



Academic Overview 2018-19

Maths						
	Term 1.1	Term 1.2	Term 2.1	Term 2.2	Term 3.1	Term 3.1
Year 7	Place Value Calculations	Decimal Calculations Directed Numbers Units	Properties of 2D Shapes Areas	Types of Numbers Sequences Language of Algebra	Angles Fractions	Reading and Interpreting Tables and Graphs Percentages Medians Perimeters
Year 8	Estimation Ratio and Proportion Fractions Percentage Change	Angles Equations and Formulae	Probability Area	Mean and Comparing Data Coordinates Sequences	Transformations Constructions and Bearings	Plotting Linear Graphs Conversion Graphs Plans, Nets and Elevations
Year 9	Number Properties Rounding & Estimation FDP Fractions	Ratio Percentages 2D & 3D Shapes Angle Properties Angles & Polygons	Algebraic Expressions Algebraic Formulae Linear Equations Inequalities	Units of Measurements Perimeter & Area Populations and Samples Summary Statistics and Outliers	Coordinates and Functions Straight Line Graphs Pythagoras' Theorem Maps and Scale	Transformations 3D shapes Real life graphs
Year 10	Powers, roots & indices Standard Form Circumference & Area of a circle Surface Area & Volume of 3D shapes	Constructions and Loci Compound Measures Statistical Charts and Graphs	Exact form and Surds Trigonometry Sequences	Quadratic Equations Bounds Congruency and Similarity Graphs for grouped data (H)	Probability Manipulating Formulae Areas Under Graphs (H) Coordinates and Graphs (F)	Simultaneous Equations Circle Theorems (H) Equation of a circle (H) Angles (F) Areas (F) Solving Equations (F)
Year 11	Surface Area & Volume of complex shapes Proportion Polynomials & Functions Pythagoras and Trigonometry (F) Trigonometry in non-right- angled triangles	Transforming Functions (H) Vectors (H) Algebraic Fractions (H) Iteration (H) Fractions (F) Symmetry and Transformations	Revision	Revision		



Year 8 Curriculum Content Overview 2018-19

Maths Year 8 Autumn Term				
Knowledge and Skills Students will be taught to....	Reading, Oracy, Literacy and Numeracy	Formative Assessment	Summative Assessment	Link to reformed GCSE Content
<ul style="list-style-type: none"> • Estimate calculations • Use ratio notation • Simplify a ratio by cancelling • Divide a quantity in a given ratio • Add and subtract fractions • Find fractions of an amount • Multiply and divide proper fractions and mixed numbers • Write a quantity as a percentage of another • Solve problems involving percentage change • Solve financial problems including simple interest • Draw and measure given angles • Find unknown angles on a line, around a point, in any triangles and quadrilaterals • Recognise and find vertically opposite angles • Identify alternate and corresponding angles • Know the meaning of term, expression, equation and formula • Solve one or two-step equations • Solve equations with unknowns on both sides • Check the solution to an equation by substitution • Interpret and use a formula • Substitute into formulae 	Reading <ul style="list-style-type: none"> • Reading for meaning on problem solving questions. • Identifying the maths from a written question 	Questioning in lessons Whole class feedback during lessons Topic check-ins Individual questioning in lessons Individual verbal feedback in lessons	5 assessments throughout the academic year Topic check-ins	All elements of the Development Stage course will be tested or built upon in the GCSE examinations
	Oracy and Literacy <ul style="list-style-type: none"> • Key words and definitions • Explaining reasoning and methodology when solving mathematical problems 			



Assessment Skills, Knowledge and Concepts Map

Maths – Year 8 Autumn Term		
Key Learning Questions	Ratio and proportion	Reading
<ul style="list-style-type: none"> What is the purpose of ratios? Share £40 into the ratio 3:5 	<ul style="list-style-type: none"> Use ratio notation to describe a comparison of more than two measurements or objects Simplify a ratio by cancelling common factors Divide a quantity in two parts in a given ratio Express correctly the solution to a division in a ratio problem 	<ul style="list-style-type: none"> Reading for meaning on problem solving questions. Identifying the maths from a written question
Key Learning Questions	Fractions and percentages	Oracy and Literacy
<ul style="list-style-type: none"> Write $\frac{19}{5}$ as a mixed number. Work out $\frac{2}{3} + \frac{4}{5}$ giving the answer in the simplest form. What is 20% of £240? A TV was £635 but is reduced by 15%. What is the new cost? 	<ul style="list-style-type: none"> Add, subtract, multiply and divide fractions with different denominators and mixed numbers Find fractions of an amount Write a quantity as a percentage of another Solve problems involving percentage change Solve financial problems including simple interest 	<ul style="list-style-type: none"> Ratio, proportion, factors, numerator, denominator, equivalent fraction, simplify, percentage, simple interest, acute, obtuse, reflex, alternate, corresponding, term, expression, formulae
		Oracy
Key Learning Questions	Angles	
<ul style="list-style-type: none"> What do angles on a straight line/around a point sum to equal? What are the properties of parallel lines? How can we identify alternate angles? 	<ul style="list-style-type: none"> Draw given angles, and measure them in degrees Identify angles at a point and on a straight line Find unknown angles in any triangles and quadrilaterals Recognise and find vertically opposite angles Identify and find alternate and corresponding angles 	
Key Learning Questions	Equations and Formulae	
<ul style="list-style-type: none"> What is the difference between an expression and an equation? Solve $2x+3=13$ 	<ul style="list-style-type: none"> Know the basic rules of algebraic notation, including the meaning of term, expression, equation and formula Solve one or two-step equations when the solution is a whole number or a simple fraction or decimal Solve equations with unknowns both sides and check the solution Recognise and interpret the information given in a written formula Substitute positive and negative numbers into formulae 	



Year 8 Curriculum Content Overview 2018-19

Maths Year 8 Spring Term				
Knowledge and Skills Students will be taught to....	Reading, Oracy, Literacy and Numeracy	Formative Assessment	Summative Assessment	Link to reformed GCSE Content
<ul style="list-style-type: none"> • Know and use the vocabulary of probability • Represent a probability as a fraction, decimal or percentage • List all the outcomes for a single event • Work probabilities for events • Calculate the area of a square, rectangle, parallelogram, triangle and trapezium • Calculate the area of composite shapes • Calculate the surface area of cubes, cuboids and prisms • Calculate the mode, median, mean and range • Analyse and compare sets of data • Calculate the mean, median and mode from a frequency table • Use coordinates to plot the position of a point in one quadrant • Plot coordinates in all four quadrants • Solve problems involving coordinates • Generate terms of a sequence from a term-to-term or a diagram • Use sequences to solve problems • Recognise and use sequences of triangular numbers and Fibonacci type sequences 	<p>Reading</p> <ul style="list-style-type: none"> • Reading for meaning on problem solving questions. • Identifying the maths from a written question <hr/> <p>Oracy and Literacy</p> <ul style="list-style-type: none"> • Key words and definitions • Explaining reasoning and methodology when solving mathematical problems 	<p>Questioning in lessons</p> <p>Whole class feedback during lessons</p> <p>Topic check-ins</p> <p>Individual questioning in lessons</p> <p>Individual verbal feedback in lessons</p>	<p>5 assessments throughout the academic year</p> <p>Topic check-ins</p>	<p>All elements of the Development Stage course will be tested or built upon in the GCSE examinations</p>



Assessment Skills, Knowledge and Concepts Map

Maths – Year 8 Autumn Term		
Key Learning Questions	Probability	Reading
<ul style="list-style-type: none"> What do probabilities sum to? What words can we associate with probability? 	<ul style="list-style-type: none"> Know and use the vocabulary of probability Place events on the probability scale Calculate probability of an event as a fraction, decimal or percentage List all the outcomes for a single or double event Draw and use a sample space diagram to calculate probability Understand what is meant by mutually exclusive events 	<ul style="list-style-type: none"> Reading for meaning on problem solving questions. Identifying the maths from a written question
Key Learning Questions	Area	Oracy and Literacy
<ul style="list-style-type: none"> What is the area of a triangle with base 6cm and height 4cm? What properties do prisms have? What is the area, in terms of pi, of a circle with diameter 10cm? 	<ul style="list-style-type: none"> Know the formula and calculate the area of a square, rectangle, parallelogram, triangle and trapezium Calculate the area of composite shapes Calculate the surface area of cubes, cuboids, prisms and cylinders Calculate the area of a circle, including working in terms of π. Convert between metric measures of area 	<ul style="list-style-type: none"> Probability, mutually exclusive, event, sample space, area, composite, prism, averages, mean, median, mode, range, quadrant, sequence, nth term
		<p>Oracy</p> <ul style="list-style-type: none"> Explaining reasoning and methodology when solving mathematical problems
Key Learning Questions	Averages and comparing data	
<ul style="list-style-type: none"> How do we find the mean/median/mode/range? What are the benefits of using the median as an average compared to the mean? 	<ul style="list-style-type: none"> Calculate and interpret mode, median, mean and range for a data set Use the mean to find a missing number in a set of data Calculate the mean from a frequency table Find the mode, median and mean from a frequency table Choose and justify appropriate statistics to describe and compare data 	
Key Learning Questions	Coordinates	
<ul style="list-style-type: none"> Plot the following coordinates: (1,3), (0, -3), (-8,-1) 	<ul style="list-style-type: none"> Plot and write coordinates from all four quadrants Solve problems involving coordinates Write and problem solve with 3D coordinates 	
Key Learning Questions	Sequences	
<ul style="list-style-type: none"> What are the first three triangle numbers What is the nth term for the following sequence : 2, 5, 8, 11, 14 	<ul style="list-style-type: none"> Generate terms of a sequence from a term-to-term or a diagram Use sequences to solve problems Use sequences of triangular numbers and Fibonacci type sequences Describe and use the nth term rule of a sequence 	



Year 8 Curriculum Content Overview 2018-19

Maths Year 8 Summer Term				
Knowledge and Skills Students will be taught to....	Reading, Oracy, Literacy and Numeracy	Formative Assessment	Summative Assessment	Link to reformed GCSE Content
<ul style="list-style-type: none"> • Identify and describe lines of symmetry and rotational symmetry of a shape • Carry out reflections, rotations, translations and enlargements of shapes • Construct triangles given the SAS, ASA or SSS rule • Construct shapes given a protractor and a ruler • Make scale drawings and interpret scale on maps • Write the equation of lines parallel to the x or y-axis • Plot graphs of the form $y = mx + c$ • Interpret conversions graphs • Recognise and construct the nets of 3D shapes • Draw and interpret plans and elevations • Accurately draw 3D shapes using isometric paper • Write large and small numbers using standard form 	Reading <ul style="list-style-type: none"> • Reading for meaning on problem solving questions. • Identifying the maths from a written question 	Questioning in lessons Whole class feedback during lessons Topic check-ins Individual questioning in lessons Individual verbal feedback in lessons	5 assessments throughout the academic year Topic check-ins	All elements of the Development Stage course will be tested or built upon in the GCSE examinations
	Oracy and Literacy <ul style="list-style-type: none"> • Key words and definitions • Explaining reasoning and methodology when solving mathematical problems 			



Assessment Skills, Knowledge and Concepts Map

Maths – Year 8 Summer Term		
Key Learning Questions	Transformations	Reading
<ul style="list-style-type: none"> What is the order of rotation of an equilateral triangle? Enlarge the following shape by scale factor 2 with centre of rotation C. 	<ul style="list-style-type: none"> Identify and describe lines of symmetry and rotational symmetry Carry out a reflection in horizontal, vertical or diagonal mirror lines Rotate a shape around a given centre of rotation Carry out a translation given in words or as a vector Enlarge a shape given a scale factor and centre of enlargement Find the centre of an enlargement 	<ul style="list-style-type: none"> Reading for meaning on problem solving questions. Identifying the maths from a written question
Key Learning Questions	Constructions and bearings	Oracy and Literacy
<ul style="list-style-type: none"> Construct a triangle with angle 45° and sides 4cm and 7.5cm Why can you not construct a SSS triangle of sides 10cm, 6cm and 3cm Construct the perpendicular bisector for a line of 9cm 	<ul style="list-style-type: none"> Use ruler and compasses to construct triangles given SAS, ASA or SSS rule Know why you cannot construct all SSS triangles Accurately construct shapes given a protractor and a ruler Make simple scale drawings and interpret scale on maps Use ruler and compasses to construct the perpendicular bisector of a line Use ruler and compasses to bisect an angle Calculate and draw bearings to specify a direction 	<ul style="list-style-type: none"> Symmetry, rotational symmetry, reflection, translation, vector, enlargement, scale factor, perpendicular, bisector, plans and elevations, nets
		Oracy
Key Learning Questions	Graphs	
<ul style="list-style-type: none"> Draw the lines of the following equations: $y=3$, $x=2$, $y=2x+1$ 	<ul style="list-style-type: none"> Write the equation and draw lines parallel to the x-axis or the y-axis Identify and draw the lines $y = x$ and $y = -x$ Plot graphs of functions of the form $y = mx + c$, $x + y = c$ and $ax + by = c$ Plot and interpret distance-time graphs (speed-time graphs) Interpret and construct conversions graphs 	
Key Learning Questions	Plans, elevations and nets	
<ul style="list-style-type: none"> How many different nets can you draw to make a cube? 	<ul style="list-style-type: none"> Recognise and construct the nets of 3D shapes Interpret and draw plans and elevations Accurately draw 3D shapes using isometric paper Construct a shape from its plans and elevations 	
Key Learning Questions	Standard form	
<ul style="list-style-type: none"> Write 346000000 in standard form Write 0.006321 in standard form 	<ul style="list-style-type: none"> Write large and small numbers using standard index form notation Order numbers written in standard index form notation 	