



Number Progression Map									
<b>The Number System</b>	<b>Whole numbers</b> <ul style="list-style-type: none"> <li>- Understand and use place value for integers of any size</li> <li>- Order positive integers</li> <li>- Use the symbols =, ≠, &lt;, &gt;, ≤, ≥</li> </ul>	<b>Understanding Decimals</b> <ul style="list-style-type: none"> <li>- Understand and use place value for decimals</li> <li>- Order decimals</li> <li>- Use the number line as a model for ordering of the real numbers</li> </ul>	<b>Multiplying and dividing by powers of 10</b> <ul style="list-style-type: none"> <li>- Understand and use place value for decimals</li> </ul>	<b>Negative Numbers</b> <ul style="list-style-type: none"> <li>- Order positive and negative integers</li> </ul>	<b>Using the number system effectively</b> <ul style="list-style-type: none"> <li>- Understand and use place value for decimals</li> </ul>	<b>Writing numbers in standard form</b> <ul style="list-style-type: none"> <li>- Interpret and compare numbers in standard form <math>A \times 10^n</math> <math>1 \leq A &lt; 10</math>, where n is a positive or negative integer or zero</li> </ul>			
<b>Number Properties</b>	<b>Multiples</b> <ul style="list-style-type: none"> <li>- Use the concepts and vocabulary of multiples</li> </ul>	<b>Factors, Primes and Powers</b> <ul style="list-style-type: none"> <li>- Use the concepts and vocabulary of prime numbers and factors (or divisors)</li> <li>- Use integer powers and associated real roots, recognise powers of 2, 3, 4, 5 and distinguish between exact representations of roots and their decimal equivalents</li> </ul>	<b>Divisibility tests</b> <ul style="list-style-type: none"> <li>- Recognise and use relationships between operations</li> </ul>	<b>Index notation</b> <ul style="list-style-type: none"> <li>- Use integer powers</li> </ul>	<b>Prime Factorisation</b> <ul style="list-style-type: none"> <li>- Use the concepts and vocabulary of common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation property</li> </ul>				
<b>Calculating</b>	<b>Adding and subtracting whole numbers</b> <ul style="list-style-type: none"> <li>- Use addition and subtraction, including formal written methods, applied to positive integers</li> </ul>	<b>Multiplying whole numbers</b> <ul style="list-style-type: none"> <li>- Use multiplication, including formal written methods, applied to positive integers</li> </ul>	<b>Adding and subtracting Decimals</b> <ul style="list-style-type: none"> <li>- Use addition and subtraction, including formal written methods, applied to positive decimals</li> <li>- Use standard units of money and other measures, including with decimal quantities</li> </ul>	<b>Dividing whole numbers</b> <ul style="list-style-type: none"> <li>- Use division, including formal written methods, applied to positive integer</li> </ul>	<b>Adding and subtracting negative numbers</b> <ul style="list-style-type: none"> <li>- Use addition and subtraction, applied to both positive and negative numbers</li> </ul>	<b>Multiplying and dividing negative numbers</b> <ul style="list-style-type: none"> <li>- Use multiplication and division, applied to both positive and negative numbers</li> </ul>	<b>BIDMAS</b> <ul style="list-style-type: none"> <li>- Use conventional notation for the priority of operations, including brackets, powers, roots and reciprocals</li> <li>- Use integer powers</li> </ul>	<b>Multiplying decimals</b> <ul style="list-style-type: none"> <li>- Use division, including formal written methods, applied to decimals</li> <li>- Use standard units of money and other measures, including with decimal quantities</li> </ul>	<b>Dividing decimals</b> <ul style="list-style-type: none"> <li>- Use division, including formal written methods, applied to decimals</li> <li>- Use standard units of money and other measures, including with decimal quantities</li> </ul>
<b>Accuracy</b>	<b>Rounding to the nearest 10 or 100</b> <ul style="list-style-type: none"> <li>- Round numbers and measures</li> </ul>	<b>Rounding larger numbers</b> <ul style="list-style-type: none"> <li>- Round numbers and measures</li> </ul>	<b>Rounding decimals to the nearest Integer</b> <ul style="list-style-type: none"> <li>- Round numbers and measures</li> </ul>	<b>Rounding decimals</b> <ul style="list-style-type: none"> <li>- Round numbers and measures</li> </ul>	<b>Significance</b> <ul style="list-style-type: none"> <li>- Round numbers and measures</li> </ul>	<b>Approximating</b> <ul style="list-style-type: none"> <li>- Use approximation through rounding to estimate answers</li> </ul>	<b>Limits of accuracy</b> <ul style="list-style-type: none"> <li>- Use approximation and calculate possible resulting errors expressed using inequality notation <math>a &lt; x \leq b</math></li> </ul>		
<b>Percentages</b>	<b>Understanding and using percentages</b> <ul style="list-style-type: none"> <li>- Define percentage as 'number of parts per hundred', express one quantity as a percentage of another, compare two quantities using percentages</li> </ul>	<b>Calculating percentages of quantities</b> <ul style="list-style-type: none"> <li>- Interpret percentages as operators</li> </ul>	<b>Converting between fractions, decimals and percentages</b> <ul style="list-style-type: none"> <li>- Order decimals and fractions</li> <li>- Work interchangeably with terminating decimals and their corresponding fractions</li> <li>- Interpret percentages as a fraction or a decimal, interpret these multiplicatively</li> </ul>	<b>Applying percentage increases and decreases to amounts</b> <ul style="list-style-type: none"> <li>- Work with percentages greater than 100%</li> <li>- Solve problems involving percentage change, including: percentage increase, decrease and simple interest in financial mathematics</li> <li>- Interpret percentages as a fraction or a decimal, interpret these multiplicatively</li> </ul>	<b>Finding the percentage change from one amount to another</b> <ul style="list-style-type: none"> <li>- Solve problems involving percentage change</li> </ul>	<b>Reverse percentages</b> <ul style="list-style-type: none"> <li>- Solve problems involving percentage change, including original value problems</li> </ul>			
<b>Fractions</b>	<b>Understanding Fractions</b> <ul style="list-style-type: none"> <li>- Express one quantity as a fraction of another, where the fraction is less than one and greater than one</li> </ul>	<b>Finding equivalent fractions</b> <ul style="list-style-type: none"> <li>- Order fractions</li> </ul>	<b>Multiplying fractions</b> <ul style="list-style-type: none"> <li>- Use multiplication, including formal written methods, applied to proper fractions</li> <li>- Interpret fractions as operators</li> <li>- Relate the language of ratios and associated calculations to the arithmetic of fractions</li> </ul>	<b>Adding and subtracting fractions</b> <ul style="list-style-type: none"> <li>- Use addition and subtraction, including formal written methods, applied to proper fractions</li> </ul>	<b>Working with mixed numbers</b> <ul style="list-style-type: none"> <li>- Use addition, subtraction, and multiplication, including formal written methods, applied to improper fractions and mixed numbers</li> </ul>	<b>Dividing Fractions</b> <ul style="list-style-type: none"> <li>- Use division, including formal written methods, applied to proper fractions</li> </ul>			



Algebra Progression Map

<p><b>Initial Algebra</b></p>	<p><b>Making and using word formulae</b></p> <ul style="list-style-type: none"> <li>- Recognise and use relationships between operations</li> <li>- Substitute numerical values into formulae</li> <li>- Model situations or procedures by translating them into formulae</li> <li>- Interpret mathematical relationships algebraically</li> </ul>	<p><b>Using letters</b></p> <ul style="list-style-type: none"> <li>- Use and interpret algebraic notation, including: <math>ab</math> in place of <math>a \times b</math>, <math>3y</math> in place of <math>3 \times y</math></li> <li>- Substitute numerical values into formulae</li> <li>- Model situations or procedures by translating them into formulae</li> <li>- Interpret mathematical relationships algebraically</li> </ul>	<p><b>Combining variables</b></p> <ul style="list-style-type: none"> <li>- Use and interpret algebraic notation, including: <math>3y</math> in place of <math>y + y + y</math>, <math>a^2</math> in place of <math>a \times a</math>, <math>a^2b</math> in place of <math>a \times a \times b</math></li> <li>- <math>x/y</math> instead of <math>x \div y</math>, coefficients written as fractions rather than decimals</li> <li>- Substitute numerical values into expressions</li> <li>- Understand and use the concepts and vocabulary of expressions and terms</li> <li>- Simplify and manipulate expressions by collecting like terms</li> <li>- Model situations by translating them into algebraic expressions</li> <li>- Interpret relationships algebraically</li> </ul>	<p><b>Working with formulae</b></p> <ul style="list-style-type: none"> <li>- Recognise and use relationships between operations, including inverse operations</li> <li>- Substitute numerical values into formulae</li> <li>- Rearrange formulae to change the subject</li> <li>- Model situations or procedures by translating them into formulae</li> <li>- Interpret mathematical relationships algebraically</li> </ul>	<p><b>Setting up and solving simple equations</b></p> <ul style="list-style-type: none"> <li>- Understand and use the concepts and vocabulary of equations</li> <li>- Use algebraic methods to solve linear equations in one variable</li> <li>- Interpret mathematical relationships algebraically</li> </ul>	<p><b>Using brackets</b></p> <ul style="list-style-type: none"> <li>- Use and interpret algebraic notation, including brackets</li> <li>- Understand and use the concepts and vocabulary of Factors</li> <li>- Simplify and manipulate expressions to maintain equivalence by multiplying a single term over a bracket and taking out common factors</li> <li>- Use algebraic methods to solve linear equations in one variable</li> <li>- Interpret mathematical relationships algebraically</li> </ul>	<p><b>Working with more complex equations</b></p> <ul style="list-style-type: none"> <li>- Understand and use the concepts and vocabulary of equations</li> <li>- Use algebraic methods to solve linear equations in one variable</li> <li>- Reduce a given linear equation in two variables to the standard form <math>y = mx + c</math></li> </ul>	<p><b>Solving equations with Brackets</b></p> <ul style="list-style-type: none"> <li>- Understand and use the concepts and vocabulary of equations</li> <li>- Use algebraic methods to solve linear equations in one variable (including all forms that require rearrangement)</li> <li>- Interpret mathematical relationships algebraically</li> <li>- Reduce a given linear equation in two variables to the standard form <math>y = mx + c</math></li> </ul>	<p><b>Simplifying harder expressions</b></p> <ul style="list-style-type: none"> <li>- Understand and use the concepts and vocabulary of expressions and factors</li> <li>- Simplify and manipulate algebraic expressions to maintain equivalence by expanding products of two or more binomials</li> <li>- Model situations or procedures by translating them into algebraic expressions</li> <li>- Interpret mathematical relationships algebraically</li> </ul>	<p><b>Using complex formulae</b></p> <ul style="list-style-type: none"> <li>- Substitute numerical values into formulae, including scientific formulae</li> <li>- Understand and use standard mathematical formulae: rearrange formulae to change the subject</li> <li>- Model situations or procedures by translating them into formulae</li> <li>- Interpret mathematical relationships algebraically</li> </ul>		
<p><b>Algebraic Methods</b></p>	<p><b>Trial and improvement</b></p> <ul style="list-style-type: none"> <li>- This unit has been included because the technique of trial and improvement is often used in problem solving where, for example, a reasonable approach may result in an equation that does not have an analytical solution that is accessible to students</li> </ul>		<p><b>Linear inequalities</b></p> <ul style="list-style-type: none"> <li>- Understand and use the concepts and vocabulary of inequalities</li> </ul>		<p><b>Solve pairs of equations by substitution</b></p> <ul style="list-style-type: none"> <li>- Calculate and interpret intercepts of graphs of linear equations numerically, graphically and algebraically</li> </ul>		<p><b>Solve simultaneous equations using elimination</b></p> <ul style="list-style-type: none"> <li>- Calculate and interpret intercepts of graphs of linear equations numerically, graphically and algebraically</li> </ul>		<p><b>Using graphs to solve simultaneous equations</b></p> <ul style="list-style-type: none"> <li>- Use linear graphs to find approximate solutions of simultaneous linear equations</li> </ul>			
<p><b>Functions and Graphs</b></p>	<p><b>Real life graphs</b></p> <ul style="list-style-type: none"> <li>- Model situations or procedures by using graphs</li> <li>- Interpret mathematical relationships algebraically and graphically</li> <li>- Find approximate solutions to contextual problems from given graphs of a variety of functions, including piece-wise linear, exponential and reciprocal graphs</li> </ul>			<p><b>Plotting graphs of linear functions</b></p> <ul style="list-style-type: none"> <li>- Model situations by using graphs</li> <li>- Recognise, sketch and produce graphs of linear functions of one variable with appropriate scaling, using equations in <math>x</math> and <math>y</math> and the Cartesian plane</li> <li>- Interpret mathematical relationships algebraically and graphically</li> <li>- Use linear graphs to estimate values of <math>y</math> for given values of <math>x</math> and vice versa</li> </ul>			<p><b>The equation of a straight line</b></p> <ul style="list-style-type: none"> <li>- Model situations by using graphs</li> <li>- Interpret mathematical relationships algebraically and graphically</li> <li>- Calculate and interpret gradients and intercepts of graphs of linear equations in the standard form <math>y = mx + c</math> numerically, graphically and algebraically</li> </ul>			<p><b>Plotting quadratic and cubic graphs</b></p> <ul style="list-style-type: none"> <li>- Model situations by using graphs</li> <li>- Recognise, sketch and produce graphs of quadratic functions of one variable with appropriate scaling, using equations in <math>x</math> and <math>y</math> and the Cartesian plane</li> <li>- Interpret mathematical relationships algebraically and graphically</li> <li>- Use quadratic graphs to estimate values of <math>y</math> for given values of <math>x</math> and vice versa</li> </ul>		
<p><b>Sequences</b></p>	<p><b>What is a sequence?</b></p> <ul style="list-style-type: none"> <li>- Generate terms of a sequence from a term -to-term rule</li> </ul>		<p><b>Generating sequences</b></p> <ul style="list-style-type: none"> <li>- Generate terms of a sequence from a term -to-term or a position-to-term rule</li> </ul>		<p><b>Linear sequences</b></p> <ul style="list-style-type: none"> <li>- Generate terms of a sequence from a term-to-term or a position-to-term rule</li> <li>- Recognise arithmetic sequences and find the <math>n</math>th term</li> </ul>		<p><b>Special sequences</b></p> <ul style="list-style-type: none"> <li>- Generate terms of a sequence from a term -to-term or a position-to-term rule</li> <li>- Recognise geometric sequences and appreciate other sequences that arise</li> </ul>		<p><b>Quadratic Sequences</b></p> <ul style="list-style-type: none"> <li>- Generate terms of a sequence from a term -to-term or a position-to-term rule</li> <li>- Recognise geometric sequences</li> </ul>			



Geometry and Measures Progression Map

<b>3D Shapes</b>																			
<b>Properties of 3-D shapes</b> <ul style="list-style-type: none"> <li>- Use the properties of faces, surfaces, edges and vertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3D</li> <li>- Interpret mathematical relationships both algebraically and geometrically</li> </ul>			<b>Understanding Nets</b> <ul style="list-style-type: none"> <li>- Use the properties of faces, surfaces, edges and vertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3D</li> </ul>			<b>Volume and surface area of cuboids</b> <ul style="list-style-type: none"> <li>- Derive formulae to calculate and solve problems involving volume of cuboids (including cubes)</li> <li>- Use the properties of faces and surfaces of cubes and cuboids to solve problems in 3D</li> <li>- Interpret mathematical relationships both algebraically and geometrically</li> </ul>			<b>2-D representations of 3-D shapes</b> <ul style="list-style-type: none"> <li>- Use the properties of faces, surfaces and edges to solve problems in 3D</li> </ul>		<b>Prisms</b> <ul style="list-style-type: none"> <li>- Derive formulae to calculate and solve problems involving volume prisms (including cylinders)</li> <li>- Use the properties of faces and surfaces of cubes and cuboids to solve problems in 3D</li> <li>- Interpret mathematical relationships both algebraically and geometrically</li> </ul>								
<b>Transformations</b>																			
<b>Position and Cartesian coordinates</b> <ul style="list-style-type: none"> <li>- Position and Cartesian coordinates</li> <li>- Work with coordinates</li> <li>- Use the standard notations for labelling the sides and angles of triangle ABC</li> </ul>		<b>Cartesian coordinates in four Quadrants</b> <ul style="list-style-type: none"> <li>- Work with coordinates in all four quadrants</li> </ul>		<b>Translation</b> <ul style="list-style-type: none"> <li>- Identify properties of, and describe the results of translations, applied to given figures</li> </ul>		<b>Reflection</b> <ul style="list-style-type: none"> <li>- Identify properties of, and describe the results of reflections, applied to given figures</li> </ul>		<b>Rotation</b> <ul style="list-style-type: none"> <li>- Identify properties of, and describe the results of rotations, applied to given figures</li> </ul>		<b>Enlargement</b> <ul style="list-style-type: none"> <li>- Use scale factors</li> <li>- Construct similar shapes by enlargement, with and without coordinate grids</li> </ul>		<b>Similarity</b> <ul style="list-style-type: none"> <li>- Use scale factors</li> <li>- Apply angle facts, similarity and properties of quadrilaterals to derive results about angles and Sides</li> <li>- Interpret mathematical relationships both algebraically and geometrically</li> </ul>		<b>Trigonometry</b> <ul style="list-style-type: none"> <li>- Use Pythagoras' Theorem and trigonometric ratios in similar triangles to solve problems involving right-angled triangles</li> <li>- Interpret mathematical relationships both algebraically and geometrically</li> </ul>					
<b>Constructions</b>																			
<b>Angles in degrees</b> <ul style="list-style-type: none"> <li>- Draw and measure angles in geometric figures</li> </ul>				<b>Constructions with a ruler and protractor</b> <ul style="list-style-type: none"> <li>- Draw and measure line segments and angles in geometric figures</li> <li>- Identify and construct congruent triangles</li> </ul>				<b>Constructing with a pair of compasses</b> <ul style="list-style-type: none"> <li>- Derive and use the standard ruler and compass constructions; recognise and use the perpendicular distance from a point to a line as the shortest distance to the line</li> <li>- Identify and construct congruent triangles</li> </ul>			<b>Loci</b> <ul style="list-style-type: none"> <li>- Use the standard ruler and compass constructions; recognise and use the perpendicular distance from a point to a line as the shortest distance to the line</li> </ul>								
<b>Measuring Shapes</b>																			
<b>Understanding area</b> <ul style="list-style-type: none"> <li>- Derive formulae to calculate and solve problems involving area</li> </ul>			<b>Finding area and perimeter</b> <ul style="list-style-type: none"> <li>- Derive and apply formulae to calculate and solve problems involving perimeter and area of triangles, parallelograms, trapezia</li> <li>- Calculate and solve problems involving perimeters of composite shapes</li> <li>- Interpret mathematical relationships both algebraically and geometrically</li> </ul>				<b>Circumference</b> <ul style="list-style-type: none"> <li>- Calculate and solve problems involving perimeters of 2-D shapes (including circles) and composite shapes</li> <li>- Interpret mathematical relationships both algebraically and geometrically</li> </ul>			<b>Area of circles</b> <ul style="list-style-type: none"> <li>- Calculate and solve problems involving areas of circles and composite shapes</li> <li>- Interpret mathematical relationships both algebraically and geometrically</li> </ul>			<b>Pythagoras' Theorem</b> <ul style="list-style-type: none"> <li>- Derive Pythagoras' Theorem</li> <li>- Use Pythagoras' Theorem to solve problems involving right-angled triangles</li> <li>- Interpret mathematical relationships both algebraically and geometrically</li> </ul>						
<b>Properties of Shapes</b>																			
<b>Common shapes</b> <ul style="list-style-type: none"> <li>- Describe, sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles and regular polygons</li> <li>- Know and use the meaning of congruence</li> <li>- Derive and illustrate properties of triangles, quadrilaterals, circles, and other plane figures using appropriate language and technologies</li> </ul>		<b>Line symmetry</b> <ul style="list-style-type: none"> <li>- Describe, sketch and draw using conventional terms and notations: polygons that are reflectively symmetric</li> </ul>		<b>Angle facts</b> <ul style="list-style-type: none"> <li>- Apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles</li> <li>- Interpret mathematical relationships both algebraically and geometrically</li> </ul>		<b>Rotational symmetry</b> <ul style="list-style-type: none"> <li>- Describe, sketch and draw using conventional terms and notations: polygons that are rotationally symmetric</li> </ul>		<b>Angles in triangles and Quadrilaterals</b> <ul style="list-style-type: none"> <li>- Use the standard conventions for labelling the sides and angles of triangle ABC</li> <li>- Derive and illustrate properties of triangles and quadrilaterals using appropriate language and technologies</li> <li>- Derive and use the sum of angles in a triangle and use it to deduce the angle sum in a quadrilateral</li> <li>- Interpret mathematical relationships both algebraically and geometrically</li> </ul>		<b>Types of Quadrilaterals</b> <ul style="list-style-type: none"> <li>- Derive and illustrate properties of triangles and quadrilaterals using appropriate language and technologies</li> <li>- Interpret mathematical relationships both algebraically and geometrically</li> </ul>		<b>Angles and Parallel lines</b> <ul style="list-style-type: none"> <li>- Understand and use the relationship between parallel lines and alternate and corresponding angles</li> </ul>		<b>Angles in a polygon</b> <ul style="list-style-type: none"> <li>- Use the sum of angles in a triangle to deduce the angle sum in any polygon, and to derive properties of regular polygons</li> <li>- Interpret mathematical relationships both algebraically and geometrically</li> <li>- Use known results to obtain simple proofs</li> </ul>					
<b>Units and Scales</b>																			
<b>Length</b> <ul style="list-style-type: none"> <li>- Understand and use place value when using units of length</li> <li>- Use standard units of length, including with decimal quantities</li> <li>- Change freely between related standard units</li> <li>- Draw and measure line segments</li> </ul>		<b>Mass</b> <ul style="list-style-type: none"> <li>- Understand and use place value when using units of mass</li> <li>- Use standard units of mass, including with decimal quantities</li> <li>- Change freely between related standard units</li> </ul>		<b>Time</b> <ul style="list-style-type: none"> <li>- Use standard units of time</li> <li>- Change freely between related standard units</li> </ul>		<b>Volume</b> <ul style="list-style-type: none"> <li>- Understand and use place value when using units of volume</li> <li>- Use standard units of volume, including with decimal quantities</li> <li>- Change freely between related standard units</li> </ul>		<b>Interpreting Scales</b> <ul style="list-style-type: none"> <li>- Understand a use place value for measures</li> </ul>		<b>The metric system</b> <ul style="list-style-type: none"> <li>- Understand a use place value for measures</li> <li>- Use standard units of measures, including with decimal quantities</li> <li>- Change freely between related standard units</li> </ul>		<b>Metric-Imperial conversions</b> <ul style="list-style-type: none"> <li>- Understand a use place value for measures</li> <li>- Use standard units of measures, including with decimal quantities</li> <li>- Change freely between related standard units</li> </ul>		<b>Bearings</b> <ul style="list-style-type: none"> <li>- Draw and measure line segments in geometric figures, including interpreting scale drawings</li> <li>- Interpret mathematical relationships both algebraically and geometrically</li> </ul>		<b>Scale drawing</b> <ul style="list-style-type: none"> <li>- Use scale factors, scale diagrams and maps</li> <li>- Use ratio notation</li> <li>- Draw and measure line segments in geometric figures, including interpreting scale drawings</li> </ul>		<b>Compound units</b> <ul style="list-style-type: none"> <li>- Use compound units such as speed and density to solve problems</li> </ul>	



**Ratio, Proportion and Rate of Change Progression Map**

<b>Ratio, proportion and rate of change</b>	<b>Understanding ratio notation</b> <ul style="list-style-type: none"> <li>- Use ratio notation, including reduction to simplest form</li> <li>- Relate the language of ratios and the associated calculations to the arithmetic of fractions</li> </ul>	<b>Sharing in a given ratio</b> <ul style="list-style-type: none"> <li>- Divide a given quantity into two parts in a given part:part or part:whole ratio; express the division of a quantity into two parts as a ratio</li> </ul>	<b>Working with proportional quantities</b> <ul style="list-style-type: none"> <li>- Understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction</li> <li>- Solve problems involving direct proportion</li> <li>- Use compound units such as unit pricing to solve problems</li> </ul>	<b>The constant of proportionality</b> <ul style="list-style-type: none"> <li>- Relate the language of ratios and the associated calculations to linear functions</li> <li>- Solve problems involving direct proportion, including graphical and algebraic representations</li> </ul>	<b>Working with Inversely proportional quantities</b> <ul style="list-style-type: none"> <li>- Solve problems involving inverse proportion, including graphical and algebraic representations</li> </ul>
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**Statistics Progression Map**

<b>Statistical Diagrams</b>	<b>Using tables and charts</b> <ul style="list-style-type: none"> <li>- Describe, interpret and compare observed distributions of a single variable through appropriate graphical representation involving discrete data</li> <li>- Construct and interpret appropriate tables, charts and diagrams, including frequency tables, bar charts and pictograms for categorical data</li> </ul>	<b>Stem and leaf diagrams</b> <ul style="list-style-type: none"> <li>- Describe, interpret and compare observed distributions of a single variable through appropriate graphical representation involving discrete data</li> </ul>	<b>Vertical line charts</b> <ul style="list-style-type: none"> <li>- Describe, interpret and compare observed distributions of a single variable through appropriate graphical representation involving discrete and continuous data</li> <li>- Construct and interpret appropriate tables, charts and diagrams, including vertical line charts for ungrouped numerical data</li> </ul>	<b>Pie Charts</b> <ul style="list-style-type: none"> <li>- Describe, interpret and compare observed distributions of a single variable through appropriate graphical representation involving discrete data</li> <li>- Construct and interpret appropriate tables, charts and diagrams, including pie charts for categorical data</li> </ul>	<b>Displaying Grouped Data</b> <ul style="list-style-type: none"> <li>- Describe, interpret and compare observed distributions of a single variable through appropriate graphical representation involving continuous and grouped data</li> <li>- Construct and interpret appropriate tables, charts and diagrams, including frequency tables, for grouped numerical data</li> </ul>	<b>Scatter diagrams</b> <ul style="list-style-type: none"> <li>- Describe simple mathematical relationships between two variables in observational and experimental contexts and illustrate using scatter graphs</li> </ul>
<b>Statistical Measures</b>	<b>Mode, median and Range</b> <ul style="list-style-type: none"> <li>- Describe, interpret and compare observed distributions of a single variable through appropriate measures of central tendency and spread</li> </ul>	<b>Using Mean, Median, Mode and Range</b> <ul style="list-style-type: none"> <li>- Describe, interpret and compare observed distributions of a single variable through appropriate measures of central tendency and spread</li> </ul>	<b>Using Frequency Tables</b> <ul style="list-style-type: none"> <li>- Describe, interpret and compare observed distributions of a single variable through appropriate measures of central tendency</li> </ul>	<b>Using Grouped Frequency tables</b> <ul style="list-style-type: none"> <li>- Describe, interpret and compare observed distributions of a single variable through appropriate measures of central tendency</li> </ul>	<b>Interquartile range</b> <ul style="list-style-type: none"> <li>- Describe, interpret and compare observed distributions of a single variable through appropriate measures of central tendency</li> </ul>	

**Probability Progression Map**

<b>Probability</b>	<b>Introduction to Probability</b> <ul style="list-style-type: none"> <li>- Record, describe and analyse the frequency of outcomes of simple probability using appropriate language and the 0-1 probability scale</li> </ul>	<b>Single event probability</b> <ul style="list-style-type: none"> <li>- Record, describe and analyse the frequency of outcomes of simple probability experiments involving randomness, fairness, and equally likely outcomes using appropriate language and the 0-1 probability scale</li> <li>- Understand that the probabilities of all possible outcomes sum to 1</li> <li>- Generate theoretical sample spaces for single events with equally likely, mutually exclusive outcomes and use these to calculate theoretical probabilities</li> </ul>	<b>Combined events</b> <ul style="list-style-type: none"> <li>- Enumerate sets and unions/intersections of sets systematically, using tables, grids and Venn diagrams</li> <li>- Generate theoretical sample spaces for combined events with equally likely, mutually exclusive outcomes and use these to calculate theoretical probabilities</li> </ul>	<b>Estimating probability</b> <ul style="list-style-type: none"> <li>- Record, describe and analyse the frequency of outcomes of simple probability experiments involving randomness, fairness, and unequally likely outcomes using appropriate language and the 0-1 probability scale</li> </ul>
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