

KS3 Mathematics Curriculum Coverage:



Year 8 Summer Term

Sequenced	Block 10: Percentages	Block 11: Angles in parallel lines	Block 12: Tables and probabilities	Block 13: Sequences	Block 14: Interpret and represent data	Block 15: Graphs and Charts
Key Knowledge	To know: - that a percentage represents a fraction out of 100, and how percentages relate to fractions and decimals. - how to use multipliers for percentage increases and decreases (e.g. 1.15 for +15%, 0.85 for -15%). - that percentage change measures relative difference: $(\text{change} \div \text{original}) \times 100$. - that reverse percentage calculations find the original 100% amount before a change occurred. - the difference between simple interest and compound interest.	To know: - that parallel lines never intersect and are marked with matching arrows; an intersecting line is a transversal. - that vertically opposite angles are equal. - that alternate angles on parallel lines are equal - that corresponding angles on parallel lines are equal - that co-interior (allied) angles on parallel lines sum to 180° - that the sum of interior angles in an n-sided polygon is $(n - 2) \times 180^\circ$. - that the sum of exterior angles of any convex polygon is 360°.	To know: - that probability measures the likelihood of an event occurring on a scale from 0 to 1. - that the sum of probabilities of all mutually exclusive outcomes equals 1. - that relative frequency approaches theoretical probability as trials increase.	To know: - that a sequence is an ordered list of numbers following a specific term-to-term rule. - that an arithmetic sequence increases or decreases by a constant common difference. - that the nth term rule $(an + b)$ expresses any term in a linear sequence in terms of its position n. - that a geometric sequence changes by a constant multiplier. - special non-linear sequences including Fibonacci, square, triangular, and cube numbers.	To know: - that primary data is collected directly, whereas secondary data is obtained from existing sources. - that qualitative data is descriptive, whereas quantitative data is numerical. - that the data handling cycle involves specifying, collecting, processing/representing, and interpreting data. - that stem and leaf diagrams display data distributions while preserving individual values. - that pie charts display categorical data as proportional sectors where 360° represents the whole. - that scatter graphs display bivariate continuous data to investigate correlations.	To know that: - that dual and grouped bar charts compare discrete data across multiple sub-groups. - that composite bar charts display totals broken down into proportional components. - that frequency polygons represent continuous grouped data using midpoint values. - that time series graphs show continuous data collected over time to display trends. - that line graphs show continuous relationships or changes over time.
Key Skills	To be able to: - convert fluently between fractions, decimals, and percentages. - calculate percentages of amounts with and without a calculator. - use decimal multipliers to calculate percentage increases, decreases, and percentage change. - calculate original values in reverse percentage contexts. - calculate simple and compound interest over multiple periods. - solve real-world financial problems involving profit, loss, tax, and discount.	To be able to: - identify transversals and parallel line relationships. - find missing angles using alternate, corresponding, and co-interior angle rules. - provide clear geometric reasons for angle calculations. - calculate interior and exterior angles of regular and irregular polygons. - solve multi-step angle problems combining parallel line facts and polygon properties. - prove whether two lines are parallel using angle facts.	To be able to: - construct and complete two-way tables from given information. - calculate probabilities from two-way tables, Venn diagrams, and sample space diagrams. - construct sample space diagrams for combined events. - calculate probabilities of single events and mutually exclusive events. - calculate relative frequency from experimental data. - use set terminology and Venn diagrams to calculate probabilities.	To be able to: - generate terms of a sequence from an nth term rule or term-to-term rule. - identify whether a sequence is linear, geometric, or non-linear. - find the term-to-term rule and common difference for linear sequences. - determine the algebraic nth term formula $(an + b)$ for linear sequences. - test whether a given number is a term in a linear sequence. - continue geometric, Fibonacci, square, cube, and triangular sequences.	To be able to: - design data collection sheets, tally charts, and questionnaires. - construct and interpret ordered stem and leaf diagrams. - construct pie charts by calculating sector angles. - construct scatter graphs, plot bivariate data, and identify correlation, draw lines of best fit on scatter graphs and make predictions. - evaluate data representations for bias or misleading features.	To be able to: - construct, read, and interpret dual, grouped, and composite bar charts. - choose appropriate axes, scales, titles, and keys for statistical charts. - construct and interpret frequency polygons using class interval midpoints. - construct and interpret time series graphs to identify trends. - compare two datasets using appropriate statistical graphs. - select the most effective graph or chart to present a given dataset.
	Tier 2 and 3 key vocabulary	Tier 2 and 3 key vocabulary	Tier 2 and 3 key vocabulary	Tier 2 and 3 key vocabulary	Tier 2 and 3 key vocabulary	Tier 2 and 3 key vocabulary
Subject specific vocabulary	percentage, multiplier, percentage change, percentage increase, percentage decrease, profit, loss, original value, reverse percentage, simple interest, compound interest, principal, rate, deposit, appreciation, depreciation	parallel, transversal, intersect, vertically opposite, alternate angles, corresponding angles, co-interior angles, allied angles, interior angle, exterior angle, polygon, regular polygon, irregular polygon, congruent, supplementary, proof	probability, event, outcome, sample space, two-way table, Venn diagram, mutually exclusive, exhaustive, theoretical probability, experimental probability, relative frequency, fair, bias, trial, intersection, union, complement	sequence, term, consecutive, position, term-to-term rule, position-to-term rule, nth term, linear sequence, arithmetic sequence, common difference, geometric sequence, common ratio, non-linear sequence, Fibonacci sequence, ascending, descending	data handling cycle, primary data, secondary data, discrete data, continuous data, qualitative, quantitative, stem and leaf diagram, key, pie chart, sector, angle, scatter graph, bivariate data, correlation, line of best fit, outlier, interpolation, extrapolation, bias	bar chart, dual bar chart, grouped bar chart, composite bar chart, stacked bar chart, frequency polygon, class interval, midpoint, time series graph, trend, fluctuation, line graph, axis, scale, legend, key, continuous data, grouped data