

### Year 8 Maths Assessment Framework

The maths curriculum is structured around five key domains: Number, Algebra, Geometry, Ratio & Proportion, and Statistics & Probability. These areas are carefully sequenced to form a cumulative, spiralled curriculum across five years, allowing pupils to progressively deepen their understanding. As pupils revisit and build upon prior learning, the assessment criteria for each grade remain consistent throughout KS3, supporting coherent progression.

#### Topic overview

<b>Number:</b> Percentage of amounts Percentage change <b>Rounding</b> Standard form and ordinary numbers Fractions and recurring decimals	<b>Algebra:</b> Index laws Solving equations Term to term rules Position to term rules Coordinates and midpoints Plotting linear graphs Inequalities Double brackets Algebraic fractions	<b>Ratio and proportion</b> Calculating with money Ratio Scale diagrams	<b>Geometry:</b> Area and units of parallelograms and trapeziums Area and circumference of circles Nets, Surface area and volume of cubes and cuboids Transformations Finding unknown angles	<b>Statistics and probability:</b> Using Venn diagrams Drawing and interpreting statistical diagrams
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Assessment Objective	Grade 1	Grade 2-3	Grade 4-5	Grade 6-7	Grade 8+
<b>Declarative</b>  Facts and formulae	<ul style="list-style-type: none"> <li>- Recalls isolated facts and basic terms</li> <li>- Understands simple ideas in a surface-level way</li> <li>- Needs frequent prompts to retrieve knowledge</li> </ul>	<ul style="list-style-type: none"> <li>- Recalls and recognises key facts and relationships</li> <li>- Begins to link concepts meaningfully</li> <li>- Demonstrates basic conceptual understanding</li> </ul>	<ul style="list-style-type: none"> <li>- Demonstrates confident understanding of key concepts</li> <li>- Explains ideas using appropriate mathematical language</li> <li>- Begins to generalise patterns or relationships</li> </ul>	<ul style="list-style-type: none"> <li>- Shows depth in understanding and conceptual fluency</li> <li>- Justifies reasoning and identifies misconceptions</li> <li>- Understands connections between different areas of maths</li> </ul>	<ul style="list-style-type: none"> <li>- Demonstrates abstract and generalised understanding</li> <li>- Manipulates and connects concepts with precision</li> <li>- Articulates underlying structures and logic</li> </ul>
<b>Procedural</b>  Methods	<ul style="list-style-type: none"> <li>- Follows simple, guided procedures</li> <li>- Copies worked examples with limited understanding</li> <li>- Needs support to carry out steps in the correct</li> </ul>	<ul style="list-style-type: none"> <li>- Carries out standard procedures with growing accuracy</li> <li>- Begins to self-correct with support</li> <li>- Can follow multi-step processes in familiar contexts</li> </ul>	<ul style="list-style-type: none"> <li>- Selects and applies efficient methods independently</li> <li>- Explains procedures and reasoning</li> <li>- Applies known strategies to unfamiliar problems</li> </ul>	<ul style="list-style-type: none"> <li>- Adapts and combines procedures to suit the task</li> <li>- Evaluates efficiency and accuracy of methods</li> <li>- Can construct new approaches for unfamiliar problems</li> </ul>	<ul style="list-style-type: none"> <li>- Develops original methods for complex or novel tasks</li> <li>- Maintains fluency under pressure or variation</li> <li>- Uses reasoning to resolve ambiguity or uncertainty</li> </ul>

	order - Lacks automaticity and requires significant time to complete tasks	- Developing speed but still lacks fluency	with some success - Demonstrates improving accuracy and beginning automaticity	- Works with increasing speed and consistent accuracy	- Demonstrates full automaticity, precision and efficient speed
<b>Conditional</b>  Strategies for problems solving and reasoning	- Rarely identifies when to use mathematical knowledge - Struggles to apply knowledge beyond direct teaching - Needs explicit support in problem contexts	- Recognises familiar situations where maths applies - Begins to apply knowledge to scaffolded problems - Needs support with unfamiliar tasks or interpretation	- Chooses appropriate methods for different types of problems - Explains how and why a strategy works - Begins to transfer knowledge across contexts or topics	- Applies knowledge flexibly and with purpose - Strategically selects from a range of tools or methods - Explains reasoning in complex, unstructured contexts	- Models real-world situations with confidence - Applies maths across unfamiliar domains - Justifies and critiques solutions and approaches with clarity