

Y9 Graphs

Graphs	
Expected Outcomes	Understand and interpret different types of graphs including linear, quadratic, and real-life graphs. Plot and draw graphs from equations and data. Identify key features such as intercepts, gradients, and turning points. Use graphs to solve equations and represent relationships. Apply graph knowledge to real-life contexts such as distance-time and conversion graphs
Developmental Focus Opportunities	Build confidence in interpreting visual mathematical information. Develop resilience through multi-step graph-based problems. Encourage mathematical communication through describing and comparing graphs. Promote independence in plotting and analysing graphs using structured scaffolds.
Key Learning Points	
- Coordinates and axes. - Plotting points and drawing straight-line graphs. - Understanding gradient and y-intercept. - Recognising and sketching quadratic graphs. - Interpreting real-life graphs (e.g. distance-time, conversion). - Solving equations graphically.	Powerful Knowledge - Graphs represent relationships and patterns in the real world. - Understanding graphs supports success in science, geography, and economics. - Graphical methods provide visual solutions to algebraic problems. - Mastery of graphs underpins GCSE success and future STEM learning.
Subject-Specific Vocabulary	Reading Opportunities
- Axis - Coordinate - Gradient - Intercept - Linear - Quadratic - Plot - Distance-time - Conversion graph	Reading in mathematics is far more integral than it might first appear—it's not just about decoding word problems. It's about navigating a unique linguistic landscape that blends technical vocabulary, symbolic representations, and logical reasoning. Why Reading Matters in Maths Mathematics has its own language: Terms like “difference,” “volume,” or “factor” have specific meanings in maths that differ from everyday usage. Word problems require comprehension: Pupils often perform 10–30% worse on word problems compared to numeric ones, highlighting the need for strong reading strategies. Multi-modal representation: Maths texts often combine symbols, diagrams, and written explanations, requiring students to interpret across formats.
Possible Misconceptions	Cross-Curricular Links
- Confusing x and y coordinates when plotting points. - Misinterpreting gradient as the y-intercept. - Believing all graphs are straight lines. - Thinking the graph must pass through the origin. - Misreading scales on axes.	- Science: interpreting and drawing graphs in physics and biology. - Geography: using graphs to represent climate and population data. - Computing: understanding coordinates and graphical outputs. - PSHE/Finance: interpreting financial graphs and budgeting visuals.