	Half term 1 Learning Overview	Half term 2 Learning Overview	Half term 3 Learning Overview	Half term 4 Learning Overview	Half term 5 Learning Overview	Half term 6 Learning Overview
Year 7	• Reasoning with number Ordering numbers including integers and decimals, using inequalities and rounding to nearest 10, 100, 1000, decimal places and significant figures. Using these skills in a variety of situations. • Addition and Subtraction With negatives and in a variety of contexts including bank statements, time, frequency trees and perimeter. • Algebraic Expressions Working with and forming expressions, substituting values into expressions and expanding single brackets.	• Algebraic Equations Solving one and two step equations extending to solving with brackets. • Multiplication and Division With integers, by 10, 100, 1000, with decimals and negative numbers, using all of these skills in problems. • Application of Multiplication and Division Including with powers and roots, using these to find highest common factor and lowest common multiples. This will also be applied to estimate calculations, finding the mean and other applications.	• Geometric Multiplication and Division Finding areas of different shapes including rectangles, parallelograms, triangles and compound shapes extending to other shapes where possible. • Understanding Fractions Working with fractions to express one quantity as a fraction of another and manipulate fractions to find equivalent fractions, fractions of amounts and increases and decreases.	• Fractional Operations Performing calculations with fractions including addition and subtraction, multiplication and division. • Shape Properties Using shape properties in different problems including with coordinates.	• Working with angles Including learning notation used with angles and using angles rules to find missing angles and solve problems. • Percentages Working with percentages to convert between fractions, decimals and percentages. Using percentages to find quantities including percentage increase and decrease.	• Representing Data Using different charts and diagrams to represent data including bar and line charts, pie charts and extending into probability and finding all options for events.
Year 8	• Algebraic Manipulations Extending substitution and expanding brackets into factorising into single brackets and expanding double brackets. • Sequences and order Extending solving equations to rearranging simple formulae, Looking at how these can be applied to sequences and finding the nth term of sequences.	• Angle Reasoning Create scale drawings and extending angle knowledge into bearings and parallel lines • 2D Shape Application Extending students' knowledge of area of trapeziums, circles and then to find the surface area. • Ratio Dividing an amount into a given ratio. Working with ratio information given to find missing parts.	• Ratio Continuation from previous half term. • Compound units Working with speed, distance and time to solve problems and calculate units, then extending to creating distance time graphs. Working with density mass and volume to solve problems.	• Direct and Inverse Proportion Using direct proportion to solve problems with recipes and best buy. Using graphs to convert measurements and currency. • Reasoning in 3D and understanding Capacity Creating nets and drawing plans and elevations of 3D solids. Extending to finding the volume of prisms and cylinders.	• Working with Data Calculating and using the appropriate average for different situations. Extending to finding averages from frequency tables. Representing data on scatter graphs and frequency polygons.	• Working in the Cartesian plane Using coordinates in problems and then extending to draw linear graphs. • Constructions and Loci Use compasses and protractors to perform constructions including perpendicular bisector, angle bisector and to construct triangles. • Algebra Extending solving equations to solve simultaneous equations both algebraically and graphically.

Year 9	F • Basic Number Building upon students' knowledge on place value negative numbers, inequalities, using the four operations with integers and decimals including using the order of operations. • Measures and Scale Drawings Converting between metric numbers and then moving on to converting between imperial units using these in scale drawings and then plans and elevations. • Charts, Tables and Averages Building upon students' prior knowledge to represent data with pictograms, bar charts and vertical line graphs, then moving on to interpreting this data and find averages. H • Basic Number Solving real life problems involving multiplication and division. Multiplication and division of decimals. Prime factors and using this to find the HCF and LCM. Calculations with negative numbers. • Fractions, Ratio and Proportion Writing one quantity as a fraction of another, calculating with fractions (all four operations) Increasing and decreasing by a percentage and writing one quantity as a percentage of another. • Statistical Diagrams and Averages Draw and interpret pie charts and line graphs, then using statistical measures for discrete and continuous data. Drawing scatter diagrams. • Number and Sequences Finding the nth term of linear and quadratic sequences and looking at special sequences such as square numbers.	F • Angles Extending pupils' knowledge of angles rules including in polygons, parallel lines and using the properties of polygons to find missing angles. • Number Properties Finding multiples, factors and prime factors, moving onto the HCF and LCM, special numbers such as square numbers and square roots. How to use a calculator will also be covered. H • Ratio and Proportion Simplifying ratios, dividing into a given ratio, and completing calculations with a given ratio. Direct proportion problems including best buys. Solving problems including density, mass and volume. Calculating compound interest and finding repeated percentage change. • Angles Using angle facts to find missing angles in polygons, parallel lines, and special quadrilaterals. Using scale drawings and bearings to solve problems. • Transformations, constructions and loci Demonstrating that two triangles are congruent. Performing transformations (reflection, rotation, translation and enlargement) and a combination of these. Constructing bisectors, loci and solving problems with loci. Constructing plans and elevations.	F • Approximations Rounding wholes numbers, decimals and approximating calculations. • Decimals and Fractions Calculating with decimals and fractions. Finding the reciprocal of fractions and using a calculator with fractions. H • Algebraic Manipulation Factorising into single brackets, quadratic expansion including squares. Expanding more than two brackets. Extending to factorising quadratics including with a coefficient bigger than 1. Changing the subject of a formula.	F • Linear Graphs Drawing straight line graphs by plotting points. Looking at the properties of straight line graphs including the gradient, intercept and the equations of a line, extending to parallel lines. Graphs will be used to solve simultaneous equations. Real life uses of graphs for example conversion graphs and formulae representations. • Expressions and Formulae Substituting into expressions and formulae. Expanding and factorising single brackets, this will be extended to quadratic expansion and factorisation. Changing the subject of a formulae will also be covered. H • Length, Area and Volume Calculating the area of parallelograms and trapeziums. Finding the circumference and area of a circle extending to sectors. Finding the volume of prisms, cylinders, pyramids, cones and spheres. • Linear Graphs Drawing linear graphs by finding points, finding the gradient of a line and using this to find the equation extending to parallel and perpendicular lines. Drawing graphs using the gradient and intercept method and finding the equation of the line from its graph. Using graphs for real life situations and then solving simultaneous equations using their graphs.	F • Ratio, Speed and Proportion Simplifying ratios, writing ratios as a fractions, divide into given ratios and solving problems with part information. Speed, distance, time calculations will be used to find the average speed, distance travelled and the time taken for a journey. Direct proportion problems will be looked at along with best buy problems. • Perimeter and Area Finding the area of rectangles, triangles, parallelograms, trapeziums and circles including giving answers in terms of pi. H • Right angled Triangles Calculating the longest and shortest side using Pythagoras' theorem and then applying to different situations including in 3D. Using trigonometry to find missing angles and sides including in problems involving bearing and isosceles triangles. • Similarity Using similarity to find missing lengths and then extending to area and volume. • Exploring and applying Probability Understanding experimental probability and mutually exclusive events. Using probability to work out the number of times something should occur. Using two way tables and tree diagrams to calculate probability.	F • Transformations and Vectors Rotational symmetry, rotations about a given point, reflections including with given equation of line, translations, enlargements from a given point and combinations of transformations. Adding and subtracting vectors. • Probability and Events Calculating probabilities of an event. Looking at experimental probability and how this compares to theoretical probability. Expectation of the number of times an event will occur and looking at number of different ways an outcome can happen. H • Powers and Standard Form Using laws and indices to calculate with powers. Writing very small and large numbers in standard form and then use this to perform calculations. • Equations and Inequalities Solving linear equations extending to those with fractions. Solving linear simultaneous equations using the substitution, elimination and graphical method. Solving inequalities and solve other equations using trial and improvement.

Year 10	F • Volume and Surface Area of Prisms Finding volumes of prisms including cylinders. • Linear Equations Solving linear equations including with brackets and where there are unknowns on both sides. • Percentages and compound Measures Convert between fractions, decimals and percentages. Calculating percentages including with percentage increase and decrease and reverse percentages. Writing one number as a percentage of another and looking at compound measures like density, mass and volume. • Percentages and Variation Simple interest and compound interest will be used to solve problems extending to reverse percentages. Direct proportion and inverse proportion problems will be covered. H • Counting Accuracy, powers and surds Converting recurring decimals to fractions, estimating powers and roots and calculations with negative and fractional indices. Calculations with surds including simplifying, multiplying and rationalising the denominator. Finding error intervals for rounding numbers and solving problems involving these. • Quadratic Equations Plotting quadratic graphs, then moving to solve quadratic equations using factorising, the quadratic formula and completing the square. Linking the solutions of quadratics to the specific points on their graph. Solving simultaneous equations with a quadratic using the graph and algebraically. Solving quadratic inequalities. • Sampling and more complex Diagrams Understand sampling, creating frequency polygons, cumulative frequency diagrams, box plots and histograms.	F • Representation and Interpretation Looking at how to take samples then moving to pie charts scatter diagram and finding averages from grouped data. • Constructions and Loci Constructing triangles, bisectors and loci will be covered extending to problems involving these. H • Combined Events Working out the probability of two outcomes or events occurring at the same time. Using tree diagrams to work out the probability of combined events, using and or rules to work these out and then extending o conditional probability. • Properties of Circles Using circle theorems to find missing angles and solve problems.	F • Curved Shapes and Pyramids Finding the area and perimeter of sectors, then finding volumes of pyramids cones and spheres. • Number and Sequences Looking for patterns in numbers finding the nth term of a linear sequence and then looking at special sequences like the Fibonacci sequence. • Right Angled Triangles Using Pythagoras' theorem to find longest and shorter sides, then applying to different situations. Finding missing sides and angles using trigonometry, then extending this to use bearings. H • Variation Solving direct and inverse proportion problems algebraically. • Triangles Using trigonometry to find missing sides and angles in non-right angled triangles. Using the sine rule to find the area of a triangle.	F • Congruence and Similarity Demonstrating congruency and then using similarity to find missing sides. • Combined Events Working out probability of two or more events occurring. Looking at how we can use two way tables and venn diagrams with probability. Using tree diagrams to find probabilities in combined events. H • Graphs Drawing distance –time and velocity-time graphs and using these to solve problems. Using graphs to estimate the rate of change. Finding the equation of a tangent to a circle. Looking at non-linear graphs and how transformations effect the graphs.	F • Powers and Standard form Write numbers as powers of another. Use laws of indices to calculate with numbers in index form. Writing very large or small numbers in standard form and calculating with these. • Simultaneous Equations and Linear Inequalities Solve simultaneous equations using the elimination and substitution methods. Using simultaneous equations to solve problems. Solving inequalities. H • Algebraic Fractions and Functions Simplifying and calculating with algebraic fractions and then extending to solve equations. Changing the subject of a formula where the subject appears more than once. Introducing and using function notation and then extending to using this to find composite functions. Use iterations to solve equations.	F • Non-linear Graphs Drawing distance-time graphs, plotting quadratic graphs, cubic and reciprocal graphs. Factorising quadratics and then extending to solving quadratics understanding how this relates to the quadratic graph. H • Vector Geometry Add and subtract vectors and use them to solve geometric problems.

Year 11	F • Number strands Revising prime factors, error intervals, fraction operations, fraction, decimal and percentages and estimation. • Algebra Strands Revising expanding and Simplifying, factorising, substitution, forming and solving equation, changing the subject and simultaneous equations • Geometry Strands Revising Area and perimeter and volume H • Number Revising Prime Factor decomposition, Recurring Decimals fractional operations and upper and lower bounds • Algebra Revising Forming and solving equations, simultaneous equations, changing the subject of a formula, functions, algebraic fractions, quadratics, iteration and expanding binomials. • Geometry Revising Perimeter, area and volume, angles in polygons, similar shapes, vectors and circle theorems. • Data Revising Mean from tables, cumulative frequency, box plots, histograms, tree diagrams and venn diagrams.	F • Geometry Revising all angle rules and circles. • Data strand Revising averages from tables, scatter graphs, pie charts, frequency trees, sample space diagrams and tree diagrams. • Ratio and Proportion Strand Revising Ratio, interest, proportion, best buys, percentages, similar shapes, speed, distance and time. H • Continuation from data module last term. • Ratio and proportion Revising Ratio, percentages, interest, direct and inverse proportion and compound units.	F • Geometry strand Revising Transformations, Pythagoras, Trigonometry, bearings, plans and elevations and constructions • Algebra Strand Revising Inequalities and Sequences and drawing graphs H • Geometry Revising Transformations, Pythagoras, and Trigonometry (including non-right-angled triangles). • Algebra Revising Quadratic sequences, linear and quadratic graphs and finding the equation of a line.	• Gap Analysis of the assessments Revising over topics which students have struggled with on the exam.	• Gap Analysis of the assessments Revising over topics which students have struggled with on the exam.	