Year 10	Big Questions (Foundation)	Small Questions Foundation	Big Questions Higher	Small Questions Higher
Autumn 1	Integers and place value (5 lessons)	• Understand place value • Use inequality symbols • Order positive and negative numbers • Add and subtract positive and negative numbers • Multiply and divide negative numbers • Multiply and divide by powers of ten • BIDMAS	Number & Accuracy (5 lessons)	• Calculating with negative numbers $(+, -, \times, \div)$ • Multiply and divide by powers of ten (0.1, 0.01, 0.001) • Calculate with decimals (add, subtract, multiply and divide) • Round to decimal places • Round to significant figures • Use rounding to estimate calculations • Solve problems by using rounding • Effective use of a calculator • Solve problems giving answers to an appropriate degree of accuracy
	Decimals (4 lessons)	• Place value for decimals • Order decimals • Add and subtract decimals • Multiply and divide decimals • Round to the nearest integer • Round to decimals places • Round to significant figures • Estimate answer by rounding		
	Mini Test			
	Indices, powers and roots (5 lessons)	• Find squares and cubes • Find square roots and cube roots • Add, subtract, multiply and divide numbers in index form • Laws of indices • Use of calculator for indices • BIDMAS with indices • Solve problems using index laws	Indices, roots, reciprocals and hierarchy of operations (5 lessons)	• BIDMAS • Estimate roots • Index Laws • Negative and fractional indices • Solve problems using index laws

Factors, multiples primes, standard form and surds (5 lessons)	• Find multiples and factors • Identify prime numbers • Calculate HCF • Calculate LCM • Use prime factor decomposition • Solve problems using HCF and LCM	Factors, multiples primes, standard form and surds (8 lessons)	• Factors and multiples • LCM and HCF • Prime factor decomposition • Simplifying surds • Understand and use standard form • Calculate with standard form
Mini Test			
Algebra Basics (4 lessons)	• Write expressions • Simplify expressions by adding and subtracting • Multiply two simple terms together • Divide two simple terms • Use index notation and the index laws when multiplying or dividing algebraic term	Algebra Basics (11 lessons)	• Write expressions • Simplify expressions • Substitute into expressions and formulae • Expand a single and double bracket • Factorise into single brackets • Factorise simple quadratics • Factorise more complex quadratics • Solve linear equations • Form and solve linear equations • Change of subject (unknown appears only once)
Expressions and substitution into formulae (5 lessons)	• Expand a single bracket • Simplify expressions involving single brackets • Factorise single brackets • Substitute positive and negative numbers into expressions and formulae • Simple change of subject • Writing expressions		
Revision Week **Half Term Assessment**			

Year 10	Big Questions (Foundation)	Small Questions Foundation	Big Questions (Higher)	Small Questions Higher
Autumn 2	Sequences (5 lessons)	• Use function machines to generate sequences • Write the term to term definition of a sequence in words • Use position to term and term to term rules to find a specific term • Use the nth term to prove a term is in a sequence • Find the nth term of a sequence • Continue a geometric sequence • Continue a quadratic sequence • Generate a simple quadratic sequence from the nth term	Sequences (5 lessons)	• Continue a linear sequence • Generate a linear sequence from the nth terms • Calculate the nth term of a linear sequence • Use the nth term to prove is a term is in a sequence • Generate a quadratic sequence from the nth term • Find the nth term of a quadratic sequence • Identify and continue special sequences: square numbers, triangular numbers, Fibonacci sequence • Generate arithmetic and geometric sequences
	Statistics, sampling and the averages (7 lessons)	• Samples and populations • Mean, mode, median and range from set data • Calculate a missing value given the mean • Calculate the mean, mode, median and range from a frequency table (discrete data) • Calculate an estimate of the mean from a grouped frequency table • Mean, mode, median and range from a stem and leaf diagram • Advantages and disadvantages of different averages	Averages and range (5 lessons)	• Design and use two way tables • Calculate mean, mode, median and range from set data • Calculate mean, mode, median and range from a frequency table (discrete data) • Calculate an estimate of the mean from a grouped frequency table • Identify the model group and where the median would lie in a grouped frequency table • Advantages and disadvantages of different averages
	Mini Test			

Equations and inequalities (10 lessons)	• Solve one and two step linear equations • Solve equations with fractional coefficients • Solve equations involving single brackets • Solve equations with unknowns on both side • Form and solve equations • Use inequality signs • Draw and read inequalities on number lines • Write down numbers that satisfy inequalities • Solve linear inequalities •	Representing and interpreting data and scatter diagrams (5 lessons)	• Construct and interpret frequency polygons • Construct and interpret pie charts • Construct and interpret histograms • Construct and interpret scatter graphs • Draw and use lines of best fit
Mini Test			
Fraction, decimals and percentages (6 lessons)	• Find equivalent fractions • Simplify fractions • Convert between mixed and improper fractions • Convert between fractions, decimals and percentages • Order fractions, decimals and percentages • Find a fraction of an amount • Add and subtract fractions • Multiply and divide fractions • Multiply and divide an integer by a fraction • Multiply and divide a fraction by an integer • Add and subtract mixed numbers Multiply and divide mixed numbers •	Fractions and percentages (12 lessons)	• Equivalent fractions • Express one amount as a fraction of another • Fraction of a quantity • Convert between fractions, decimals and percentages • Add and subtract fractions (including mixed) • Multiply and divide fractions (including mixed) • Convert a fraction to a recurring decimal • Find the percentage of an amount • Express one quantity as a percentage of another • Percentage increases and decreases • Percentage change • Reverse percentages • Compound interest
REVISION **HALF TERM ASSESSMENT**			

Year 10	Big Questions Foundation	Small Questions Foundation	Big Questions Higher	Small Questions Higher
Spring 1	Percentages (7 lessons)	- Find the percentage of an amount mentally - Use a calculator to find the percentage of an amount - Percentage increases and decreases (mentally and with a calculator) - Use multipliers - Express one amount as a percentage of another - Percentage change - Solve problems involving percentages	Ratio and Proportion (7 lessons)	- Write ratios - Simplify ratios - Write ratios in the form 1:n and n:1 - Write a ratio as a fraction - Divide an amount in a given ratio - Use ratio to find one quantity when the other is known - Direct proportion (not formal) - Recipe problems - Convert between currencies
		MINI TEST		
	Ratio (5 lessons)	- Write ratio - Simplify ratio - Write ratio in the form 1:n and n:1 - Share an amount in a given ratio - Use a ratio to find one quantity when the other is known - Currency conversions - Solve ratio problems - Compare ratios	• Polygons, angles and parallel lines (7 lessons)	- Basic angles facts - Angles in triangles - Angles in parallel lines - Forming and soling problems using angles and algebra - Angles in polygons (interior, exterior, angle sum) - Solve problems involving angles in polygons
	Proportion (6 lessons)	- Understand proportion - Solve proportion problems using unitary method - Recipe problems - Best buy problems - Direct proportion - Indirect proportion - Currency conversions	• Pythagoras and Trigonometry (7 lessons)	- Use Pythagoras' theorem in right angled triangles - Calculate the length of a line - Use trigonometry to find missing sides - Use trigonometry to find a missing angle - Solve problems using Pythagoras and trigonometry - Use exact values to find missing sides and angles
		Mini Test		
	Properties of shapes, parallel lines and angle facts (7 lessons)	- Identify angles - Use three letter notation for angles - Measure and draw angles - Identify parallel and perpendicular lines - Angles on a straight line and round a point - Angles in triangles - Angles in quadrilaterals - Vertically opposite angles - Angles in parallel lines - Geometric reasoning problems	• Graphs the basics and real-life graphs (7lessons)	- Plot coordinates in all four quadrants - Draw and interpret straight line graphs - Draw and interpret line graphs for real life situations - Draw and interpret distance-time graphs - Calculate the area under a curve

		• Classify quadrilaterals		
	Interior and exterior angles in polygons (4 lessons)	• Recognise and name polygons • Regular and irregular polygons • Angle sum of polygons • Sum of the exterior angles • Interior and exterior angles in polygons • Solve problems involving angles in polygons		
	REVISION **HALF TERM ASSESSMENT**			

Year 10	Big Questions (Foundation)	Small Questions Foundation	Big Questions (Higher)	Small Questions Higher
Spring 2	Right angled triangles: Pythagoras and trigonometry (6 lessons)	• Recap squares and square roots • Use Pythagoras to calculate the hypotenuse • Use Pythagoras to find a short side • Solve problems using Pythagoras • Use Trigonometry to find a missing side • Use Trigonometry to find a missing angle • Solve problems using Trigonometry • Solve problems using Pythagoras and Trigonometry • Exact Trig values	Linear graphs and coordinate geometry (9 lessons)	• Draw and interpret straight line graphs • Calculate the gradient of a line from a graph and from coordinates • Calculate the equation of a line from a graph and coordinates • Parallel and perpendicular lines • Solve coordinate geometry problems
	Mini Test			

Real life graphs (6 lessons)	• Plot coordinates in all four quadrants • Read and interpret straight line graphs • Use conversion graphs • Draw and interpret distance-time graphs • Draw and interpret graphs for real life situations	**Quadratic, cubic and other graphs** (6 lessons)	• Draw quadratic and cubic graphs • Find turning points and solutions from quadratic graphs • Draw reciprocal graphs • Draw graphs of circles (not equations of tangents to circles)
Straight line graphs (6 lessons)	• Draw and plot graphs of the form y = a and x = a and y = x • Draw graphs of the form y = mx + C • Identify m and c • Draw graphs of the form ax + by = c • Calculate the gradient of a line • Find the equation of a line from the graph • Find the equation of the line through one point with a given gradient •		
Mini Test			
Perimeter, area and volume (10 lessons)	• Perimeter of rectangles, triangles, parallelograms and trapeziums • Perimeter of compound shapes • Area of rectangles, triangles and parallelograms • Area of a trapeziums • Area of compound shapes • Surface area of cuboids • Surface area of triangular prisms • Volume of a cuboid • Volume of a triangular prism • Volume of compound shapes made from cuboids • Nets of cuboids and prisms	**Perimeter, area and circles** (6 lessons)	• Convert between metric units • Perimeter and area of rectangles, triangles, parallelograms and trapeziums • Perimeter and area of compound shapes • Area and circumference of a circle • Area of a sector • Arc length • Perimeter of a sector • Compound area and perimeter including parts of circles
		3D forms and volume, cylinders, cones and spheres (8 lessons)	• Convert between metric units for area and volume • Surface area of cuboids, prisms and cylinders • Volume of cuboids, prisms and cylinders • Surface area of pyramids, cones and spheres • Volume of pyramids, cones and sphere • Surface area and volume of frustums • Compound volume
REVISION **HALF TERM ASSESSMENT**			

Year 10	Big Questions (Foundation)	Small Questions Foundation	Big Questions (Higher)	Small Questions Higher
Summer 1	Transformations (10 lessons)	• Line symmetry • Rotational symmetry • Reflect shapes in horizontal, vertical and diagonal lines • Rotate shapes around a centre of rotation • Describe rotations • Translate shapes • Describe translations using vectors • Enlarge a shape with a positive or fractional scale factor • Enlarge a shape from a centre of enlargement (positive and fractional scale factor) • Describe enlargements • Combine transformations	Accuracy and bounds (6 lessons)	• Calculate upper and lower bounds • Find error intervals • Calculate with upper and lower bounds.
	Constructions, loci and bearings Plans and elevations (7 lessons)	• Recap measuring and drawing angles • Plans and elevations • Edges, faces and vertices • Constructing triangles • Construct a perpendicular bisector • Construct an angle bisector • Construct Loci • Scale drawings • Measure bearings • Draw bearings • Solve problems involving bearings	Transformations (7 lessons)	• Reflect shapes in horizontal, vertical and diagonal lines • Describe reflections • Rotate shapes around a centre of rotation • Describe rotations • Translate shapes • Describe translations using vectors • Enlarge shapes from a centre of enlargement with a positive scale factor • Enlarge shapes from a centre of enlargement with a negative scale factor • Combine transformations • Invariant points
	Mini Test			
	Quadratic Equations:	• Recognise a quadratic equation • Recap expanding and factorising single brackets • Expand double brackets	Constructions, loci and bearings	• Plans and elevations • Scale drawings • Draw and measure bearings • Solve bearings problems (not trigonometry)

	expanding and factorising (6 lessons)	• Factorise simple quadratics of the form $x^2 + bx + c$; • Factorise a quadratic expression $x^2 - a^2$ using the difference of two squares; • Solve simple quadratics	(7 lessons)	• Construct triangles (SSS, SAS, ASA, RHS) • Angle bisector • Perpendicular bisector • Construct and describe loci
	Quadratic Equations: graphs (4 lessons)	• Plot simple quadratics of the form $x^2 + a$ and $x^2 - a$ • Plot more complex quadratics • Identify the line of symmetry • Identify turning points of a quadratic • Identify roots of a quadratic equation • Find approximate solutions to quadratic equations using a graph •	Solving Quadratic and simultaneous Equations (7 lessons)	• Factorise quadratic equations of the form $x^2 + bx + c$ • Factorise quadratic equations of the form $ax^2 + bx + c$ • Solve quadratics by factorising • Complete the square • Solve quadratics by completing the square • Solve quadratics using the quadratic formula • Solve linear simultaneous equations • Solve simultaneous equations where one is quadratic • Form and solve simultaneous equations • Form and solve quadratic equations
	REVISION **HALF TERM ASSESSMENT**			

Year 10	Big Questions Foundation	Small Questions Foundation	Big Questions Higher	Small Questions Higher
Summer 2	Probability (10 lessons)	• Probability scales • Probability of an event happening • Probability of an event not happening • Theoretical probability • Listing outcomes • Sample space diagrams • Probability tables • Frequency trees • Experimental probability • Probability from two way tables • Tree diagrams • Venn Diagrams	Inequalities (6 lessons)	• Draw and read inequalities on number lines • Write down numbers that satisfy inequalities • Solve linear inequalities • Solve quadratic inequalities • Draw and read graphical inequalities
	Mini Test			
	Tables, charts and graphs (10 lessons)	• Design and use data collection sheets • Complete and interpret two-way tables • Draw and interpret pictograms • Draw and interpret bar charts • Draw and interpret dual/comparative • Draw and interpret bar line graphs • Identify the mode from a frequency table and relevant charts • Draw and interpret stem and leaf diagrams • Calculate mode, median and range from a stem and leaf diagram	Probability (9 lessons)	• Use terminology associated with probability • Calculate the probability of an event happening and not happening • Experimental probability • Draw and use sample space diagrams • Probability tables • Relative frequency • Understand the notation associated with Venn diagrams • Sort numbers into Venn diagrams: double and triple • Solve probability problems using Venn diagrams: double and triple • Construct tree diagrams, with replacement • Find probabilities from tree diagrams • Use tree diagrams from conditional probability
	Pie Charts (3 lessons)	• Draw and interpret simple pie charts already split into sections • Construct pie charts from frequency tables • Interpret and compare pie charts	Multiplicative Reasoning (6 lessons)	• Compound measures for speed, density and pressure • Express a multiplicative relationship between two quantities • Repeated proportional change • Compound interest

				• Depreciation • Direct and indirect proportion
Scatter Graphs (3 lessons)	• Draw scatter graphs • Draw and use lines of best fit • Distinguish between positive and negative correlation • Identify outliers • Understand the dangers of extrapolation	Similarity and congruence in 2D and 3D (7 lessons)	• Congruent triangles • Similar shapes • Similar areas • Similar volumes • Prove congruence and similarity • Solve problems involving similar shapes
	MINI TEST		
Revision/Catch Up	Chance to catch up or revise any topics missed or rushed.		