

| Timing | Unit Title                                 | Key Question   | Knowledge   | Assessing understanding  |
|--------|--|--|---|--|
| Autumn | <b>Negative numbers</b>                    | <b>Can you interpret and calculate with negative numbers in a range of contexts?</b> | <ul style="list-style-type: none"> <li>Using negative numbers</li> <li>Coordinates and line segments</li> <li>Graphs</li> <li>Reflection and translation</li> </ul>   | <p><b>How understanding is assessed:</b></p> <ul style="list-style-type: none"> <li>Applying concepts to increasingly complex and unfamiliar problems</li> <li>Explaining and justifying methods through class discussion and questioning</li> <li>Independent practice through classwork and homework</li> <li>Retrieval practice to secure key knowledge and methods</li> <li>Topic tests</li> </ul> <p><b>Skills developed:</b></p> <ul style="list-style-type: none"> <li>Conceptual understanding</li> <li>Numerical and algebraic fluency</li> <li>Problem solving and mathematical reasoning</li> </ul> <p><b>Assessment points:</b></p> <ul style="list-style-type: none"> <li>Topic tests</li> <li>End of term summative tests</li> </ul> |
|        | <b>Number skills</b>                       | <b>Can you use factors, multiples, primes and powers efficiently?</b>                | <ul style="list-style-type: none"> <li>Factors, primes and multiples</li> <li>Multiplying and dividing</li> <li>Powers and roots</li> <li>Calculations</li> </ul>   |  |
|        | <b>Expressions, functions and formulae</b> | <b>Can you represent and simplify relationships using algebra?</b>                   | <ul style="list-style-type: none"> <li>Writing and simplifying algebraic expressions</li> <li>Using and writing formulae</li> <li>Brackets and powers</li> <li>Factorising expressions</li> </ul>                       |  |
| Spring | <b>Angles and shapes</b>                   | <b>Can you use angle and shape properties to deduce unknown values?</b>              | <ul style="list-style-type: none"> <li>Angles and parallel lines</li> <li>Properties of triangles and quadrilaterals</li> <li>Polygons</li> </ul>   |  |
|        | <b>Fractions</b>                           | <b>Can you manipulate and interpret fractions confidently?</b>                       | <ul style="list-style-type: none"> <li>Working with fractions</li> <li>Calculating with fractions using the four operations</li> <li>Fractions, decimals and percentages</li> <li>Working with mixed numbers</li> </ul> |  |

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| Spring | <b>Decimals</b>                   | <b>Do you understand how place value underpins decimal calculations?</b> | <ul style="list-style-type: none"> <li>● Rounding and ordering decimals</li> <li>● Calculating with decimals using the four operations</li> <li>● Fractions, decimals and percentages</li> </ul>  | <p><b>How understanding is assessed:</b></p> <ul style="list-style-type: none"> <li>● Applying concepts to increasingly complex and unfamiliar problems</li> <li>● Explaining and justifying methods through class discussion and questioning</li> <li>● Independent practice through classwork and homework</li> <li>● Retrieval practice to secure key knowledge and methods</li> <li>● Topic tests</li> </ul> <p><b>Skills developed:</b></p> <ul style="list-style-type: none"> <li>● Conceptual understanding</li> <li>● Numerical and algebraic fluency</li> <li>● Problem solving and mathematical reasoning</li> </ul> <p><b>Assessment points:</b></p> <ul style="list-style-type: none"> <li>● Topic tests</li> <li>● End of term summative tests</li> </ul> |
|        | <b>Equations</b>                  | <b>Can you form and solve equations?</b>                                 | <ul style="list-style-type: none"> <li>● Solving one-step equations</li> <li>● Solving two-step equations</li> <li>● More complex equations</li> <li>● Trial and improvement</li> </ul>   |  |
| Summer | <b>Multiplicative reasoning</b>   | <b>Can you apply ratio and proportion in different contexts?</b>         | <ul style="list-style-type: none"> <li>● Working with percentages</li> <li>● Metric and imperial units</li> <li>● Writing and simplifying ratios</li> <li>● Sharing into a given ratio</li> <li>● Proportional reasoning</li> <li>● Using the unitary method</li> </ul> |  |
|        | <b>Perimeter, area and volume</b> | <b>Can you apply geometric formulae accurately?</b>                      | <ul style="list-style-type: none"> <li>● Triangles, parallelograms and trapeziums</li> <li>● Perimeter and area of compound shapes</li> <li>● Properties of 3D solids</li> <li>● Surface area</li> <li>● Volume</li> <li>● Measures of area and volume</li> </ul>       |  |
|        | <b>Sequences</b>                  | <b>Can you recognise patterns and express them algebraically?</b>        | <ul style="list-style-type: none"> <li>● Sequences</li> <li>● The nth term</li> <li>● Pattern sequences</li> </ul>  |  |

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| Summer | <b>Data</b> | <b>Can you interpret and analyse data?</b> | <ul style="list-style-type: none"> <li>● Data collection</li> <li>● Two-way tables</li> <li>● Bar charts</li> <li>● More graphs</li> <li>● Pie charts</li> <li>● Scatter graphs and correlation</li> </ul> | <p><b>How understanding is assessed:</b></p> <ul style="list-style-type: none"> <li>● Applying concepts to increasingly complex and unfamiliar problems</li> <li>● Explaining and justifying methods through class discussion and questioning</li> <li>● Independent practice through classwork and homework</li> <li>● Retrieval practice to secure key knowledge and methods</li> <li>● Topic tests</li> </ul> <p><b>Skills developed:</b></p> <ul style="list-style-type: none"> <li>● Conceptual understanding</li> <li>● Numerical and algebraic fluency</li> <li>● Problem solving and mathematical reasoning</li> </ul> <p><b>Assessment points:</b></p> <ul style="list-style-type: none"> <li>● Topic tests</li> <li>● End of term summative tests</li> </ul> |