

Year 10	Big Questions (Foundation)	Small Questions Foundation	Big Questions Higher	Small Questions Higher
Autumn 1	Integers and place value (5 lessons)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Calculating with negative numbers (+, −, ×, ÷) • 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)	<ul style="list-style-type: none"> • Place value for decimals • Order decimals • Add and subtract decimals • Multiply and divide decimals • Round to the nearest integer • Round to decimal places • Round to significant figures • Estimate answer by rounding 		
	Mini Test			
Indices, powers and roots (5 lessons)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • BIDMAS • Estimate roots • Index Laws • Negative and fractional indices • Solve problems using index laws 	

	Factors, multiples primes, standard form and surds (5 lessons)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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					

<u>Year</u> <u>10</u>	Big Questions (Foundation)	Small Questions Foundation	Big Questions (Higher)	Small Questions Higher
Autumn 2	Sequences (5 lessons)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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 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)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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 modal group and where the median would lie in a grouped frequency table • Advantages and disadvantages of different averages
	Mini Test			

<p>Equations and inequalities (10 lessons)</p>	<ul style="list-style-type: none"> • 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 • 	<p>Representing and interpreting data and scatter diagrams (5 lessons)</p>	<ul style="list-style-type: none"> • 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
<p>Mini Test</p>			
<p>Fraction, decimals and percentages (6 lessons)</p>	<ul style="list-style-type: none"> • 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 • 	<p>Fractions and percentages (12 lessons)</p>	<ul style="list-style-type: none"> • 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
<p>REVISION HALF TERM ASSESSMENT</p>			

Year 10	Big Questions Foundation	Small Questions Foundation	Big Questions Higher	Small Questions Higher	
Spring 1	Percentages (7 lessons)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Polygons, angles and parallel lines (7 lessons) 	<ul style="list-style-type: none"> Basic angles facts Angles in triangles Angles in parallel lines Forming and solving problems using angles and algebra Angles in polygons (interior, exterior, angle sum) Solve problems involving angles in polygons 	
	Proportion (6 lessons)	<ul style="list-style-type: none"> Understand proportion Solve proportion problems using unitary method Recipe problems Best buy problems Direct proportion Indirect proportion Currency conversions 	<ul style="list-style-type: none"> Pythagoras and Trigonometry (7 lessons) 	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Graphs the basics and real-life graphs (7 lessons) 	<ul style="list-style-type: none"> 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 		

		<ul style="list-style-type: none"> Classify quadrilaterals 		
	Interior and exterior angles in polygons (4 lessons)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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)			<ul style="list-style-type: none"> 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					

<u>Year</u> <u>10</u>	Big Questions (Foundation)	Small Questions Foundation	Big Questions (Higher)	Small Questions Higher
Summer 1	Transformations (10 lessons)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Calculate upper and lower bounds • Find error intervals • Calculate with upper and lower bounds.
	Constructions, loci and bearings Plans and elevations (7 lessons)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • Recognise a quadratic equation • Recap expanding and factorising single brackets • Expand double brackets 	Constructions, loci and bearings	<ul style="list-style-type: none"> • Plans and elevations • Scale drawings • Draw and measure bearings • Solve bearings problems (not trigonometry) 	

	<p>expanding and factorising (6 lessons)</p>	<ul style="list-style-type: none"> 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 	<p>(7 lessons)</p>	<ul style="list-style-type: none"> Construct triangles (SSS, SAS, ASA, RHS) Angle bisector Perpendicular bisector Construct and describe loci
	<p>Quadratic Equations: graphs (4 lessons)</p>	<ul style="list-style-type: none"> 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 	<p>Solving Quadratic and simultaneous Equations (7 lessons)</p>	<ul style="list-style-type: none"> 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
<p>REVISION HALF TERM ASSESSMENT</p>				

Year 10	Big Questions Foundation	Small Questions Foundation	Big Questions Higher	Small Questions Higher	
Summer 2	<p style="text-align: center;">Probability (10 lessons)</p>	<ul style="list-style-type: none"> • 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 	<p style="text-align: center;">Inequalities (6 lessons)</p>	<ul style="list-style-type: none"> • 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				
	<p style="text-align: center;">Tables, charts and graphs (10 lessons)</p>	<ul style="list-style-type: none"> • 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 	<p style="text-align: center;">Probability (9 lessons)</p>	<ul style="list-style-type: none"> • 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 	
<p style="text-align: center;">Pie Charts (3 lessons)</p>	<ul style="list-style-type: none"> • Draw and interpret simple pie charts already split into sections • Construct pie charts from frequency tables • Interpret and compare pie charts 	<p style="text-align: center;">Multiplicative Reasoning (6 lessons)</p>	<ul style="list-style-type: none"> • Compound measures for speed, density and pressure • Express a multiplicative relationship between two quantities • Repeated proportional change • Compound interest 		

	Scatter Graphs (3 lessons)	<ul style="list-style-type: none"> • Draw scatter graphs • Draw and use lines of best fit • Distinguish between positive and negative correlation • Identify outliers • Understand the dangers of extrapolation 		<ul style="list-style-type: none"> • Depreciation • Direct and indirect proportion
			Similarity and congruence in 2D and 3D (7 lessons)	<ul style="list-style-type: none"> • 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.		