry in 2D and 3D shapes</p>	<p>Measuring and shapes</p> <p>(converting units, using the appropriate measures)</p> <p>Angles (polygons, on a line and around a point)</p> <p>Drawing and measuring angles</p>	<p>Algebra</p> <p>Algebraic and real life graphs</p> <p>Using multiplication and division to reason and problem solve</p>	<p>Probability</p> <p>Using ratios (to share, problem solve and reason)</p>
Turing Year 9 Social	<p>L1.1 Read, write, order and compare large numbers (up to one million)</p>	<p>L1.11 Add, subtract, multiply and divide decimals up to two decimal places</p>	<p>L1.13 Read, write, order and compare percentages in whole numbers</p> <p>L1.14 Calculate</p>	<p>L1.21 Recognise and make use of simple scales on maps and drawings</p>	<p>L1.25 Interpret plans, elevations and nets of simple 3-D shapes</p> <p>L1.26 Use angles when describing position and</p>	

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	<p>L1.2 Recognise and use positive and negative numbers</p> <p>L1.3 Multiply and divide whole numbers and decimals by 10, 100, 1000</p> <p>L1.4 Use multiplication facts and make connections with division facts</p> <p>L1.5 Use simple formulae expressed in words for one or two-step operations</p> <p>L1.6 Calculate the squares of one-digit and two-digit numbers</p>	<p>L1.12 Approximate by rounding to a whole number or to one or two decimal places</p>	<p>percentages of quantities, including simple percentage increases and decreases by 5% and multiples thereof</p> <p>L1.15 Estimate answers to calculations using fractions and decimals</p> <p>L1.16 Recognise and calculate equivalences between common fractions, percentages and decimals</p> <p>L1.17 Work with simple ratio and direct proportions</p> <p>L1.18 Calculate simple interest in multiples of 5% on amounts of money</p>	<p>L1.22 Calculate the area and perimeter of simple shapes including those that are made up of a combination of rectangles</p> <p>L1.23 Calculate the volumes of cubes and cuboids</p> <p>L1.24 Draw 2-D shapes and demonstrate an understanding of line symmetry and knowledge of the relative size of angles</p>	<p>direction, and measure angles in degrees</p> <p>L1.27 Represent discrete data in tables, diagrams and charts including pie charts, bar charts and line graphs</p> <p>L1.28 Group discrete data and represent grouped data graphically</p> <p>L1.29 Find the mean and range of a set of quantities</p> <p>L1.30 Understand probability on a scale from 0 (impossible) to 1 (certain) and use probabilities to compare the likelihood of events</p> <p>L1.31 Use equally likely outcomes to find the probabilities of simple events and express them</p>	
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