



## Curriculum Overview: Mathematics

### Year group 9 Higher

#### What your child will learn each half term

This overview shows the key topics, skills, and knowledge your child will be learning in **Maths in Year 9** on the **Higher curriculum**. It helps families understand what's being taught, how it builds on previous learning, and how you can support your child at home.

- **What we are learning:** The topic or focus for the half term.
- **Key knowledge & skills:** What students should understand and be able to do.
- **How we assess learning:** knowledge checks, practical tasks, written responses and formal assessments.
- **Key words to know:** Vocabulary students will learn and use.

Half term	What we are learning	Key Knowledge and Skills	How we will assess learning in this unit	Homework	Key vocabulary for this unit
HT 1	Rounding and Estimating Algebra Manipulation Averages	Round to decimal places and significant figures. Estimate calculations Calculate upper and lower bounds. Apply bounds to calculations Expand brackets Factorise expressions Use laws of indices Substitute into expressions Calculate the mean, median, mode and range from grouped frequency tables. Solve problems involving averages. Solve combined mean problems.	Check knowledge and understanding during class activities and homework tasks. Formal 1hr exam Covering Topics 1-3	Weekly Fluency Booklet + Shorter tasks to consolidate understanding or to assist with revision.	Decimals places Significant figure Approximate Bounds Expression Factorise Substitute Indies Mean, median Mode Range
HT 2	Indices and Standard Form Area and Perimeter Ratio	Use the laws of indices Evaluate numerically. Convert in and out of standard form. Use calculator to solve problems with numbers in standard form. Calculate the area of a trapezium. Calculate the area and circumference of circles. Calculate the area and perimeter of compound shapes including circle parts ( $\frac{1}{2}$ $\frac{1}{4}$ $\frac{3}{4}$ ) Share in a ratio Solve proportional problems. Solve best value problems Use map scales Convert between different currencies	Check knowledge and understanding during class activities and homework tasks.  Formal 1hr exam Covering Topics 4-6	Weekly Fluency Booklet + Shorter tasks to consolidate understanding or to assist with revision.	Indices Index Evaluate Standard form Integer Trapezium Area Circumference Perimeter Share
HT 3	Sequences Probability Fractions	Calculate the nth term of sequence. Determine whether a number will be in a sequences. Find the nth term of a quadratic sequence Plot sequences Use recursive sequences Complete simple proofs	Formal 1hr exam Covering Topics 7-9	Weekly Fluency Booklet + Shorter tasks to consolidate understanding or	Term Pattern Arithmetic Quadratic Chance Outcome

		List combinations Use experimental probability Complete frequency trees and tree diagrams. Use set notation for Venn diagrams. Calculate with mixed numbers Understanding recurring decimals occur for short divisions		to assist with revision.	Likely Unlikely Even chance Fair Biase combinations Simplify
HT 4	Angles Linear Graphs Presenting Data	Calculate interior and exterior angles in regular polygons. Calculate angels surrounding parallel lines. Understand bearings Calculate and interpret gradients. Apply $y=mx+c$ to plot lines. Find midpoints of lines segments. Plot quadratic graphs Plot and interpret Scatter Graphs. Draw and interpret box plots. Use Venn diagrams to sort data	Formal 1hr exam Covering Topics 10-12	Weekly Fluency Booklet + Shorter tasks to consolidate understanding or to assist with revision.	Allied Alternate Corresponding Exterior Perpendicular Bearings Gradient Midpoint Intercept Correlations Quartiles Median Minimum Maximum Range Inter-quartile range
HT5	Measures Volume and Surface Area Equations	Calculate compound measures Covert between metric and imperial units. Draw and interpret distance-time and velocity-time graphs. Calculate the volume and surface area of prisms. Identify plans and elevations, and planes of symmetry. Solve equations with brackets and fractional terms. Form and solve equations.		Weekly Fluency Booklet + Shorter tasks to consolidate understanding or to assist with revision.	Speed Distance Time Density Pressure Force Volume Faces Edges Vertices Solve
HT 6	Percentages Transformations Inequalities Constructions Pythaogras and Trig	Calculate % of amounts using decimal multipliers and fractions. Calculate percentage profit/loss Calculate simple and compound interest. Combine transformations and describe as a single transformation, Enlarge shapes using a negative scale factors Calculate with column vectors.	End of year assessment Paper 1 Non-Calculator Paper 2 Calculator Covering Topic 1 -14	Weekly Fluency Booklet + Shorter tasks to consolidate understanding or to assist with revision.	percent, decimal, tenth, hundredth, equivalent, reflect, rotate, translate and Enlarge Congruence Pythagoras

		List solution sets for inequalities Solve inequalities and display on a number line. Constructor triangles (link to congruence), bisectors and perpendicular. Use Pythagoras to calculate missing sides. Introduce Trig ratio and when to use each one			Trigonometry Sine Cos Tan Adjacent Opposite Hypotenuse
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