

## YEAR 7 SCHEME OF WORK - SECURE

|                         |  |                         |   |                         |   |
|-------------------------|--|-------------------------|---|-------------------------|---|
| Autumn Term 1           | <a href="#"><u>Number Skills</u></a>                       | Spring Term 1           | <a href="#"><u>Fractions</u></a>            | Summer Term 1           | <a href="#"><u>Lines and angles</u></a>     |
|                         | <a href="#"><u>Analysing and displaying data</u></a>       |                         | <a href="#"><u>Probability</u></a>          |                         | <a href="#"><u>Sequences and graphs</u></a> |
| Half Term: Assessment   |  | Half Term: Assessment   |   | Half Term: Assessment   |   |
| Autumn Term 2           | <a href="#"><u>Expressions, functions and Formulae</u></a> | Spring Term 2           | <a href="#"><u>Ratio and proportion</u></a> | Summer Term 2           | <a href="#"><u>Transformations</u></a>      |
|                         | <a href="#"><u>Decimals and measures</u></a>               |                         |   |                         | End of Term Assessment                      |
| End of Term: Assessment |  | End of Term: Assessment |   | End of Year: Assessment |   |

| Year 7 Core<br>Term: Autumn 1  | Unit Title: Number Skills  | Duration: 12 hrs. |
|--|--|-------------------|
| <b>Objectives:</b> <ul style="list-style-type: none"> <li>• use conventional notation for the priority of operations</li> <li>• round numbers and measures to an appropriate degree of accuracy and use to justify calculations</li> <li>• recognise and use relationships between operations including inverse operations</li> <li>• use the four operations, including formal written methods, with positive and negative integers</li> <li>• order positive and negative integers</li> <li>• use the concepts and vocabulary of prime numbers, multiples, factors [or divisors] and prime numbers</li> <li>• use integer powers and associated real roots (square, cube)</li> <li>• use approximation through rounding to estimate answers</li> </ul> | <b>Notes:</b> <ul style="list-style-type: none"> <li>• Know and use the priority of operations and laws of arithmetic</li> <li>• Round whole number and decimals</li> <li>• Check answers using various methods</li> <li>• Use written methods to add, subtract, multiply and divide whole numbers</li> <li>• Use positive and negative integers</li> <li>• Recognise and use factors, multiples and prime numbers</li> <li>• Know square numbers and their corresponding square roots</li> <li>• Use index notation for squares, cubes and positive integer powers of 10</li> </ul> |                   |

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| Year 7 Core<br>Term: Autumn 1   | Unit Title: Analysing and Displaying data  | Duration: 11 hrs. |
|---|--|-------------------|
| <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>describe, interpret and compare observed distributions of a single variable through: appropriate measures of central tendency (mean, mode, median) and</li> <li>appropriate measures of spread (range, consideration of outliers)</li> <li>construct and interpret vertical line (or bar) charts for ungrouped and grouped data</li> <li>Interpreting graphs (pie charts) (not drawing)</li> </ul> | <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>Find the mode, median, mean and range for a set of data</li> <li>Compare sets of data using their ranges and averages</li> <li>Read and draw tally charts, tables, charts and line graphs, including for grouped data</li> </ul> <p>Use ICT to present data and construct charts</p> |                   |

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| Year 7 Core<br>Term: Autumn 2  | Unit Title: Expressions, functions and formulae   | Duration: 10 hrs. |
|--|---|-------------------|
| <b>Objectives:</b> <ul style="list-style-type: none"><li>• substitute numerical values into formulae and expressions, including scientific formulae</li><li>• simplify and manipulate algebraic expressions to maintain equivalence: collecting like terms, multiplying a term over a bracket</li><li>• use and interpret algebraic notation: <math>3y</math> in place of <math>y + y + y</math> and <math>3 \times y</math></li><li>• model situations or procedures by translating them into algebraic expressions or formulae</li></ul> | <b>Notes:</b> <ul style="list-style-type: none"><li>• Describe and find outputs of simple functions</li><li>• Simplify expressions by collecting like terms</li><li>• Write expressions</li><li>• Substitute into formulae<br/>Write formulae</li></ul> |                   |

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| <b>Year 7 Core</b><br><b>Term: Autumn 2</b>  | <b>Unit Title: Decimals and Measure</b>  | <b>Duration: 12 hrs.</b> |
| <b>Objectives:</b> <ul style="list-style-type: none"><li>• understand and use place value for decimals</li><li>• order decimals and fractions</li><li>• use the symbols =, ≠, &lt;, &gt;, ≤, ≥</li><li>• understand and use place value for measures</li><li>• work with coordinates in all four quadrants</li><li>• use the four operations, including formal written methods, with positive and negative decimals</li><li>• derive formulae to calculate and solve problems involving perimeter and area of parallelograms</li></ul> | <b>Notes:</b> <ul style="list-style-type: none"><li>• Order and round decimals</li><li>• Use measures and conversions</li><li>• Read scales and plot coordinates</li><li>• Calculate with decimals</li><li>• Work out perimeter and area</li></ul> |                          |

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| Year 7 Core<br>Term: Spring 1   | Unit Title: Fractions   | Duration: 10 hrs.   |
|---|---|---|
| <b>Objectives:</b> <ul style="list-style-type: none"> <li>• order decimals and fractions</li> <li>• use the symbols =, ≠, &lt;, &gt;, ≤, ≥</li> <li>• use the four operations, including formal written methods, with positive and negative fractions</li> <li>• define percentage as ‘number of parts per hundred’</li> <li>• interpret a percentage as a fraction or a decimal</li> <li>• interpret fractions and percentages as operators</li> </ul> | <b>Notes:</b> <ul style="list-style-type: none"> <li>• Compare fractions</li> <li>• Simplify fractions</li> <li>• Calculate with fractions (addition, subtraction and fractions of amounts)</li> <li>• Work with equivalent fractions, decimals and percentages</li> <li>• Find percentages of amounts</li> </ul> | <b>Levels:</b> <ul style="list-style-type: none"> <li>• 4b, 4a, 5a</li> <li>• 5b</li> <li>• 4b, 5c, 5b, 5a</li> <li>• 4c, 4b, 5b, 5a</li> <li>• 4c, 4a, 5b, 5a</li> </ul> |

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|---|--|--------------------------------|-------------------------|
| <b>Year 7 Core</b>  | <b>Term: Spring 1</b>  | <b>Unit Title: Probability</b> | <b>Duration: 9 hrs.</b> |
| <b>Objectives:</b> <ul style="list-style-type: none"><li>• use appropriate language of probability</li><li>• use the 0–1 probability scale</li><li>• understand that probabilities of all possible outcomes sum to 1</li><li>• record, describe and analyse the frequency of outcomes of simple probability experiments involving randomness, fairness, equally and unequally likely outcomes</li></ul> | <b>Notes:</b> <ul style="list-style-type: none"><li>• Use the vocabulary of probability</li><li>• Understand and use the probability scale from 0 to 1</li><li>• Calculate probability based on equally likely outcomes</li><li>• Calculate the probability of an event not happening</li><li>• Calculate experimental probability</li></ul> |                                |                         |

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| Year 7 Core   | Unit Title: Ratio and Proportion   | Duration: 11 hrs. |
|---|--|-------------------|
| <p data-bbox="590 103 768 131">Term: Spring 2</p> <p data-bbox="86 139 222 167"><b>Objectives:</b></p> <ul data-bbox="86 172 743 472" style="list-style-type: none"><li>• solve problems involving direct proportion</li><li>• use ratio notation</li><li>• reduce a ratio to simplest form</li><li>• divide a given quantity into two parts in a given part:part ratio</li><li>• use scale factors</li><li>• understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction</li><li>• express the division of a quantity into two parts as a ratio</li></ul> | <p data-bbox="789 139 873 167"><b>Notes:</b></p> <ul data-bbox="789 172 1257 305" style="list-style-type: none"><li>• Solve problems involving direct proportion</li><li>• Understand and use ratios</li><li>• Use fractions to compare proportions</li><li>• Use percentages to compare proportions</li></ul> |                   |

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| Year 7 Core  | Unit Title: Lines and Angles   | Duration: 11 hrs. |
|--|--|-------------------|
| <p style="text-align: right;"><b>Term: Summer 1</b></p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• use the standard conventions for labelling the sides and angles of triangle ABC</li> <li>• draw and measure line segments and angles in geometric figures</li> <li>• apply the properties angles at a point and on a straight line</li> <li>• apply the properties vertically opposite angles</li> <li>• derive and use the sum of angles in a triangle</li> <li>• use the sum of angles in a triangle to deduce the angle sum in any polygon</li> <li>• use known results to obtain simple proofs</li> </ul> | <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>• Identify and label angles and lines</li> <li>• Use properties of 2D shapes</li> <li>• Estimate, measure and draw angles</li> <li>• Draw triangles accurately</li> <li>• Solve problems involving angles</li> <li>• Understand properties, angle facts and problems involving quadrilaterals</li> </ul> |                   |

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| Year 7 Core<br>Term: Summer 1   | Unit Title: Sequences and Graphs  | Duration: 11 hrs.   |
|---|---|---|
| <b>Objectives:</b> <ul style="list-style-type: none"> <li>• generate terms of a sequence from a term-to-term rule</li> <li>• generate terms of a sequence from a position-to-term</li> <li>• recognise arithmetic sequences</li> <li>• find the <math>n</math>th term</li> <li>• recognise geometric sequences and appreciate other sequences that arise</li> <li>• work with coordinates in all four quadrants</li> <li>• produce graphs of linear functions</li> <li>• interpret mathematical relationships both algebraically and graphically</li> </ul> | <b>Notes:</b> <ul style="list-style-type: none"> <li>• Generate and describe simple and more complex sequences including <math>n</math>th term</li> <li>• Identify and plot coordinates in all four quadrants</li> <li>• Recognise and plot straight line graphs</li> <li>• Make links between graphs, sequences and functions</li> </ul> | <b>Levels:</b> <ul style="list-style-type: none"> <li>• 4c, 4b, 4a, 5c, 5b, 5a, 6c</li> <li>• 5c, 5c, 5b, 5a</li> <li>• 5b, 5a, 6c</li> <li>• 5a</li> </ul> |

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| Year 7 Core<br>Term: Summer 2   | Unit Title: Transformations   | Duration: 11 hrs.   |
|---|---|---|
| <b>Objectives:</b> <ul style="list-style-type: none"> <li>• derive properties of regular polygons</li> <li>• identify properties of, and describe the results of: translations</li> <li>• identify properties of, and describe the results of: rotations</li> <li>• identify properties of, and describe the results of: reflections</li> </ul> | <b>Notes:</b> <ul style="list-style-type: none"> <li>• Describe congruence</li> <li>• Find enlargements and scale factors</li> <li>• Identify line and rotational symmetry</li> <li>• Describe reflections</li> <li>• Describe rotations</li> <li>• Describe translations</li> <li>• Combine transformations</li> </ul> | <b>Levels:</b> <ul style="list-style-type: none"> <li>• 4a, 5c</li> <li>• 5b, 5a</li> <li>• 4a, 5a, 6c</li> <li>• 4b, 5a, 6b</li> <li>• 4a, 5c, 5b</li> <li>• 4a</li> <li>• 5a, 6c, 6b</li> </ul> |

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