Year 8 Maths Overview

Unit	Duration (weeks)	Learning Objectives/Outcomes
Mathematical Diagrams	1	• Mathematical Diagrams • Mileage charts • Flow charts and networks
Factors, multiples and primes; index notation, squares and roots	1	• Products of primes • LCM and HCF • Simplifying expressions using index notation • Squares, cubes, square roots and cube roots
Number Bases and Binary	1	• Writing numbers in different bases • Base 5 • Working in Binary
End of term activities	1	• End of term activities • Tessellations • Isometric drawings
Rounding and estimating, BIDMAS and use of a calculator.	2	• Rounding to given number of decimal places • Rounding to given number of significant figures • Estimating calculations by rounding to one SF • Efficient use of calculator • Using correct order of operations (including negatives)
Data Analysis	2	• Averages and Range • Pie charts • Scatter graphs • Stem and leaf diagrams • Comparing data • Estimate of mean from grouped data
Nets and Surface Areas	2	• Drawing accurate nets of solids • Calculating surface area • Calculating volume of prisms • Plans and elevations • Constructing triangles • Isometric drawings

Ratio	2	- Sharing quantities in a given ratio - Simplifying ratio - Best buys - Unitary method - Currency conversions - Link with scale drawings and maps
Algebra	1	- Expanding brackets - Simplifying by collecting like terms - Forming Equations from Geometric problems - Solving linear equations
Angles	2	- Calculating missing angles on parallel lines - Compass directions with bearings - Calculations with Bearings - Constructing Bearings accurately - Revise angle properties of special triangles and quadrilaterals
Fractions, Decimals and Percentages	2	- FDP conversions - Calculations with percentages (in context) - Four rules of fractions - Fractions of / Percentages of quantities - Increasing and decreasing by given percentage (use of multipliers)
Probability	1	- Probability of single events - Sample space diagrams - Probability of successive events - Listing outcomes
Linear Graphs	1	- Plotting linear graphs from table of values - Plotting linear graphs using own axes - Recognising parallel lines - Investigation into gradient and y-intercepts of linear graphs
Money and Time	2	- Looking into wages/bills - Expenses involved in running a home - SMSC comparing countries
Formulae	1	- Substituting values into given formulae (including negatives) - Rearranging Formulae
Polygons	1.5	- Interior angle sums of polygons - Exterior angles of Polygons - Regular Polygons - Combined polygons – calculating missing angles - Naming all polygons up to 10 sided

Units Estimating capacity, length, mass and conversions	1	- Conversions between units - Metric and imperial units - Estimating capacity, length - Density, mass and volume - Converting between units, metric and imperial
Speed, Distance and Time	1	- Calculations involving speed, distance and time - Interpreting distance time graphs - Constructing distance time graphs - Looking into other travel graphs
Questionnaires and data collection	1	- Forming questions to be used in questionnaires - Being critical of bad questionnaires. - Discuss biased and leading questions - Designing data collection sheets
Transformations	1	- Carrying out Rotations, Reflections, Translations - Describing Rotations, Reflections and Translations - Enlargements - Link enlargements with similarity
Maths in Action	1	