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| **Term** | **INTENT** | **IMPLEMENTATION** | **IMPACT** |
| **Substantive Knowledge**  This is the specific, factual content for the topic, which should be connected into a careful sequence of learning. | **Disciplinary Knowledge (Skills)**  This is the action taken within a particular topic in order to gain substantive knowledge. | **Assessment opportunities**  What assessments will be used to measure student progress?  Evidence of how well students have learned the intended content. |
| **Autumn Term**  **1A**  **Year 7** | **Intent** | Chapter 1: Factors and Multiples  • Recognise prime numbers  • Express a composite number as a product of its prime factors  • Represent the prime factorisation of a number in index notation  • Find the highest common factor (HCF) of a group of numbers by using prime factorisation  • Find the lowest common multiple (LCM) of a group of numbers by using prime factorisation  • Understand the use of prime factorisation to find the square root and cube root of a number  Chapter 2: Approximation and Estimation  • Round numbers to a required number of decimal places  • Round numbers to a required number of significant figures  • Estimate quantities (numbers and measures) to an appropriate degree of accuracy  • Estimate the results of computation  • Be aware of rounding errors in the intermediate steps of calculations | * In class teacher assessment through Q&A * End of chapter mini test (with peer marking) * Chapter revision exercise via textbook * End of term review exercises via textbook * End of term formal assessments * Mastery homework with use of mymaths.co.uk * Mymaths topic codes:   1.1: 1032, 1044  1.2: 1032, 1044  1.3: 1034, 1035  1.4: n/a  2.1: 1001, 1004, 1840  2.2: 1005  2.3: 1002, 1043, 1968, 1969 |
| Chapter 1: Factors and Multiples   * 1.1 Primes, Prime Factorisation and Index Notation * 1.2 Highest Common Factor (HCF) * 1.3 Lowest Common Multiple (LCM) * 1.4 Prime Factorisation and Roots   Chapter 2: Approximation and Estimation   * 2.1 Rounding Numbers to Decimal Places * 2.2 Rounding Numbers to Significant Figures * 2.3 Estimation |
| **Autumn Term**  **1B**  **Year 7** | **Intent**  Why is this taught now? | Chapter 3: Ratio, Rate and Speed  • Use ratio notation  • Compare quantities by ratio  • Describe the relationship between ratio and fraction  • Divide a quantity in a given ratio  • Solve problems involving ratio  • Understand and use the scale of a plan or a map  • Solve problems involving rate in daily life  • Recognise the relationships between distance, time and speed  • Recognise the concepts of constant speed and average speed  • Write speed in different units and convert it from one unit to another  • Solve problems involving speed  Chapter 4: Working with Percentages  • Calculate simple interest  • Solve problems involving reverse percentage  • Calculate percentage increase and decrease in quantities  • Calculate repeated percentage change  • Calculate compound interest  • Solve problems involving growth and depreciation | * In class teacher assessment through Q&A * End of chapter mini test (with peer marking) * Chapter revision exercise via textbook * End of term review exercises via textbook * End of term formal assessments * Mastery homework with use of mymaths.co.uk * Mymaths topic codes:   3.1: 1038, 1052  3.2: 1039  3.3: 1103, 1117  3.4: 1243  3.5: 1121  4.1: 1237  4.2: 1302  4.3: 1073, 1238, 1239 |
| Chapter 3: Ratio, Rate and Speed   * 3.1 Integer Ratios * 3.2 All Kinds of Ratios * 3.3 Scale Plans and Maps * 3.4 Rate * 3.5 Speed   Chapter 4: Working with Percentages   * 4.1 Simple Interest and Reverse Percentages * 4.2 Percentage Increase and Decrease * 4.3 Repeated Percentage Changes |
| **Spring Term**  **2A**  **Year 7** | **Intent**  Why is this taught now? | Chapter 5: Algebraic Expressions, Formulae and Proof  • Use letters to represent numbers or variables  • Interpret algebraic notations  • Evaluate algebraic expressions and formulae  • Express real-world situations in algebraic terms  • Simplify linear expressions  • Factorise an algebraic expression by using common factors  • Prove a statement algebraically  Chapter 6: Equations and Inequalities in One Variable  • Understand the concepts of equations and the solution of an equation  • Solve linear equations in one variable  • Solve linear equations in one variable involving brackets  • Solve simple fractional equations  • Formulate linear equations in one variable to solve problems  • Understand the concept and properties of linear inequalities  • Solve simple linear inequalities  • Solve simple problems involving inequalities | * In class teacher assessment through Q&A * End of chapter mini test (with peer marking) * Chapter revision exercise via textbook * End of term review exercises via textbook * End of term formal assessments * Mastery homework with use of mymaths.co.uk * Mymaths topic codes:   5.1: 1158, 1178, 1179  5.2: 1158, 1186, 1187  5.3: 1158  5.4: 1247  5.5: 1155  5.6: 1938  6.1: 1154  6.2: 1928  6.3: 1929  6.4: n/a  6.5: n/a  6.6: n/a |
| Chapter 5: Algebraic Expressions, Formulae and Proof   * 5.1 Use of Letters in Algebra * 5.2 Evaluation of Algebraic Expressions and Formulae * 5.3 Algebraic Expressions in the Real World * 5.4 Simplification of Linear Expressions * 5.5 Factorisation by Using Common Factors * 5.6 Proof   Chapter 6: Equations and Inequalities in One Variable   * 6.1 Simple Linear Equations in One Variable * 6.2 Equations Involving Brackets * 6.3 Simple Fractional Equations * 6.4 Forming Linear Equations to Solve Problems * 6.5 Inequality Relationships * 6.6 Solving Inequalities |
| **Spring Term**  **2B**  **Year 7** | **Intent**  Why is this taught now? | Chapter 7: Coordinates and Linear Functions  • Construct the Cartesian coordinate system in two dimensions and state the coordinates of points on it  • Recognise the idea of functions  • Plot a graph of a set of ordered pairs as a representation of a relationship between two variables  • Recognise linear functions in the form of y = mx + c and draw their graphs  • Find the gradient of a linear graph  Chapter 8: Number Patterns  • Recognise number patterns and sequences  • Find the terms of a sequence using a term-to-term rule  • Recognise arithmetic and geometric sequences  • Find terms of a sequence using a position-to-term rule  • Find the formula for the general (nth) term of a sequence  • Solve problems involving number patterns and sequences | * In class teacher assessment through Q&A * End of chapter mini test (with peer marking) * Chapter revision exercise via textbook * End of term review exercises via textbook * End of term formal assessments * Mastery homework with use of mymaths.co.uk * Mymaths topic codes:   7.1: 1092, 1093  7.2: n/a  7.3: 1395, 1396  7.4: 1153, 1312, 1314  8.1: 1173  8.2: 1165, 1945 |
| Chapter 7: Coordinates and Linear Functions   * 7.1 Cartesian Coordinate System * 7.2 Idea of a Function * 7.3 Linear Functions and their Graphs * 7.4 Gradients of Linear Graphs   Chapter 8: Number Patterns   * 8.1 Number Patterns and Sequences * 8.2 General Term of a Sequence |
| **Summer Term**  **3A**  **Year 7** | **Intent**  Why is this taught now? | Chapter 9: Angles In Quadrilaterals & Polygons  • Classify special quadrilaterals on the basis of their properties  • Recognise the properties of special quadrilaterals  • Recognise the properties of polygons, including symmetry properties  Chapter 10: Perimeter and Area Of Parallelograms and Trapezia  • Calculate the area of a parallelogram  • Calculate the area of a trapezium  • Solve problems involving perimeters and areas of composite plane figures | * In class teacher assessment through Q&A * End of chapter mini test (with peer marking) * Chapter revision exercise via textbook * End of term review exercises via textbook * End of term formal assessments * Mastery homework with use of mymaths.co.uk * Mymaths topic codes:   9.1: 1102  9.2: 1100, 1320  10.1: 1108  10.2: 1128  10.3: n/a |
| Chapter 9: Angles In Quadrilaterals & Polygons   * 9.1 Quadrilaterals * 9.2 Polygons   Chapter 10: Perimeter and Area Of Parallelograms and Trapezia   * 10.1 Area of Parallelograms * 10.2 Area of Trapezia * 10.3 Perimeter and Area of Composite Plane Figures |
| **Summer Term**  **3B**  **Year 7** | **Intent**  Why is this taught now? | Chapter 11: Volume and Surface Area of Prisms and Cylinders  • Visualise and draw sketches of three-dimensional shapes from different views  • Visualise and draw the nets of prisms and cylinders  • Calculate the volume and surface area of prisms  • Calculate the volume and surface area of cylinders  • Convert between cm2 and m², and between cm³ and m³  • Solve problems involving volume and surface area of composite solids  Chapter 12: Statistical Graphs  • Construct, analyse and interpret line graphs  • Construct, analyse and interpret pie charts  • Describe the purposes and appropriateness of use of the different forms of statistical representation, including pictograms and bar charts  • Explain why a given statistical diagram can lead to misinterpretation of data  • Construct, analyse and interpret scatter graphs  • Describe types of correlation for a scatter graph  • Draw a line of best fit on a scatter graph and use it to estimate data values  • Find the equation of a given line of best fit  • Identify and explain outliers | * In class teacher assessment through Q&A * End of chapter mini test (with peer marking) * Chapter revision exercise via textbook * End of term review exercises via textbook * End of term formal assessments * Mastery homework with use of mymaths.co.uk * Mymaths topic codes:   11.1: 1098, 1106  11.2: 1107, 1139  11.3: 1107, 1138  11.4: 1138, 1139  12.1: 6018  12.2: 1207  12.3: 1251  12.4: 1213 |
| Chapter 11: Volume and Surface Area of Prisms and Cylinders   * 11.1 Views and Nets of Three-dimensional (3D) Shapes * 11.2 Volume and Total Surface Area of Prisms * 11.3 Volume and Total Surface Area of Cylinders * 11.4 Volume and Surface Area of Composite Solids   Chapter 12: Statistical Graphs   * 12.1 Line Graphs * 12.2 Pie Charts * 12.3 Use and Misuse of Statistical Graphs * 12.4 Scatter Graphs |