

## Maths Y9 <br> Curriculum Overview

Key Stage 3 Curriculum Journey: Mathematics Year 9

|  | Week 1 Week |  |  |  |  |  |  |  |  |
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|  | Number | FDP | 1-Reasoning with Algebra | 2-Constructing in 2 and 3 Dimensions. | 3- Reasoning with Number | 4- Reasoning with Geometry | 5-Reasoning with Proportion | 6- Representations and recall |  |
|  | Calculations <br> Types of number <br> Negative <br> numbers <br> Decimals <br> Types of number and indices <br> Decimals and rounding <br> Powers and roots | Compare <br> Fractions <br> Manipulation <br> Calculation <br> with fractions <br> Percentages <br> Compare <br> fractions <br> Calculations <br> with fractions <br> Percentages <br> Calculations <br> with fractions <br> percentages | Straight line graphs. <br> Form and solve equations. Testing conjectures | 3 <br> dimensional <br> shapes. <br> Construction and congruency | Number skills. <br> Using percentages. <br> Maths and money | Deduction. Rotation and translation. Pythagoras theorem. | Enlargement and similarity. Solving ratio and proportion problems. Rates | Solving problems using graphs,tables and algebra. |  |
|  | Calculate mentally Order numbers Carry out written calculations effectively <br> Find factors and multiples <br> Add, subtract, multiply and divide integers using a suitable written method. <br> Multiply and divide integers by | Write percentages as a fraction with a denominator of 100 <br> Write a percentage as a decimal <br> Describe simple parts of a shape using fractions. Compare simple fractions <br> Change an improper fraction | -Equations <br> -Use of brackets -Geometric properties and rules | -Estimation <br> -Rounding to the nearest integer, decimal places and significant figures. <br> -Unit conversions including area and volume. | -Addition and subtraction of fractions -Fractions of amounts -FDP equivalence -Ratio | -Fractions and directed number in the context of rotation. <br> -Line symmetry -Identifying 2D and 3 D shapes. | -Circumference <br> -Equation of a <br> line $(y=m x+c)$ <br> -Unit pricing | -Frequency trees, tables and Venn diagrams. -Inequalities. |  |


| multiples of 10 , 100, 1000. <br> Use estimation to check an answer to a multiplication Divide numbers that give decimal answers Use inverse operations to check answers. Use the priority of operations including powers. Know and use the priority of operations, including brackets. <br> Recognise prime numbers. <br> Recognise square numbers. <br> Order positive and negative numbers. Calculate with negative numbers. <br> Order decimals. Multiply and divide decimals by multiples of 10 , 100 and 1000. Add, subtract, multiply and divide decimals Calculate with money. <br> Round decimals | to a mixed <br> number. <br> Identify equivalent <br> fractions. <br> Simplify fractions <br> Work with <br> equivalent <br> fractions and <br> decimals. <br> Add and subtract <br> fractions with the <br> same <br> denominator. <br> Calculate simple <br> fractions of quantities. <br> Write one quantity as a fraction of another. <br> Convert simple <br> fractions to <br> percentages <br> Calculate simple <br> percentages <br> (multiples of 10 <br> and 5) <br> Order fractions by converting them to decimals or equivalent fractions. <br> Add and subtract fractions with different denominators. Multiply fractions. Calculate fractions of quantities. <br> Convert between fractions, |  |  |  |  |  |  |  |
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|  |  | decimals, and percentages. Calculate percentages of amounts. <br> Express one quantity as a percentage of another. |  |  |  |  |  |  |  |
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|  | Developing fluency, reasoning mathematically and solve problems features across all units. Document number 4 - 21 |  |  |  |  |  |  |  |  |
|  | $\begin{aligned} & 22-30 \\ & 34-37 \end{aligned}$ | $\begin{gathered} 22 \\ 25-27,30-34 \\ 56 \\ 59 \\ 60 \\ 61 \end{gathered}$ | Move freely between different numerical, algebraic, graphical and diagramma tic representa tions [for example, equivalent fractions, fractions and decimals, and equations and graphs] Use language and properties precisely to analyse | Use language and properties precisely to analyse numbers, algebraic expressions, 2-D and 3-D shapes, probability and statistics. Use a calculator and other technologies to calculate results accurately and then interpret them appropriately. Use the properties of faces, surfaces, edges andvertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3-D Interpret mathematical | Use language and properties precisely to analyse numbers, algebraic expressions, 2-D and 3-D shapes, probability and statistics. Work <br> interchangeably with terminating decimals and their corresponding fractions. Use a <br> calculator and other technologies to calculate results accurately and then interpret them | Use language and properties preciselyto analyse numbers, algebraic expressions, 2-D and 3-D shapes, probability and statistics. Use a <br> calculator and other technologiesto calculate results accurately and theninterpret them appropriately. Derive and apply formulae to calculate and solve problems involving: | Use language and properties precisely to analyse numbers, algebraic expressions, 2-D and3-D shapes, probability and statistics. <br> Extend and formalise their knowledge of ratio and proportion in working with measures and geometry, and informulating proportional relations algebraically. Use a calculator and other technologies to calculate results | Develop algebraic and graphical fluency, including understanding linear and simple quadratic functions. Use language and properties precisely to analyse numbers, algebraic expressions, 2-D and 3-Dshapes, probability and statistics. Use a calculator and other technologies to calculate results accurately and then interpret them |  |



|  |  |  | ons. <br> Develop <br> their use of formal mathematica I knowledge to interpret and solve problems, including in financial mathematics <br> Begin to model situations mathematicall y andexpress the results using a range of formal mathematical representation s. <br> Select appropriate concepts, methods andtechniques to apply to unfamiliar and non-routine problems. Use approximati on through rounding to estimate answers and calculate possible resulting errors expressed using inequality notation |  |  | angles] using appropriate language and technologies. Identify properties of, and describe the results of, translations, rotations and reflections applied to given figures. Use Pythagoras' Theorem and trigonometric ratios in similar triangles to solve problems involving right-angled triangles | Apply angle facts, triangle congruence, similarity and properties of quadrilaterals to derive results about angles and sides, including Pythagoras' <br> Theorem, and use known results to obtain simple proofs. | given graphs of a variety of functions, including piecewise linear, exponential and reciprocal graphs |  |
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|  |  |  | algebraically. <br> Solve problems involving direct and inverse proportion, including graphical and algebraic representation s. <br> Use compound units such as speed, unitpricing and density to solve problems. |  |  |  |  |  |  |
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|  | Assessment 1 | Assessment 2 | End of block assessments | End of block assessments | End of block assessments | End of block assessments | End of block assessments | End of block assessments |  |

