Y10 Foundation SOW

Y10 Foundation - HT1				
Chapters	**Learning Objectives:**	**R**	**A**	**G**
Decimal / Order of operations	Know the value of each digit in a whole number (including decimals)			
	To be able to order decimal numbers according to size			
	To carry out additions/ subtractions / multiplication / division (including problem solving)			
	To use BIDMAS to carry out calculations			
	Recognise rational numbers, terminating decimals and recurring decimals.			
	Convert terminating decimals to fractions.			
	Find reciprocals of numbers or fractions.			
Rounding / approximations	Round decimal numbers to a given accuracy.			
	Round numbers to a given number of significant figures			
	Use approximation to estimate answers and check calculations			
Powers and standard form	Multiply and divide numbers by powers of 10.			
	Multiplying and dividing indices			
	Write a number in standard form			
	Convert ordinary numbers into standard form			
	Comparing numbers in standard form.			
	To multiply and divide numbers in standard form			
LCM, HCF and prime numbers	Find and recognise multiples / factors of numbers			
	Identify LCM / HCF of two numbers by listing multiples/factors			
	Identify prime numbers and prime factors			
	Identify LCM / HCF of two numbers using prime decomposition			
	Identify square numbers and use a calculator to find the square / square root and cube / cube root of a number.			

Y10 Foundation - HT2				
Chapters	**Learning Objectives:**	**R**	**A**	**G**
Manipulating Expressions	Simplify algebraic expression			
	Expand and simplify brackets such as 2(5x +3) - 6(x - 5)			
	Factorise algebraic expressions			
Subject of a formula	Distinguish between expressions, equations, formulae and identities.			
	Substitute numbers into formulae.			
	Change the subject of a simple formula.			
Linear Equations	Solve one and two step equations			
	Solve equations with unknown on both sides including brackets			
	Set up equations from given information and then solve them.			
Simultaneous equations	**Solve two linear equations simultaneously using the elimination method**			
Linear Inequality	Solve a simple linear inequality and represent it on a number line.			
Distance / Velocity–time graphs	Interpret distance-time graphs			
	Read information from a velocity-time graph			

Y10 Foundation - HT3				
Chapters	**Learning Objectives:**	**R**	**A**	**G**
Linear graphs	Work out the equations of horizontal and vertical lines.			
	To recognise and draw the graph of a linear equation using table of values with and without a calculator			
	Work out the gradient of a straight line			
	To identify the gradient / y-intercept from a linear equation			
	To draw linear graphs using the gradient and the y-intercept			
	Work out the equation of a line given two points on the line.			
	Work out the equation of a linear graph that is parallel to another line			
Quadratic Expressions	Expand two linear brackets to obtain a quadratic expression.			
	Factorise a quadratic expression of the form $x^2 + bx + c$ into two linear brackets.			
	Solve a quadratic expression of the form $x^2 + bx + c$ by factorising			
	Factorising simple difference of two squares.			
Quadratic and Cubic Graphs	To plot quadratic and cubic graphs with and without calculator			
	To solve simple quadratic / cubic equations by drawing graphs			

Y10 Foundation - HT4				
Chapters	**Learning Objectives:**	**R**	**A**	**G**
Sequences	Recognise patterns in number sequences.			
	Generate sequences, given the *n* th term.			
	Find the *n* th term of a linear sequence.			
	Recognise and continue some special number sequences			
Ratio and proportion	Simplify a ratio			
	Express a ratio as a fraction			
	Divide amounts into given ratios			
	Solve problems involving ratios including recipes			
	Use the unitary method to find which product is better value.			
	Recognise and solve simple problems that involve direct proportion.			
	Recognise graphs that show direct proportion.			
	Solve simple problems in which two variables have an inversely proportional relationship			
	Use the formula S = D / T			
	Convert between currencies and measures.			
Area and volume	Calculate the area of a compound shape made from rectangles.			
	Calculate the surface area and volume of a cuboid.			
	Calculate the surface area of a prism including cylinders			
	Calculate the volume of a prism including cylinders			

Y10 Foundation - HT5				
Chapters	**Learning Objectives:**	**R**	**A**	**G**
Angles	Recognise and calculate the angles in different types of triangles.			
	Calculate the sum of the interior angles in a polygon.			
	Calculate the exterior angles and the interior angles of a regular polygon.			
	Calculate angles in parallel lines.			
	Use angle properties in quadrilaterals.			
	Use a bearing to specify a direction.			
Sets and Venn Diagrams	To understand set notations			
	To understand intersections/union			
	Use Venn diagrams to solve simple set questions.			
Probability	Use the probability scale and the language of probability			
	Calculate the probability of an outcome of an event.			
	Calculate the probability of an outcome not happening when you know the probability of that outcome happening.			
	Calculate experimental probabilities and relative frequencies from experiments			
	Predict the likely number of successful outcomes, given the number of trials and the probability of any one outcome.			
	Apply systematic listing and counting strategies to identify all outcomes for a variety of problems.			
Probability: Combined events	Work out the probabilities when two or more events occur at the same time.			
	Understand probability tree diagrams			
	Use probability tree diagrams to work out the probabilities involved in combined events.			
	Read and complete two-way tables and use them to work out probabilities.			
	Use Venn diagrams to solve simple probability questions.			
	Understand frequency tree diagrams			

Y10 Foundation - HT6				
Chapters	**Learning Objectives:**	**R**	**A**	**G**
Statistics: Draw and interpret Charts	Draw pictograms to represent statistical data			
	Draw bar charts and vertical line charts to represent statistical data.			
	Draw a line graph to show trends in data.			
	Measure angles using protractor			
	Draw and interpret pie charts.			
	Draw and interpret scatter diagrams /line of best fit			
	Draw a frequency polygon			
Statistics: Averages	Work out the mode, median, mean and range of small sets of data / decide which is the best average to use			
	Calculate the mode, the median and the mean from a frequency table.			
	Use grouped frequency tables to collect and represent data.			
	Identify the modal group			
	Calculate an estimate of the mean from a grouped table.			
Surds	Estimate powers and roots of any given positive number.			
	Calculate and manipulate simple surds			
Constructions and loci	Draw nets of some simple 3D shapes			
	Identify a simple 3D shape from its net.			
	Interpret diagrams to draw plans and elevations.			
	Construct the bisectors of lines and angles			
	Construct angles of 60° and 90°.			
	To construct triangles accurately (ASA, SSS, SAS,RHS)			
	Draw a locus for a given rule.			
Review				