



MATHS CURRICULUM MAP – 2022-2023

TERM	GCSE Maths	Level 1 Functional Skills	Entry Level 3	Entry Level 2
Autumn 1	<p>Topic 1 - Whole Number (BIDMAS, Factors, Multiples and Primes) Students develop their understanding of whole number properties and use their understanding and other strategies (eg systematic listing) to approach more challenging problem solving questions.</p> <p>Topic 2 - Ratio and Proportion Students learn the meaning of ratio notation, share, simplify and solve problems involving ratio and explore and solve problems related to direct proportion.</p> <p>Topic 3 - Algebra unknowns (substitution, solving equations, simplifying expressions, changing the subject) Students develop their understanding of algebra through being introduced to</p>	<p>Topic 1: Operations Students will be familiar with large numbers up to 1 million</p> <p>Students will be able to multiply and divide numbers by 10, 100 and 1000 and use this for unit conversions.</p> <p>Students will be able to complete 4 operations with decimals (up to 2 decimal places)</p> <p>Students will be able to complete 4 operations with negative numbers</p> <p>Students will be familiar with and able to use squared and cubed notation and square roots</p> <p>Students can follow order of operations</p> <p>Topic 2: Formulas Students can use simple formulae (up to two step) and</p>	<p>Topics 1-5: Whole Number (Count; Read, Write and Order; Patterns; Facts; Operations)</p> <p>Students need to understand and use units, tens and hundreds fluently.</p> <p>Students should use this knowledge to identify patterns, explain reasoning and complete operations.</p> <p>Some students should be able to apply these skills to problem solving questions.</p>	<p>Topics 1-4: Whole Number (Count; Read, Write and Order; Patterns; Facts)</p> <p>Students need to understand and use units and tens fluently.</p> <p>Students should use this knowledge to identify patterns</p> <p>Students will build their fluency in number bonds and times tables</p>



	<p>situations where unknowns are represented with letters. Students build their fluency in using inverse operations and substitution to solve problems.</p>	<p>also work backwards using inverse operations</p> <p>Topic 3: Ratio and Proportion Students understand and can use ratio notation to solve problems</p> <p>Students understand and can use direct proportion to solve problems</p> <p>Students can apply their knowledge of ratio and proportion to draw and read scale drawings/maps</p>		
<p>Autumn 2</p>	<p>Topic 4 - Fractions, Decimals and Percentages Students develop a deeper understanding of what fractions, decimals and percentages are. Students become more fluent in completing operations with Fractions, decimals and percentages. Students are able to order and convert between fractions decimals and percentages.</p>	<p>Topic 4 - Fractions, Decimals and Percentages Students will deepen understanding of what fractions, decimals and percentages (FDP) are through varied visual representations (grids, numberlines, shapes, bar models). This will help students to order and convert between FDP.</p> <p>Students will become more fluent in completing operations</p>	<p>Topic 5: Fractions and Decimals Students need to be able to draw, order and match simple fractions and decimals.</p> <p>Students need to be able to find fractions of amounts.</p> <p>Topic 6 Proportion Students will use direct proportion to solve real life problems</p>	<p>Topic 5: Number: Operations Students will build on their knowledge of place value in order to solve two digit addition and subtraction problems</p> <p>Students will solve multiplication and division problems</p> <p>Some students should be able to apply these skills to worded problem solving questions</p>



	<p>Students are able to apply these skills to problem solving questions.</p> <p>Topic 5 - Algebra variables (formulas, straight line graphs, nth term) Students understand what a variable is and how algebraic terms are used to represent these. Students are able to understand and use straight line graphs and the nth term</p>	<p>with FDP, particularly fractions and percentages of amounts.</p> <p>Students will become fluent in calculating percentage change, with and without a calculator (multiples of 5%)</p>	<p>Topic 7 Algebra Students will learn to solve one step equations, collect like terms and use simple formulae</p>	<p>Topic 6: Number: Fractions Students will recognise and use halves and quarters.</p> <p>Students will understand what the different parts of a fraction mean and start to draw and order fractions.</p>
<p>Spring 1</p>	<p>Topic 6 - Angles Students understand that angles are measures of turn and can estimate, categorise and measure angles. Students can use angle rules to find angles in polygons and parallel lines. Students can understand and use bearings.</p> <p>Topic 7 - Perimeter, area and volume Students understand the meaning of perimeter, area, surface area and volume and can use the correct formulas and units to solve problems.</p>	<p>Topic 5 - area, perimeter and volume Students will understand the meaning of perimeter, area and volume and be able to calculate these and use and convert between the correct units. Students can solve compound shape problems and paving and fencing problems. Students can recognise and draw and plan views and nets of 3D Shapes.</p> <p>Topic 6 - angles and symmetry Students can recognise and use line symmetry</p>	<p>Topic 8: Angles Topic 9: 2D Shapes Topic 10: 3D Shapes Topic 11: Movement, Position and Pattern</p> <p>Students need to be able to recognise, describe and use properties of shapes and sort shapes according to their features. This will include introducing students to 3D shapes, angles, perimeter, area, coordinates and reflective symmetry. Students will begin to recognise patterns within shape.</p>	<p>Topic 7: Shape Topic 8: Position, Movement and Angles</p> <p>Students will learn shape names and simple features</p> <p>Students will begin to sort shapes according to their features.</p> <p>Students will learn to describe movement and direction and turns</p>



	<p>Topic 8 - Transformations Students can use coordinate axis to translate, rotate, reflect and enlarge shapes and understand rotational symmetry. Students can represent, add and subtract vectors.</p>	<p>Students understand that angles are a measure of turn and can draw, estimate, measure and categorise angles.</p> <p>Topic 7 - converting measurements Students know which units are used for length, weight, capacity and time and can measure using these units and convert between them.</p>		
<p>Spring 2</p>	<p>Topic 9 - Measures and scale drawing Students understand the meaning of length, capacity and weight and units used to measure these. Students can use formulas and understanding of place value to convert between units. Students can complete and use scale drawings</p> <p>Topic 10 - Constructions and loci Students can construct triangles and bisectors and solve loci problems</p>	<p>Topic 8 - data Students can collect, represent and interpret data. This includes familiarity with and ability to construct and read tables, bar charts, line graphs and pie charts. Students will also need to be able to collect, represent and interpret grouped data and to find the mean and the range from data sets/charts.</p> <p>Topic 9 - probability Students can find probabilities of single events and express them as words and fractions</p>	<p>Topic 12: Money Students will use money correctly including correct notation for £ and p, finding total costs and change, and making amounts in notes/coins.</p> <p>Topic 13: Time Students will be able to use 12 and 24 hour clocks and solve word problems involving elapsed time.</p> <p>For some students there will be more of a focus here on</p>	<p>Topic 9: Money Students will find total costs and change and make amounts in coins</p> <p>Topic 10: Time Students will learn to tell the time to 5 minute intervals Some students will solve word problems involving elapsed time</p> <p>Topic 11: Statistics Students will collect, represent and interpret data. This will involve asking questions, making predictions, making</p>



	<p>Topic 11 - Pythagoras Students can use pythagoras theorem and are familiar with proofs</p>	<p>(also as decimals and percentages to consolidate learning from previous topics).</p>	<p>applying knowledge of money and time to multi-step word problems and to listing systematically to problem solve (eg “how many ways can you make 10p using coins”)</p> <p>Topic 14: Statistics Students will collect, represent and interpret data. This will involve designing questions to test, making predictions, making and reading tally charts, tables, bar charts, simple pie charts and pictograms.</p>	<p>and reading simple tally charts, tables, bar charts and pictograms</p>
<p>Summer 1 Summer 2</p>	<p>Topic 12 - Statistics Students can collect, represent and interpret data. Students can draw and read bar charts, line graphs, pictograms, scatter diagrams and pie charts. Students can find different averages and use this to make inferences and predictions from data. Students can identify positive and negative correlations and use this to make predictions.</p>	<p>Students will either:</p> <ul style="list-style-type: none"> - be entered for their Level 1 Assessment and then move onto to GCSE topics (number properties and algebra) - Go back over topics identified as needing more work in end of Spring Term assessments 	<p>Topic 15: Measures: Capacity, Weight, Length, Temperature Students will develop understanding of how to measure and compare objects. Students will learn different units and conversions. Students will work on their understanding of negative numbers in temperature and</p>	<p>Topic 12: Measures Students will develop understanding of how to measure and compare objects. Students will learn different units and conversions. Topic 13: Word problems Students will have a particular focus on applying their knowledge to “real life” problems.</p>



	<p>Topic 13 - Probability Students can give probability of single events as words, fractions, decimals and percentages. Students understand the meaning of mutually exclusive and can recognise when events are/are not. Students can use probability trees, two way tables (sample spaces) and venn diagrams to find probabilities of combined events. Students can conduct experiments and use data to determine expected probabilities.</p> <p>Topic 14 - Revision Revision of topics identified in assessments as needing more work</p>		<p>on place value for unit conversions.</p> <p>Topic 16: Word problems Students will have a particular focus on applying their knowledge to “real life” problems.</p> <p><i>Topics that follow will be decided based on whether students have passed EL3/FS3 and are moving on to a new qualification or need to consolidate and deepen understanding of certain skills from the year</i></p>	<p><i>Topics that follow will be decided based on whether students have passed EL2 and are moving on to a new qualification or need to consolidate and deepen understanding of certain skills from the year</i></p>
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