

	EMERGING	DEVELOPING	SECURE	MASTERY
Year 9 Autumn 1	<p>Recognises basic data types and can find simple averages (mode/median) with support.</p> <p>Can make simple comparisons between data sets using basic measures like range, median or mode.</p> <p>Calculates basic percentage of amount (10%, 50%, 25%) and simple percentage change when guided.</p>	<p>Uses averages (mean, median, mode) and simple measures of spread confidently for discrete data.</p> <p>Interprets and compares data sets in context, identifying basic trends.</p> <p>Calculates percentage increase/decrease and uses decimal multipliers in familiar situations.</p>	<p>Works confidently with all averages, range, quartiles and IQR for discrete and grouped data.</p> <p>Compares data sets effectively using both averages and measures of spread.</p> <p>Uses multipliers for percentage change, compound change and reverse percentage problems.</p>	<p>Analyses complex data sets, using averages, IQR and percentiles to explain trends and differences.</p> <p>Selects efficient strategies and justifies conclusions clearly using mathematical reasoning.</p> <p>Applies percentage change, compound change and original-value methods confidently in unfamiliar, real-world contexts.</p>
Year 9 Autumn 2	<p>Can read simple tables, pictograms and bar charts with support, identifying basic information.</p> <p>Recognises simple patterns in data but struggles to interpret or compare sets independently.</p> <p>Can plot very simple charts when guided step-by-step.</p>	<p>Interprets and constructs common charts (bar charts, pie charts, line graphs, pictograms) in familiar situations.</p> <p>Can compare basic features of data sets (e.g., highest, lowest, simple trends).</p> <p>Recognises correlation on a scatter graph and can comment on whether it is positive, negative or none.</p>	<p>Constructs and interprets a wide range of statistical diagrams, including histograms (equal class width), cumulative frequency curves and box plots.</p> <p>Compares data sets using key features such as median, range, quartiles, correlation and patterns in charts.</p> <p>Uses interpolation/extrapolation and lines of best fit appropriately, explaining the meaning of trends and recognising possible risks.</p>	<p>Analyses complex data sets shown in multiple representations and makes detailed, justified comparisons.</p> <p>Constructs and interprets advanced diagrams (unequal-width histograms, box plots, cumulative frequency diagrams) confidently in unfamiliar contexts.</p> <p>Evaluates correlation and causation, making clear, reasoned statements about trends, predictions and limitations in real data.</p>

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Year 9 Spring 1	<p>Understands basic ideas of chance (likely/unlikely, certain/impossible) and the probability scale from 0 to 1.</p> <p>Can work out simple probabilities for equally likely events and record outcomes from basic experiments.</p> <p>Recognises simple tables or grids showing possible outcomes with support.</p>	<p>Uses frequency tables, two-way tables, grids or simple Venn diagrams to represent and calculate probabilities.</p> <p>Works out probabilities of mutually exclusive events and begins to use sample spaces for combined events.</p> <p>Interprets results from experiments using relative frequency and compares these to theoretical probabilities.</p>	<p>Calculates probabilities for combined events, including independent events using tree diagrams.</p> <p>Uses Venn diagrams, frequency trees and two-way tables to represent events and solve problems.</p> <p>Understands expected outcomes, fairness, randomness and can explain the difference between experimental and theoretical probability.</p>	<p>Solves complex probability problems involving dependent events and conditional probability using multiple representations (trees, Venns, two-way tables).</p> <p>Analyses risk and uncertainty in real contexts, making justified predictions and recognising limitations.</p> <p>Understands and explains connections between different probability models and uses them flexibly to make informed decisions.</p>
Year 9 Spring 2	<p>Identifies basic geometric features and uses simple angle facts with support.</p> <p>Recognises common 2D/3D shapes and draws simple diagrams.</p> <p>Finds basic distances on coordinate grids with guidance.</p>	<p>Applies angle rules in quadrilaterals and parallel-line diagrams.</p> <p>Uses Pythagoras for simple distance problems and finds midpoints on co-ordinate grids.</p> <p>Constructs basic shapes and interprets simple plans/elevations.</p>	<p>Solves multi-step geometry problems using angle rules, Pythagoras, midpoints and gradients on co-ordinate grids.</p> <p>Uses constructions and loci accurately to represent regions.</p> <p>Works confidently with similar shapes to find lengths, areas and volumes.</p>	<p>Applies geometry and constructions in unfamiliar, practical contexts (design, maps, plans).</p> <p>Uses trigonometry, loci and similarity to model and solve real problems.</p> <p>Explains reasoning clearly and makes precise geometric decisions.</p>

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Year 9 Summer 1	<p>Finds perimeters and simple areas (rectangles, triangles) with support.</p> <p>Recognises basic 2D and 3D shapes and uses simple formulas when guided volume and surface area. Eg a cube.</p> <p>Understands the idea of circumference and π at a basic level.</p>	<p>Calculates perimeters and areas of common 2D shapes and simple composites.</p> <p>Uses area and circumference formulas for circles with growing accuracy.</p> <p>Works out volumes and surface areas of cuboids and basic prisms in familiar tasks.</p>	<p>Applies formulas confidently for circles, sectors, prisms and cylinders (area, surface area and volume).</p> <p>Solves multi-step problems involving composite shapes and contextual tasks.</p> <p>Uses π accurately and selects correct formulas for a wide range of shapes.</p>	<p>Applies area, surface area and volume formulas flexibly in real-world contexts (design, construction, packaging).</p> <p>Works confidently with advanced 3D shapes (cones, pyramids, spheres) and justifies methods.</p> <p>Chooses efficient strategies, communicates reasoning clearly and checks accuracy throughout.</p>
Year 9 Summer 2	<p>Identifies simple movements such as reflections, rotations or translations with support.</p> <p>Follows basic instructions for moving or enlarging shapes on a grid.</p> <p>Understands that vectors represent movement and that bearings use 3-digit angles from North.</p>	<p>Reflects, rotates and translates shapes accurately in familiar contexts and describes these transformations.</p> <p>Enlarges shapes using a centre and scale factor.</p> <p>Measures and uses bearings and can represent translations using 2D vectors.</p>	<p>Performs and describes a full range of transformations, including negative and fractional enlargements.</p> <p>Adds, subtracts and scales vectors confidently using diagrams and column notation.</p> <p>Solves multi-step problems using bearings, scale drawings and combined transformations.</p>	<p>Applies transformations, vectors and bearings flexibly to model real-world situations (navigation, design, movement).</p> <p>Uses vector calculations and transformations to predict and describe complex movement with clear reasoning.</p> <p>Selects efficient methods, justifies decisions, and interprets results accurately in unfamiliar contexts.</p>