Curriculum Map 2023-24					
Year 8					
Half term	Hyperlink to scheme of work	Unit title	Skills & content covered	Skills & content revisited	Links to GCSE skills and content	Summary of formative marking, feedback and student response
Autumn 1	.	Place value	Order any set of numbers (including those written in standard form); Round decimals to an appropriate degree of accuracy (including significant figures).	*Rounding and ordering numbers.*	Rounding; Standard Form.	Exit ticket 1: Rounding to decimal places and significant figures
		Addition & Subtraction	Use positive and negative numbers of any size, the laws of arithmetic and inverse operations; Add and subtract numbers written in standard form; Solve problems involving perimeter (considering upper and lower bounds).	*Adding and subtracting integers and decimals. Perimeter and area.*	Calculating with standard form. Error intervals and bounds.	Exit ticket 2: Numbers in standard form
		Angles	Know and use properties of angles, parallel and intersecting lines, triangles and other polygons; Know and use interior and exterior angle sums; Solve geometric problems using step-by-step reasoning.	*Angles in a triangle, quadrilateral, on a straight line, around a point.*	Angles in parallel lines. Interior and exterior angles in polygons.	Exit ticket 3: Interior and exterior angles of polygons
Autumn 2	.	Multiplication and Division	Use index notation for integer powers; know and use the index laws for multiplication and division of positive integer powers; Estimate square roots.	*Know and apply BIDMAS (including indices); Use squares, positive and negative square roots, cubes and cube roots, and index notation for small positive integer powers.*	Laws of Indices	Exit Ticket 4: Index laws
		Factors, Multiples and Primes	Find and use the prime factorisation of a number. Use this to solve problems to find Highest Common Factors and Lowest Common Multiples.	*Recognise and use HCF and LCM (in simple cases); Use Venn diagrams to depict common multiples and factors.*	Prime Factor Form, Hacf and LCM	Exit ticket 5: Prime factorisation, HCF and LCM
		Applications - Area of a Circle	Convert between length and area measures; Solve problems involving area of compound shapes; Find the circumference and area of circles (simple); Find the (circumference and) area of a circle (to dp and in terms of pi); Find the lengths of arcs and areas of sectors.	*Derive and use formula for the area of a triangle, parallelogram and trapezium; Calculate areas of compound shapes.*	Area and Circumference of a Circle	Exit ticket 7: Circumference and Area of a circle
Spring 1	.	Fractions and Percentages	Add, subtract, multiply and divide fractions; Simplify or transform algebraic fractions by taking out common factors; Add and subtract simple algebraic fractions; Convert recurring decimals into fractions; Increase and decrease an amount by a given percentage or fraction; Use multipliers for percentage change.	*Add and subtract simple fractions; Use division to convert a fraction to a decimal; Calculate fractions and percentages of quantities.*	Fractions - the 4 ops (inc algebraic fractions); Compound interest and decay	Exit ticket 8: Adding and subtracting fractions
		Application (Probabilty)	Know that the sum of probabilities of all mutually exclusive outcomes is 1 and use this when solving problems; Know that, if the probability of an event occurring is p, then the probability of it not occurring is 1 – p; Use lists and tables to record all possible mutually exclusive outcomes for single events and for two successive events; Use a numerical scale from 0 to 1 to express and compare experimental and theoretical probabilities in a range of contexts; Understand relative frequency as an estimate of probability and use this to compare outcomes of experiments; Use tree diagrams to represent outcomes of two or more events and to calculate probabilities of combinations of independent events.	*Understand and use the probability scale from 0 to 1; Find and justify probabilities based on equally likely outcomes in simple contexts; Identify all the possible mutually exclusive outcomes of a single event; Compare experimental and theoretical probabilities in simple contexts.*	Probability of Events	Exit ticket 9: Probability of events
Spring 2	.	Ratio and Proportion	Use proportional reasoning to solve problems, choosing the correct numbers to take as 100%, or as a whole; Compare two ratios; Simplify ratios, recognising links with fraction notation; Calculate ratios in a range of contexts; Recognise when fractions or percentages are needing to compare proportions; Understand and apply Pythagoras' theorem when solving problems in 2D.	*Use the unitary method to solve problems involving ratio and direct proportion; Simplify ratios, including those in different units; Divide a quantity into two or more parts given a ratio; Apply understanding of link between ratio and proportion.*	Ratio and Proportion; Pythagoras' Theorem	Exit ticket 10: Comparing and simplifying ratios; Exit ticket 11: Ratio and proportion problems
		Data Analysis	Interpret and construct tables, charts and diagrams, including frequency tables, bar charts, pictograms and pie charts; Mode, median, mean and range; Use of averages; Interpret and draw frequency polygons; Interpret and draw scatter diagrams and lines of best fit.	*Construct and interpret graphs and diagrams to represent data, including bar line graphs and frequency diagrams for grouped discrete data; Find the mode, mean, median and range for a set of discrete data, and the modal class for grouped discrete data.*	HD - Charts and Diagrams; Averages	Exit ticket 11: DATA: Averages and frequency diagrams
		Sequences	Generate terms of a linear sequence using term-to-term and position-to-term rules; Use linear expressions to desribe the nth term of as simple arithmetic sequence; Explore quadratic sequences.	*Generate terms of a simple sequence, given a rule; Generate sequences from patterns or practical contexts.*	Linear Sequences	AfL in lessons.
Summer 1	.	Algebraic Expressions	Simplify or transform linear expressions by collecting like terms (recap); Expand single term over a bracket (recap - positive and negative integers); Factorise linear expressions (recap); Expand two brackets to form a quadratic expression; Factorise a quadratic expression into brackets; Simplify algebraic fractions by factorising; Work with general iterative processes.	*Use letter symbols to represent unknown numbers or variables; Simplify linear algebraic expressions by collecting like terms (numbers and letters).*	Algebra - Simplifying, expanding, factorising	Exit ticket 13: Expand & factorise expressions
		Algebraic Manipulation - Solving Equations	Construct and solve linear equations with integer coefficients (unknown on one or both sides, without and with brackets); Substitute numbers into expressions and formulae; Change the subject of simple formulae.	*Construct and solve simple linear equations, e.g. 4a=12; Use simple formulae from mathematics and other subjects substitute positive integers into simple linear expressions and formulae; Substitute positive integers into expressions involving small powers*	Algebra - Solving linear Equations; Substitution; Rea-ranging formulae	Exit ticket 14: Construct & solve equations
		Linear Graphs	Generate points and plot graphs of linear functions (recap); Find the graident of lines given by y=mx+c; Investigate gradients of parallel and perpendicular lines; Find the midpoint of a line segment AB given A and B.	*Represent simple functions using words, symbols and mappings; Plot graphs of simple linear functions (y given explicitly in terms of x);*	Linear graphs, y=mx+c	Exit ticket 15: Linear graphs
Summer 2	.	Transformations	Identify reflection symmetry in 2D shapes; Use a coordinate grid to solve problems involving translations, rotations, reflections and enlargements; Enlarge 2D shapes, given a centre of enlargement and a positive integer scale factor, identifying the scale factor as the ratio of the lengths of any two corresponding line segments.	*Reflect 2D shapes in given mirror lines; Rotate a 2D shape about a given point; Translate a 2D shape around a grid;*	Transformations - Reflection, Rotation, Translation and Enlargement	Exit ticket 16: Shapes (transformations)
		Constructions	Identify and draw nets of shapes; Construct the perpendicular from a point to a line; Construct triangles, given right angle, hypotenuse and side (RHS); Construct triangles and other 2D shapes; Find a simple locus; Use and interpret maps and scale drawings; Problem solve using loci, maps and scale drawings.	*Draw parallel and perpendicular lines; Construct squares and rectangles; Draw simple nets of 3D shapes*	Construction and Loci	AfL in lessons.