



Long-Term Curriculum Overview: Mathematics

Key Stage(s): 4

Curriculum Lead: Layla Shepherd

Academic Year: 2025-2026

Curriculum Intent

Our curriculum aims to nurture the whole child, supporting emotional wellbeing, resilience, and positive mental health. We focus on creating safe, inclusive environments where pupils with SEMH needs can thrive academically and personally. The curriculum is personalised and underpinned by strong relationships and consistency.

Curriculum Implementation

- Structured Routine: Clear, consistent lessons to support the reduction of anxiety and increase engagement.
- Therapeutic Approaches: Use of Zones of Regulation.
- Adapted Curriculum: Use of accessible activities and adapted scaffolding to meet the needs of all learners.
- Environment: Calming, sensory-aware settings.

Curriculum Impact

- Pupils develop emotional literacy and self-regulation.
- Increased engagement and attendance.
- Reduced behavioural incidents.
- Positive relationships with peers and adults.
- Preparation for transitions and independence.

Term	Topic / Learning Focus	Links towards EHCP Outcomes	Independent Skills Development	Assessment / Reflection of Learning	Resources / Programmes Used
Autumn 1	Ratio	<p>Communication and Interaction: Developing mathematical vocabulary (ratio, proportion, equivalent). Using sentence stems: "For every..., there are..."</p> <p>Cognition and Learning: Building number competency through multiplicative relationships. Connecting concrete, pictorial, and abstract representations</p> <p>Social, emotional and mental health: Building confidence through small-step progression. Reducing anxiety with structured, predictable lesson formats</p>	<p>Using bar models independently to represent ratio problems</p> <p>Selecting appropriate methods (unitary vs scaling) for different problems</p> <p>Self-checking answers by adding parts back to whole</p> <p>Making connections between ratio and fractions without support</p> <p>Applying ratio knowledge to new contexts (e.g., recipes, mixing paint)</p>	<p>Observation of concrete manipulative use with cubes and counters</p> <p>Questioning during mathematical talk: "Why is order important in ratio notation?"</p> <p>Written tasks showing bar model construction</p> <p>End-of-block assessment (20 marks)</p> <p>Self-reflection on problem-solving strategies</p> <p>Peer comparison of different solution methods</p>	<p>Concrete resources: coloured cubes, counters</p> <p>Bar model templates and visual supports</p> <p>White Rose teaching slides with worked examples</p> <p>Differentiated worksheets with scaffolding</p> <p>Mathematical talk prompt cards</p> <p>Zones of Regulation integration for managing problem-solving frustration</p>

Autumn 2	Proportion and Scale	<p>Communication and Interaction: Reading and interpreting graphs and scales. Using precise mathematical language for conversions</p> <p>Cognition and Learning: Applying ratio knowledge to scaling and proportion. Making connections across topics (ratio → proportion → scale)</p> <p>Sensory/Physical: Using measuring tools (rulers, scales) to understand unit relationships. Visual-spatial skills through map and diagram work</p>	<p>Reading conversion graphs accurately without support</p> <p>Choosing efficient methods for currency conversions</p> <p>Creating scale diagrams using appropriate scales</p> <p>Converting between metric units confidently</p> <p>Interpreting real maps and calculating actual distances</p> <p>Estimating answers before calculating to check reasonableness</p>	<p>Practical measuring activities with rulers and scales</p> <p>Graph reading tasks with peer checking</p> <p>Problem-solving with real conversion scenarios</p> <p>End-of-block assessment covering all steps</p> <p>Portfolio of scale drawings created by pupils</p> <p>Reflection on method efficiency: unitary vs scaling approaches</p>	<p>Double number lines for proportion relationships</p> <p>Interactive graphing software for conversion graphs</p> <p>Real currency exchange rates and maps</p> <p>Measuring equipment: rulers, measuring jugs, scales</p> <p>Calculator use for complex conversions</p> <p>Differentiated worksheets with visual supports</p> <p>Calming workspace setup for detailed measuring tasks</p>
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Spring 1	Algebraic Manipulation	<p>Communication and interaction: Using mathematical vocabulary precisely and explaining algebraic reasoning clearly.</p> <p>Cognition and learning: Breaking down complex algebraic problems into manageable steps, developing logical thinking patterns.</p> <p>Social, emotional and mental health: Building confidence through structured progression from concrete to abstract concepts, celebrating small wins in mathematical understanding.</p>	Developing systematic approaches to algebraic problem-solving, learning to check work independently, building resilience when tackling multi-step problems, and gaining confidence to attempt unfamiliar algebraic challenges without immediate support.	Ongoing formative assessment through mathematical talk and reasoning, diagnostic tasks to identify misconceptions, peer explanation activities, visual representation of algebraic thinking, and reflection journals documenting problem-solving strategies and confidence levels.	Algebra tiles for concrete manipulation, function machines, bar models, area models for bracket expansion, double-sided counters for directed numbers, graphing software for visual representations, and scaffolded worksheets with gradually reducing support.
Spring 2	Coordinates and Graphs -	<p>Communication and interaction: Describing positions precisely using coordinate language and explaining graphical patterns.</p> <p>Cognition and learning: Recognising patterns in tables of values, making connections between algebra and geometry, developing spatial reasoning skills.</p> <p>Social, emotional and mental health: Building confidence through</p>	Learning to use graphical tools independently, developing systematic approaches to plotting coordinates, building confidence in reading and interpreting scales, and gaining skills to	Practical plotting activities with peer checking, problem-solving investigations using real-world contexts, graphical pattern spotting exercises, coordinate treasure hunts, and digital portfolio creation showing	Coordinate grids with various scales, graphing software for dynamic exploration, squared paper, mini whiteboards for quick plotting practice, measuring tools, real-world data sets for meaningful

		visual success in plotting and pattern recognition, experiencing the satisfaction of making mathematical connections.	solve coordinate geometry problems without step-by-step guidance.	progression from basic plotting to complex graph analysis.	contexts, and digital tools for creating and sharing mathematical discoveries.
Summer 1	Angles in Parallel Lines and Polygons	<p>Communication and Interaction: Developing mathematical vocabulary (alternate, corresponding, co-interior angles). Explaining reasoning and justifying angle calculations. Collaborative problem-solving discussions</p> <p>Cognition and Learning: Applying angle rules systematically. Making connections between geometric concepts. Problem-solving with multi-step calculations</p> <p>Social, Emotional and Mental Health: Building confidence through structured success. Developing resilience when tackling challenging problems. Celebrating mathematical discoveries and "lightbulb moments"</p>	<p>Using angle measuring tools (protractors, angle rulers) independently</p> <p>Following systematic approaches to solve angle problems</p> <p>Self-checking work using angle relationships</p> <p>Choosing appropriate strategies for different polygon problems</p> <p>Organizing mathematical work clearly and logically</p>	<p>Practical Observations: Using manipulatives and measuring tools</p> <p>Peer Teaching: Explaining angle rules to classmate</p> <p>Problem-Solving Portfolios: Collection of worked examples</p> <p>Self-Assessment Checklists: "I can..." statements for each angle rule</p> <p>Real-World Applications: Finding angles in classroom/school environment</p>	<p>Visual Supports: Color-coded angle types, interactive geometry software</p> <p>Manipulatives: Angle measuring tools, parallel line models, polygon tiles</p> <p>Scaffolding Tools: Step-by-step angle calculation templates</p> <p>Technology: GeoGebra, angle measurement apps</p> <p>Communication Aids: Mathematical</p>

			<p>Building perseverance when working through multi-step problems</p> <p>Developing self-advocacy skills when asking for mathematical support</p>	<p>Mathematical Discussions: Verbal reasoning and explanation</p> <p>Progress Tracking: Individual learning journals with reflection prompts</p>	<p>word banks, sentence starters</p> <p>Sensory Supports: Textured angle templates, kinesthetic activities</p> <p>Zones of Regulation: Calm-down strategies during challenging problems</p> <p>Differentiated Worksheets: Multiple entry points and extension challenges</p>
Summer 2	GCSE Revision & Exam Preparation	<p>Communication and Interaction: Articulating mathematical methods clearly in exam conditions. Using precise mathematical language and notation. Seeking clarification and support when needed. Explaining solutions to revision partners</p> <p>Cognition and Learning:</p>	<p>Creating personalized revision schedules and sticking to them</p> <p>Self-identifying strengths and areas for development</p>	<p>Mock Exam Practice: Low-stakes practice with immediate feedback</p> <p>Progress Tracking: Individual revision</p>	<p>Adaptive Resources:

 •</p> <p>Personalized Revision Plans: Individual pathways based on diagnostic results
 •</p> <p>Anxiety</p>

		<p>Synthesizing knowledge across all GCSE topics. Applying problem-solving strategies to unfamiliar contexts. Demonstrating metacognitive awareness of learning. Making connections between mathematical concepts</p> <p>Social, Emotional and Mental Health: Managing exam anxiety through proven strategies. Building confidence through targeted success. Developing growth mindset around challenges. Celebrating individual progress and achievements</p>	<p>Using exam techniques independently (timing, question analysis)</p> <p>Implementing stress-management strategies effectively</p> <p>Organizing revision materials and notes systematically</p> <p>Self-monitoring progress and adjusting revision focus</p> <p>Advocating for specific support needs during exams</p> <p>Building stamina for extended concentration periods</p>	<p>logs and reflection sheets</p> <p>Peer Assessment: Collaborative marking and discussion</p> <p>Self-Evaluation: "Traffic light" confidence systems for topics</p> <p>Diagnostic Assessments: Identifying specific gaps for targeted support</p> <p>Wellbeing Check-ins: Regular emotional regulation assessments</p> <p>Celebration Portfolios: Evidence of personal mathematical journey</p>	<p>Management Tools: Breathing techniques, mindfulness resources</p> <p>Visual Memory Aids: Formula sheets, mind maps, revision posters</p> <p>Technology Support: Online revision platforms, practice paper apps</p> <p>Exam Access Arrangements: Reader pens, extra time, separate rooms</p> <p>Zones of Regulation: Emotion management strategies for exam stress</p>
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				Practice Paper Reviews: Analyzing progress over time	Sensory Support: Fidget tools, noise-cancelling headphones, comfort items Differentiated Materials: Tiered practice papers, scaffolded worked examples
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