

Year 8 Mathematics department scheme of work

Chapter	Title	Objectives	Resource links:
1	Whole numbers and decimals	<ul style="list-style-type: none"> • Order, add and subtract negative numbers. • Recognise and use multiples and factors. • Use divisibility tests. • Recognise prime numbers. • Find squares and square roots. • Order decimals. • Round whole numbers and decimals. 	1 - Whole numbers and decimals
2	Measures, perimeter and area	<ul style="list-style-type: none"> • Use, read and write standard metric units. • Convert between metric and imperial units. Read measurements from scales. • Find the perimeter and area of a rectangle. Calculate the area of shapes made from rectangles. 	2 - Measures, perimeter and area
3	Expressions and formulae	<ul style="list-style-type: none"> • Use symbols to make simple expressions. Substitute values into simple expressions. • Simplify expressions by collecting like terms. • Expand brackets. • Substitute values into formulae. • Recognise and use formulae. • Multiply and divide algebraic terms. 	3 - Expressions and formulae
4	Fractions, decimals and percentages	<ul style="list-style-type: none"> • Simplify equivalent fractions. • Use decimal conversions to order fractions. • Add and subtract fractions. • Find a fraction of a quantity. • Calculate percentages of amounts. • Convert fractions and decimals into percentages. 	4 - Fractions, decimals and percentages

5	Angles and 2D shapes	<ul style="list-style-type: none"> • Use the sum of angles at a point and on a straight line to solve problems. • Recognise vertically opposite angles. • Classify triangles. • Use the facts about angles in a triangle to solve problems. • Recognise parallel and perpendicular lines. • Classify quadrilaterals. 	5 - Angles and shapes
6	Graphs	<ul style="list-style-type: none"> • Read and plot coordinates in all four quadrants. • Use a table of values to draw a straight-line graph. • Identify the equations of horizontal and vertical graph lines. Use real-life graphs and conversion graphs. • Create and use formulae. 	6 - Graphs
7	Mental calculations	<ul style="list-style-type: none"> • Use the order of operations, including brackets. • Use mental methods to add, subtract, multiply and divide. • Solve problems using addition, subtraction, multiplication and division. 	7 - Mental calculations
8	Statistics	<ul style="list-style-type: none"> • Plan a survey and collect data. • Use frequency tables. • Draw bar charts and pie charts. • Find the mean, mode, median and range of a list of numbers. • Find the mean, median and mode for data in a table. 	8 - Statistics
9	Transformation and symmetry	<ul style="list-style-type: none"> • Find reflections in mirror lines. • Recognise reflection and rotational symmetry. • Rotate shapes on a square grid through different angles. • Translate shapes. • Make tessellating patterns. 	9 - Transformations and symmetry
10	Equations	<ul style="list-style-type: none"> • Solve one-step equations using inverses and balancing. • Form equations from word problems. • Solve two-step equations. • Make equations from real situations. 	10 - Equations

11	Written and calculator method	<ul style="list-style-type: none"> • Use the column method to add and subtract whole numbers and decimals. • Use the standard method to multiply whole numbers. • Use long and short division. • Use written methods to solve problems. • Use a calculator to work out longer calculations. 	11 - Written and calculator methods
12	Constructions	<ul style="list-style-type: none"> • Measure and draw lines and angles accurately. • Construct a triangle given two sides and the included angles. Construct a triangle given two angles and the included side. Draw and use simple scale drawings. 	12 - Constructions
13	Sequences	<ul style="list-style-type: none"> • Find and use rules that describe sequences of numbers. • Use position-to-term rules to generate sequences. • Use sequences to solve real life problems. • Understand the connection between triangular numbers and square numbers. 	13 - Sequences
14	3D shapes	<ul style="list-style-type: none"> • Recognise and name 3D shapes. • Use isometric drawings to visualise 3D shapes. • Use nets of 3D shapes. • Find the surface area of cubes and cuboids. • Find the volume of a 3D shape by counting cubes. 	14 - 3D shapes
15	Ratio and proportion	<ul style="list-style-type: none"> • Simplify ratios. • Divide amounts into ratios. • Express one amount as a proportion of a whole. • Recognise and use direct proportion. • Compare proportions of amounts using fractions and percentages. • Solve problems involving money using mental methods, written methods or using a calculator. 	Ratio and proportion
16	Probability	<ul style="list-style-type: none"> • Understand and use the probability scale from 0 to 1. Use vocabulary to describe the likelihood of events. Find probabilities based on equally likely outcomes. Use experiments to estimate probabilities. • Use Venn diagrams to find probabilities. 	Probability

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