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 Interpretting 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 cirlce (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 (H)	Transforming Functions (H) Vectors (H) Algebraic Fractions (H) Iteration (H) Fractions (F) Symmetry and Transformations (F)	Revision	Revision		

Year 7 Curriculum Content Overview 2017-18

Maths Year 7 Autumn Term				
Knowledge and Skills Students will be taught to….	**Reading, Oracy, Literacy and Numeracy**	**Formative Assessment**	**Summative Assessment**	**Link to refromed GCSE Content**
•understand and use place value including decimals including ordering numbers •round numbers to nearest power of 10 or to decimal places •multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 •add and subtract numbers using formal written methods including decimals •multiply numbers using a formal written method including decimals •divide numbers formal written method of short division including decimals •identify multiples of numbers, listing them and finding common multiples •solve problems involving addition, subtraction, multiplication and division in context deciding which operations to use •use the order of operations to carry out calculations (BIDMAS) •count backwards through zero to include negative numbers •use negative numbers in context •apply the four operations, including formal written methods, to negative numbers •choose and use appropriate standard units to estimate and measure length; mass; temperature; capacity •convert between different units of measure •solve problems involving time	Reading • Reading for meaning on problem solving questions. • Identifying the maths from a written question Oracy and Literacy • Key words and definitions • Explaining reasoning and methodology when solving mathematical problems	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 elments of the Development Stage course will be tested or built upon in the GCSE examinations

Assessment Skills, Knowledge and Concepts Map

Maths – Year 7 Autumn Term		
Key Learning Questions	**Understand place value**	**Reading**
• What method allows us to order decimals numbers? • Expalin how we know to round up or down.	• Understand the positions of the numbers (e.g. units, tens, thousands) and how they help us undertsand the size of numbers relative to each other • Extend this to include place value of decimal numbers to allow us to order numbers • Round numbers to the nearest 10, 100 and 1000s • Round decimals to the nearest integer or given decimal place	• Reading for meaning on problem solving questions. • Identifying the maths from a written question
Key Learning Questions	**Carry out formal written calculations for integers, decimals and directed numbers**	**Oracy and Literacy**
• Show me how tmultiple 2 two-digit numbers together. • How do I take away a negtive number • Explain what BIDMAS is and how and why we use it. • How would you divide a decimal by an integer value?	• Use mental methods to add and subtract integers • Use a formal method for multiplying numbers with up to four digits • Use a formal method for dividing numbers with up to four digits • Solve calculations using the correct order of operations (BIDMAS) • Add and subtract negative numbers explaining the rules used. • Extend the formal methods to deal with decimal numbers	• Factors, multiples, capacity, mass, length, units, rounding, decimals places, integers Oracy • Explaining reasoning and methodology when solving mathematical problems
Key Learning Questions	**Use the correct units and convert between units**	
• How do you convert between metres and centimetres? • How many minutes is $\frac{2}{3}$ or an hour? • Estimate the height of a man.	• Write down the units that we measure length, mass and capcity in • Covert between the different metric units • Read the time in both 12-hour and 24-hour format • Solve problems involving time	

Year 7 Curriculum Content Overview 2017-18

Maths Year 7 Spring Term				
Knowledge and Skills Students will be taught to….	Reading, Oracy, Literacy and Numeracy	Formative Assessment	Summative Assessment	Link to refromed GCSE Content
•identify and describe the properties of 2-D shapes and use conventions and notations for points, lines, angles, parallel lines, perpendicular lines, right angles • classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes •identify lines of symmetry and rotational symmetry in 2-D shapes •find the area of shapes including rectangles, parallelograms, triangles and compound shapes using the correct units •recognise and use odd numbers, even numbers and prime numbers, square numbers and cube numbers. •Use square and cube roots •find highest common factors, lowest common multiples and write a number as a product of its prime factors •generate terms of a sequence from a rule or from diagrams •understand what is meant by expressions, equations, formulae and terms •simplify and manipulate algebraic expressions by collecting like terms, expanding a bracket and factorising an expression •substitute positive and negative integers into expressions and simple formula	Reading • Reading for meaning on problem solving questions. • Identifying the maths from a written question Oracy and Literacy • Key words and definitions • Explaining reasoning and methodology when solving mathematical problems	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 elments of the Development Stage course will be tested or built upon in the GCSE examinations

Assessment Skills, Knowledge and Concepts Map

Maths – Year 7 Spring Term		
Key Learning Questions	**Properties of 2-D shapes**	**Reading**
- How many lines of symmetry does a regular hexagon have? - What quadrilateral has two pairs of parallel sides and all sides of equal length? - How do you calculate the area of a triangle and how does this link to th area of a parallelgogram?	- Idenitfy and explain the properties of scalene, isosceles, equilateral and right-angles triangles - Find the symmetry properties of 2-D shapes - Identify and explain the properties the special quadrilaterals - Name polygons with up to ten sides - Calulate areas of rectangles, triangles and parallelgorams and shapes made from these	- Reading for meaning on problem solving questions. - Identifying the maths from a written question
Key Learning Questions	**Factors, multiples and primes**	**Oracy and Literacy**
- Write 300 as a product of prime factors. - What is the HCF of 24 and 26? - What is the LCM of 12 and 15? - Work out $\sqrt{64}$ - Fill in the missing numbers in the sequence 5, 8, _, _, 17	- Write down the first 10 prime numbers. - Find the factors and multiples of a number - Write down a number in terms of its product of prime factors - Work out the highest common factor and lowest common multiple for a pair of numbers - Write down the first 12 square numbers and first 5 cube numbers - Work out the square roots and cube root of a number - Work out rules for sequences and use the rule to find missing values in the sequence	- Factors, multiples, primes, squares, sequences, expression, equation, formula, roots, symmetry, perpendicualr, parallel, polygons, isoscels, scalene, equilateral Oracy - Explaining reasoning and methodology when solving mathematical problems
Key Learning Questions	**Introductory algebra**	
- Is $E = mc^2$ and expression, equation or formula? - Expand 5(2x-1) - Factorise 12x + 8 - V=IR, calculate V when I=2 and R=4	- Give an example of an expression, an equation and a formula - Simplify expression by collecting like terms - Expand a single bracket - Factorise an expression - Substitue integers into formula and expressions	

Year 7 Curriculum Content Overview 2017-18

Maths Year 7 Summer Term				
Knowledge and Skills Students will be taught to….	Reading, Oracy, Literacy and Numeracy	Formative Assessment	Summative Assessment	Link to refromed GCSE Content
•identify and explain the properties of acute angles, obtuse angles, reflex angles and right angles •draw and measure angles using a protractor •know and use key angle facts •recognise proper fractions, mixed numbers and improper fractions and convert from one form to the other •understand what an equivalent fraction is and find equivalencies for fractions •use common factors to simplify fractions •add and subtract fractions •find fractions of an amount •interpret and present data using bar charts, pictograms, Venn diagrams and tables •interpret pie charts and line graphs and use these to solve problems •complete, read and interpret information in tables, including timetables •identify the mode or modal class from a data set or from a statistical diagram •calculate the range for a set of data or from a diagram •find the median value in a data set •find percentages of an amount mentally and solve problems involving percentages •calculate the perimeter of a polygon	Reading • Reading for meaning on problem solving questions. • Identifying the maths from a written question Oracy and Literacy • Key words and definitions • Explaining reasoning and methodology when solving mathematical problems	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 elments of the Development Stage course will be tested or built upon in the GCSE examinations

Assessment Skills, Knowledge and Concepts Map

Maths – Year 7 Summer Term		
Key Learning Questions	**Angles**	**Reading**
• What is the property of an acute angle? • Draw a diagram of a pair of vertically opposite angles.	• Measure and draw angles • Explain the properties of acute, obtuse, reflex and right angles • Know and use angles facts including angles round a point, angles on a straight line, angles in a triangle, angles in a quadrilateral and vertically opposite angles.	• Reading for meaning on problem solving questions. • Identifying the maths from a written question
Key Learning Questions	**Fractions and percentages**	**Oracy and Literacy**
• 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?	• Convert between mixed numbers and improper fractions • Find fractions of an amount • Find equivalent fractions and cancel down fractions • Add and subtract fractions using a common denominator • Know percentages mean out of 100 and calculate basic percentages including 50%, 25%, 10% and 1% • Calculate other percentages of an amount either mentally or with a calculator	• Proper, improper, equivalent, denominator, numerator, acute, obtuse, reflex, vertically opposite, mode, modal, median, range, perimeter Oracy • Explaining reasoning and methodology when solving mathematical problems
Key Learning Questions	**Data and Tables**	
• Write down the mode, median and range for this list 2, 3, 4, 4, 4, 5, 5, 6, 7, 8, 8, 9, 12	• Interpret data represented in a variety of ways including diagrams, graphs and tables. • Work out the mode, median and range of sets of data	
Key Learning Questions	**Perimeter**	
• What is the perimeter of a square with side length 5 cm?	• Work out the perimeter of rectangles and squares including units • Work out the perimeter of any polygon	

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