Subject: **Mathematics**
Year Group: **Year 7**

Content Delivered Core knowledge		**Content Delivered Core knowledge**		**Content Delivered Core knowledge**	
Autumn 1 September – October	**Autumn 2 November – December**	**Spring 1 January - February**	**Spring 2 March - April**	**Summer 1 April - May**	**Summer 2 June-July**
1. Analysing and Displaying Data 2. Number Skills	3. Expressions, functions and formulae 4. Decimals and measures	5. Fractions and Percentages 6. Probability	7. Ratio and Proportion	8. Lines and Angles 9. Sequences and Graphs	10. Transformations
Key Curriculum Skills:	**Key Curriculum Skills:**	**Key Curriculum Skills:**	**Key Curriculum Skills:**	**Key Curriculum Skills:**	**Key Curriculum Skills:**
• Averages and range • Simple charts and graphs • Comparing data • Arithmetic (including mental skills) • Money and time • Negative numbers • Factors, multiples and primes	• Functions • Algebraic expressions • Substitution • Formulae • Decimals and rounding • Length, mass and capacity • Calculations with decimals • Perimeter and area of simple quadrilaterals	• Understanding and comparing fractions • Simplifying fractions • Add and subtract simple fractions • Fraction-decimal equivalence • Understanding percentages and calculating percentages of amounts • Language of probability • Probability calculations and experiments	• Direct proportion • Writing and using ratios • Links between ratios, proportions and fractions • Proportions and percentages	• Basic angle facts and measuring and drawing angles • Properties of lines, angles and triangles • Calculating angles on lines, in triangles and in quadrilaterals • Sequences and patterns • Coordinates, mid-points and straight-line graphs • n^{th} term of sequences	• Congruency, similarity and enlargement • Symmetry and reflection • Rotations • Translations
Key Knowledge (Cultural Capital and Content):	**Key Knowledge (Cultural Capital and Content):**	**Key Knowledge (Cultural Capital and Content):**	**Key Knowledge (Cultural Capital and Content):**	**Key Knowledge (Cultural Capital and Content):**	**Key Knowledge (Cultural Capital and Content):**
• Understanding how data is presented in the world around us • Number relationships and properties	• Understanding algebraic uses and building the foundations of symbolic notation • Use of decimals as representation of parts of a whole	• Understanding fractions as representations of a whole and their link with decimals • Understanding the concept of percentages and their use in the world • Understanding probability as a way of	• Understanding the concept of properties in direct proportion • Understanding ratio as a concept for comparing quantities	• Understanding an angle as a measure of turn and angle properties in two dimensions • Understanding properties of different types of sequence and recognising patterns in numbers	• Understanding how shapes can be manipulated to create changed shapes and the use in CGI/digital animation

		making predictions based on known information or experimentation			
Assessment:	**Assessment:**	**Assessment:**	**Assessment:**	**Assessment:**	**Assessment:**
Each unit will be assessed formatively through multiple choice assessments using diagnostic questions to determine areas for development.	• Each unit will be assessed formatively through multiple choice assessments using diagnostic questions to determine areas for development. • An end of term written summative assessment on all content since the start of the year	Each unit will be assessed formatively through multiple choice assessments using diagnostic questions to determine areas for development.	• Each unit will be assessed formatively through multiple choice assessments using diagnostic questions to determine areas for development. • An end of term written summative assessment on all content since the start of the year	Each unit will be assessed formatively through multiple choice assessments using diagnostic questions to determine areas for development.	• Each unit will be assessed formatively through multiple choice assessments using diagnostic questions to determine areas for development. • An end of year written summative assessment on all content taught since the start of the year
Literacy Curriculum:					
• Key mathematical terminology shared and discussed with students • Frayer model used for explicit teaching of some key vocabulary in each unit • Root words – including prefixes – and etymology will be explored for certain terminology to develop understanding of, and links within, subject content					
Home Learning	Home Learning	Home Learning	Home Learning	Home Learning	Home Learning
Key numeracy skills	• Analysing and Displaying Data • Number Skills	• Expressions, functions and formulae • Decimals and measures	• Fractions and Percentages • Probability	• Ratio and Proportion	• Lines and Angles • Sequences and Graphs

Subject: **Mathematics**
Year Group: **Year 8**

Content Delivered Core knowledge		**Content Delivered Core knowledge**		**Content Delivered Core knowledge**	
Autumn 1 September – October	**Autumn 2 November – December**	**Spring 1 January - February**	**Spring 2 March - April**	**Summer 1 April - May**	**Summer 2 June-July**
8. Number 1 9. Area and Volume	10. Statistics, graphs and charts 11. Expressions and equations	12. Real life graphs	13. Decimals and ratio 14. Lines and angles	11. Calculating with fractions 12. Straight line graphs	13. Percentages, decimals and fractions
Key Curriculum Skills:	**Key Curriculum Skills:**	**Key Curriculum Skills:**	**Key Curriculum Skills:**	**Key Curriculum Skills:**	**Key Curriculum Skills:**
• Calculations • Divisibility and division • Calculating with negative numbers • Powers and roots (including brackets) • Multiples and factors • Area of 2D shapes • Volume of cubes and cuboids • 2D representation of 3D solids • Surface area of cubes and cuboids • Measures	• Pie charts • Using tables • Stem and leaf diagrams • Data comparison • Scatter graphs • Misleading graphs • Algebraic powers • Linear expressions with brackets • One and two step equations	• Conversion graphs • Distance time graphs • Line graphs • Real life graphs • Curved graphs	• Ordering Decimals and rounding • Place value • Decimal calculations • Ratio and proportion with decimals • Angles in quadrilaterals • Angles in parallel lines • Exterior and interior angles of polygons	• Ordering fractions • Fractions calculations with all four operators • Mixed number calculations with all four operators • Direct proportion on graphs • Gradient of straight line graphs • Equations of straight lines	• Fractions and decimals • Writing one number as a percentage of another • Percentage increase/ decrease • Percentage of amounts • Equivalent proportions (Fractions, decimals and percentages)
Key Knowledge (Cultural Capital and Content):	**Key Knowledge (Cultural Capital and Content):**	**Key Knowledge (Cultural Capital and Content):**	**Key Knowledge (Cultural Capital and Content):**	**Key Knowledge (Cultural Capital and Content):**	**Key Knowledge (Cultural Capital and Content):**
• Understanding the number system • Have an appreciation of length, floor space and capacity of 3D shapes **Cultural Capital**	• Designing tables, data collection sheets and displaying data. • Spotting trends using line of best fit • Solving equations helps train the mind to think logically and hence use	• To be able to extract information from graphs and display data in a meaningful way. **Cultural Capital** • Graphs are often used to display complex	• Solve Geometric problems • Understand use of decimals and ratio in everyday life. **Cultural Capital** • Decimals are commonly used in	• Fractions of quantities • Calculations with fractions **Cultural Capital** • Fractions of amounts are used to describe the size in comparison to the whole, an	• Understanding and appreciation fractions, decimals and percentages all represent the same thing and therefore are interchangeable. **Cultural Capital**

• Understanding short notation in mathematical and scientific fields • Negative numbers are used massively in real life, obvious examples are temperature and money management. Less obvious are above and below sea level, Greenwich mean time, Time line and the Christian calendar (AD and BC), sport such as golf • Dimension Problem solving techniques required for DIY, trades , science and in engineering	a systematic approach to problem solving **Cultural Capital** • Politics, economics, climate change, epidemics all make use of graphs to display complex data so that it is meaningful and to justify decisions made. • Investment of capital relies in spotting trends especially on the stock market • Sales, purchasing and business forecasts all rely on the visual display of data. • Engineering logical problem solving skills	data and used to convert from unit of measure to another for example currency conversion and mass conversion	everyday life for money and measurement • Ratio and proportion has a wide number of applications in trades and industry from the mixing of paint, ingredients to make a cake, hair dye to mixing of materials to make cement**.**	understanding of sharing equally is emphasised with an appreciation of fractions. • Financial – shares, part ownership of a business, property	• Percentages are widely used in society. • Mortgages, loans, profit and loss. Sales items, procurement.
Assessment:	**Assessment:**	**Assessment:**	**Assessment:**	**Assessment:**	**Assessment:**
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Literacy Curriculum:					
• Key mathematical terminology shared and discussed with students					

- Frayer model used for explicit teaching of some key vocabulary in each unit
- Root words – including prefixes – and etymology will be explored for certain terminology to develop understanding of, and links within, subject content

Home Learning	Home Learning	Home Learning	Home Learning	Home Learning	Home Learning
Transformations	• Number • Area and volume	• Statistics and graphs • Expressions and equations	• Real life graphs	• Decimals and ratio • Lines and angles	• Calculating with fractions • Straight line Graphs