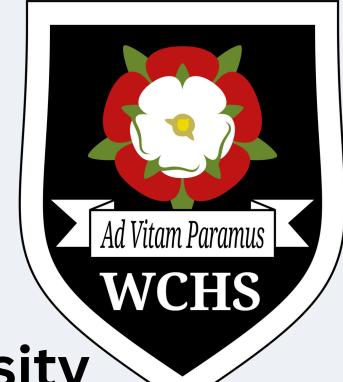
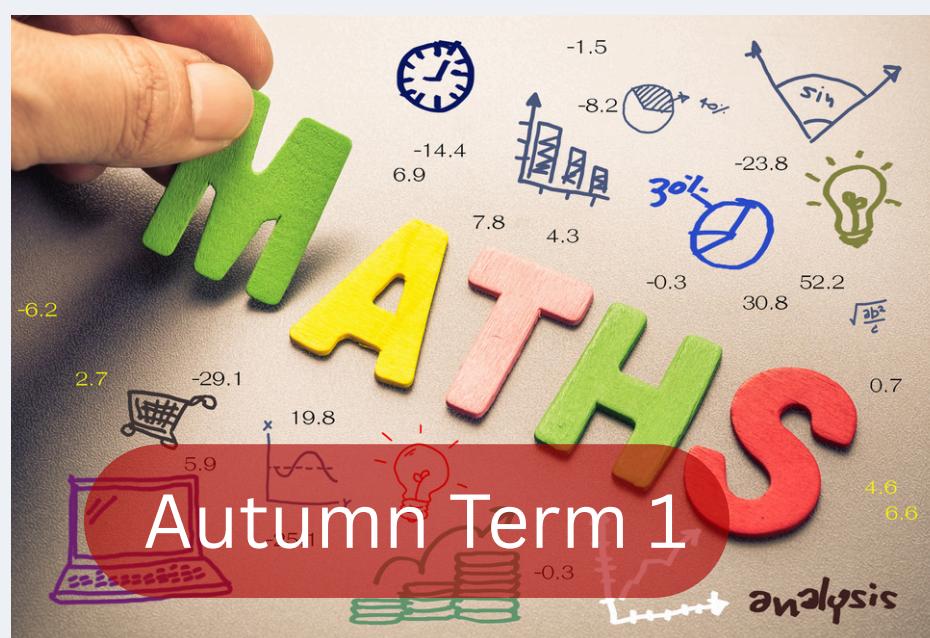


# MATHS

## YEAR 8 LEARNING JOURNEY INFORMATION



Ratio  
Proportion and scale  
Algebraic manipulation



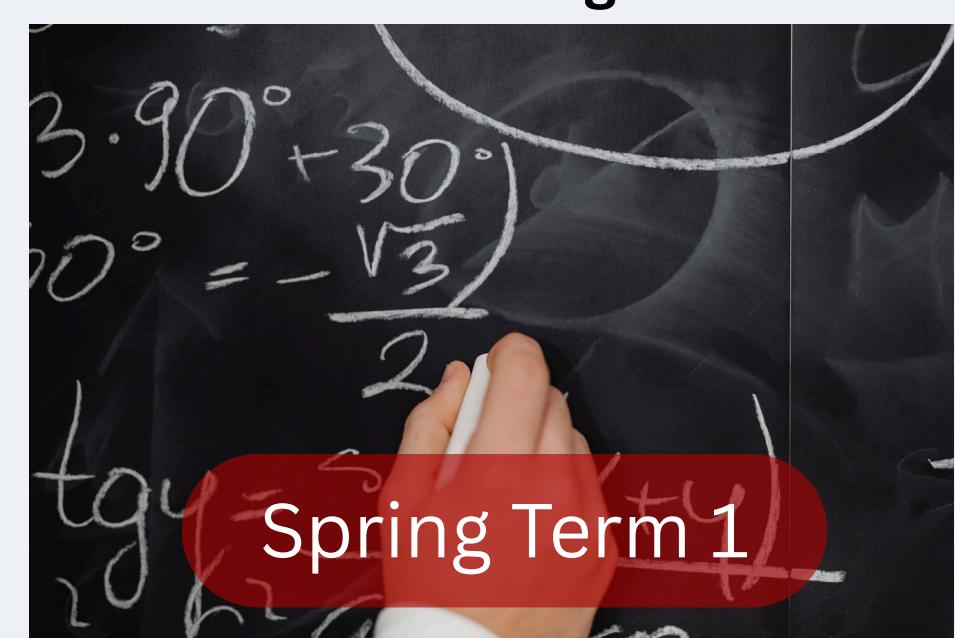
Students begin by understanding and simplifying ratios, solving problems where the whole, part, or difference is given, and comparing ratios with fractions. They then move to direct proportion, conversion graphs, and interpreting scale diagrams and maps. The term also introduces algebraic manipulation: forming expressions, simplifying, substitution with directed numbers, expanding and factorising single brackets, and progressing to double brackets and quadratic factorisation for extension.

Coordinates and graphs  
Multiply and divide fractions  
Symmetry and reflection



This half term focuses on plotting coordinates in all four quadrants and interpreting scatter graphs, correlation, and lines of best fit. Students learn to draw and interpret straight-line graphs, introduce gradients, and work with equations of lines. They also cover multiplying and dividing fractions, including mixed numbers and algebraic fractions, and explore symmetry and reflection in horizontal, vertical, and diagonal lines, linking these to equations of lines.

Area  
Volume and density  
Equations and inequalities  
Percentages



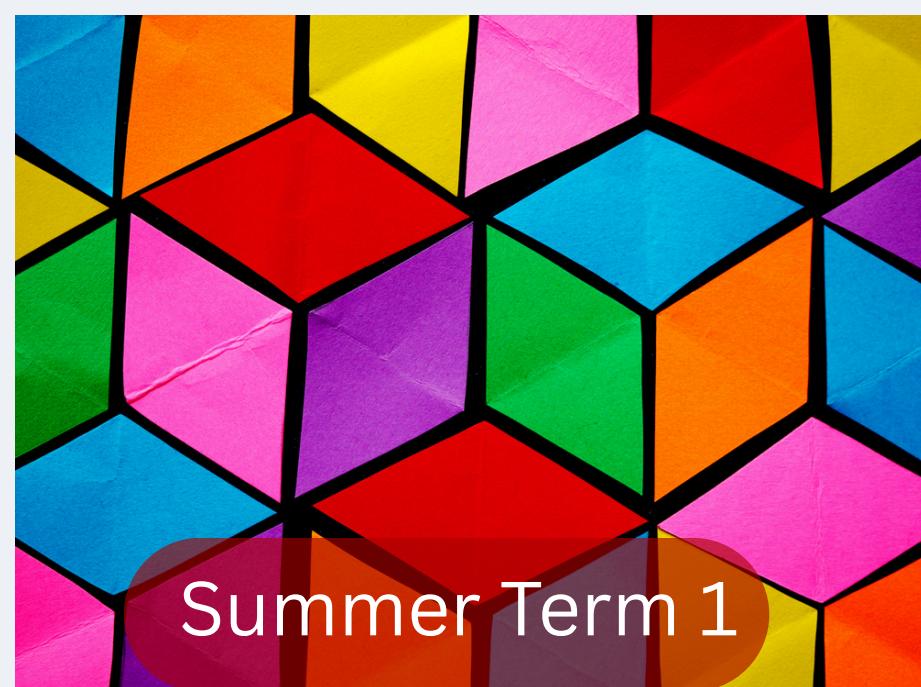
Students study properties of 2D and 3D shapes, calculate areas of simple and compound shapes, and volumes of cubes and cuboids. They convert metric units and solve problems involving density, mass, and volume, including similar shapes for extension. The term also covers solving equations and inequalities: from simple one-step to more complex cases, including unknowns on both sides and representing inequalities on number lines.

Indices  
Standard form  
Interpret and represent data



This block develops percentage skills: calculating percentages, using multipliers, percentage change, and finding original values. Students then move to laws of indices, including negative and fractional indices, and standard form for very large and small numbers. Data handling includes interpreting types of data, calculating averages, comparing distributions, and working with grouped frequency tables, leading to mean and mode for extension.

Angles in parallel lines and polygons  
Tables and probability



Students revisit angle rules and apply them to parallel lines, alternate and corresponding angles, and co-interior angles. They explore properties of quadrilaterals, calculate interior and exterior angles of polygons, and prove simple geometric facts. Probability is introduced through vocabulary, probability scales, sample spaces, two-way tables, and frequency trees, applying these to calculate probabilities for single and combined events.

Circles  
Graphs and charts  
Sequences



The final term focuses on circle properties: circumference, area, and parts of circles, including compound shapes. Students also revisit graphs and charts (pie charts, line graphs, time-series) and sequences, including nth term. The term concludes with speed, distance, and time problems, conversions between time units, and interpreting distance-time graphs, consolidating problem-solving skills before the end-of-year assessment.