

Year 9 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

Number: Percentage change Calculations with standard form Error intervals		Algebra: Linear inequalities Factorising and solving quadratic equations Rearranging formulae Plotting graphs and finding equations Distance time graphs Quadratic graphs	Ratio and proportion Simplifying and sharing ratio Proportion and word problems Speed and rates	Geometry: Constructing bisectors and perpendicular lines Circles and cylinders Plans and elevations Pythagoras theorem (2D) Angles on parallel lines and in polygons Bearings Transformations Similarity Congruence Column vectors	Statistics and probability: Theoretical and experimental probability Scatter graphs Collecting and representing data Grouped frequency tables
Assessment Objective	Grade 1	Grade 2-3	Grade 4-5	Grade 6-7	Grade 8+
Declarative Facts and formulae	<ul style="list-style-type: none">- Recalls isolated facts and basic terms- Understands simple ideas in a surface-level way- Needs frequent prompts to retrieve knowledge	<ul style="list-style-type: none">- Recalls and recognises key facts and relationships- Begins to link concepts meaningfully- Demonstrates basic conceptual understanding	<ul style="list-style-type: none">- Demonstrates confident understanding of key concepts- Explains ideas using appropriate mathematical language- Begins to generalise patterns or relationships	<ul style="list-style-type: none">- Shows depth in understanding and conceptual fluency- Justifies reasoning and identifies misconceptions- Understands connections between different areas of maths	<ul style="list-style-type: none">- Demonstrates abstract and generalised understanding- Manipulates and connects concepts with precision- Articulates underlying structures and logic
Procedural Methods	<ul style="list-style-type: none">- Follows simple, guided procedures- Copies worked examples with limited understanding	<ul style="list-style-type: none">- Carries out standard procedures with growing accuracy- Begins to self-correct with support	<ul style="list-style-type: none">- Selects and applies efficient methods independently- Explains procedures and reasoning	<ul style="list-style-type: none">- Adapts and combines procedures to suit the task- Evaluates efficiency and accuracy of methods- Can construct new	<ul style="list-style-type: none">- Develops original methods for complex or novel tasks- Maintains fluency under pressure or variation- Uses reasoning to resolve

	<ul style="list-style-type: none"> - Needs support to carry out steps in the correct order - Lacks automaticity and requires significant time to complete tasks 	<ul style="list-style-type: none"> - Can follow multi-step processes in familiar contexts - Developing speed but still lacks fluency 	<ul style="list-style-type: none"> - Applies known strategies to unfamiliar problems with some success - Demonstrates improving accuracy and beginning automaticity 	approaches for unfamiliar problems <ul style="list-style-type: none"> - Works with increasing speed and consistent accuracy 	ambiguity or uncertainty <ul style="list-style-type: none"> - Demonstrates full automaticity, precision and efficient speed
Conditional Strategies for problems solving and reasoning	<ul style="list-style-type: none"> - Rarely identifies when to use mathematical knowledge - Struggles to apply knowledge beyond direct teaching - Needs explicit support in problem contexts 	<ul style="list-style-type: none"> - Recognises familiar situations where maths applies - Begins to apply knowledge to scaffolded problems - Needs support with unfamiliar tasks or interpretation 	<ul style="list-style-type: none"> - Chooses appropriate methods for different types of problems - Explains how and why a strategy works - Begins to transfer knowledge across contexts or topics 	<ul style="list-style-type: none"> - Applies knowledge flexibly and with purpose - Strategically selects from a range of tools or methods - Explains reasoning in complex, unstructured contexts 	<ul style="list-style-type: none"> - Models real-world situations with confidence - Applies maths across unfamiliar domains - Justifies and critiques solutions and approaches with clarity