Year 10 Maths Foundation Tier Long-Term Plan

	Number	Algebra	Ratio and Proportion	Geometry and Measure	Statistics and Handling Data
EYFS	Count confidently and understand the numbers to 10.	Understand the relationships between numbers and make connections and patterns with numbers.		Develop reasoning skills with space, shape and measure. Build understanding of the 3-D world.	
KS1	Count, read and write numerals to 100. Count in multiples of 2, 3, 5 and 10. Identify and represent numbers using objects. Read, write and calculate, including problem solving, addition, subtraction, multiplication and division statements. Recognise halves, thirds and quarters and calculate simple fractions of an amount. Recognise equivalent fractions and decimals. Recognise place value for 2 and 3-digit numbers. Use <, > and = signs.	Order and arrange combinations of mathematical objects in patterns and sequences.		Compare, describe and solve practical problems involving measure. Measure and record units of measure and their symbols including length, mass, money and time. Begin to tell the time. Recognise the names and properties of common 2-D and 3-D shapes. Solve simple problems involving shape and measure.	

| KS2 | Count in multiples of 4, 6, 7, 8, 9, 25, 50, 100, 1000. Multiplication facts up to 12x12. Recognise place value in 3-digit numbers. Read, write, compare and order numbers up to 1000000. Solve number problems. Add, subtract, multiply and divide mentally and using written methods. Use inverse operations to check answers. Manipulate and calculate with fractions including, addition and subtraction, fractions of amounts and dividing a fraction by a whole number. Recognise and convert between mixed numbers and improper fractions. Understanding and interpretation of negative numbers. Rounding to the nearest decimal place, 1, 10, | Use simple formulae. Generate and describe linear number sequences. Express missing number problems algebraically. Find pairs of numbers that satisfy an equation with two unknowns. Enumerate possibilities of combinations of two variables. | Solve problems involving the relative sizes of 2 quantities using known multiplication facts. Solve problems involving percentages, including comparison. Solve problems involving scale factor. | Measure, compare, add and subtract measures. Understand and find perimeter and area of squares, rectangles, parallelograms and triangles and their units. Tell the time and understand Roman numerals and convert between 12-hour and 24-hour times. Draw and make 2-D and 3-D shapes and their nets. Understand, measure and identify right angles, acute, obtuse and reflex angles. Know and use angle rules Recognise horizontal, vertical, parallel and perpendicular lines. Convert between different units of measure. Use estimations of different measures. Classify geometric shapes based on their properties. Illustrate and name parts of circles. Identify lines of symmetry. Describe and plot co-ordinates. | Interpret and present data using bar charts, time graphs, pie charts, pictograms and tables. Use a scale in charts. Interpret and solve problems with timetables. Calculate and interpret the mean as an average. |

	100, 1000, 10000, 100000. Identify and find multiples, factors and primes including common multiples and factors. Recognise percentages. Convert between fractions, decimals and percentages.			Understand approximate equivalences between metric and imperial units. Carry out and describe translations and reflections.	
KS3	Understand, represent and apply number. Use the 4 operations. Understand fractions, decimals and percentages. Apply understanding of number to solve complex problem solving questions in an unfamiliar context.	Understand and manipulate expressions, equations etc. Solve equations and inequalities. Draw different types of graphs. Recognise and use different types of sequences. Understand the meaning of the equation of a graph. Find and use the nth term of a sequence. Use algebraic knowledge to solve problems.	Understand and use ratio and proportion. Apply knowledge of ratio and proportion to solve more complex problems.	Calculate perimeter and area of common 2D shapes and volume and surface area of common 3D shapes. Construct and transform 2D shapes. Know and understand the properties of 2D and 3D shapes. Know and use angle facts including with parallel lines. Understand and use Pythagoras' theorem to find the hypotenuse and know the trig ratios. Know and use the criteria for congruent triangles. Solve problems involving geometric reasoning.	Understand and use experimental and theoretical probability for single events. Draw, interpret and compare frequency tables and diagrams. Calculate averages and range for a set of data. Draw, use and interpret scatter diagrams. Solve probability problems algebraically. Know what can and cannot be inferred in statistical settings. Calculate averages and range for a set of algebraic terms. Know and understand extrapolation.

Module Title: Number Operations and Algebraic Manipulation and Sequences	Module Title: Constructing and Interpreting Graphs and Charts, Fractions, Decimals and Percentages and Ratio	Module Title: Angle Rules, Perimeter, Area Volume and Circles, Co-ordinate Geometry and Linear Graphs, Trigonometry and Probability
Learning Intent for this module: Students will use the 4 operations to work with integers, direct numbers, decimals, fractions and percentages. Students will recognise and use multiples, factors and primes. Students will know and use the laws of indices and will extend this to standard form. Students will revise and extend their skills in algebraic manipulation and will form and solve equations and inequalities. Students will recognise and use algebraic expressions to describe sequences and solve related problems.	Learning Intent for this module: Students will construct and interpret a range of graphs and charts including in context. Students will work with fractions, decimals and percentages and will convert between them. Students will work with the concepts of ratio and proportion and will solve related problems. Students will become familiar with a range of multiplicative reasoning techniques.	Learning Intent for this Module: Students will extend their knowledge of 2-D and 3-D shapes and their properties. Students will understand and use the angle rules including those of polygons and solve related problems. Students will revisit the topics of perimeter, area and volume and will extend this to composite 3-D shapes. Students will work with a range of straight-line graphs, including real-life graphs. They will learn and use co-ordinate geometry formulae. Students will learn and apply Pythagoras' Theorem and trigonometry for right-angled triangles.
Key Content to be learned: • Integers and Place Value • Decimals • Factors Multiples and Primes • Indices, Powers and Roots	Key content to be learned: • Tables, Graphs and Charts • Pie Charts • Scatter Graphs • Statistics, Sampling and Averages	Key Content to be learned: • Properties of Shapes, Parallel Lines and Angle Facts • Interior and Exterior Angles of Polygons • Perimeter, Area and Volume

- Fractions and Reciprocals - Indices and Standard Form - Algebraic Manipulation - Expressions and Substitution - Equations and Inequalities - Sequences	- Fractions, Decimals and Percentages - Percentages - Ratio - Proportion - Multiplicative Reasoning	- Real-Life Graphs - Straight-Line Graphs - Pythagoras' Theorem and Trigonometry - Probability
Key tasks for this module: - Key Task 1 – Number Operations - Key Task 2 – Indices and Standard Form - Key Task 3 – Expressions and Factorising, Equations and Inequalities and Sequences - Key Task 4 – Summative Assessment Paper 1 - Key Task 5 – Summative Assessment Paper 2	Key tasks for this module: - Key Task 1 – Statistical Diagrams - Key Task 2 – Averages - Key Task 3 – Fractions, Decimals and Percentages - Key Task 4 – Summative Assessment Paper 1 - Key Task 5 – Summative Assessment Paper 2	Key tasks for this module: - Key Task 1 – Angle Rules - Key Task 2 – Perimeter, Area and Volume - Key Task 3 – Graphs, Pythagoras' Theorem and Trigonometry - Key Task 4 - End of Year Exam Paper 1 - Key Task 5 - End of Year Exam Paper 2

Year 11 Maths Foundation Tier

Module Title: Probability, Similarity, Further Trigonometry and Circles	Module Title: More Complex Algebra and Equations, Functions, Proof, Vectors and Complex Graphs	Module Title: Revision and Exam Preparation
Learning Intent for this module: Students will carry out and describe the 4 transformations. Students will understand the term similar and congruent and will learn the conditions for each. Students will look at 2-D representation of 3-D shapes, in particular plan and elevation drawings. Students will learn standard constructions and will apply these when studying loci and bearings. Students will extend their knowledge of quadratic expressions by solving equations. Students will revise and extend their knowledge of various compound measures.	Learning Intent for this module: Students will extend their knowledge of volume and surface area to include shapes that are more complex. Students will understand and use vector geometry. Students will re-arrange equations and expressions. Students will study the graphs of harder functions. Students will form and solve simultaneous equations.	Learning Intent for this Module: Students will now consolidate their learning cross the course. Particular revision will focus on areas for improvement identified in mock 2.

Key Content to be learned:	Key content to be learned:	Key Content to be learned:
• Transformations • Similarity and Congruence in 2-D • Plans and Elevations • Constructions, Loci and Bearings • Quadratic Equations – Expanding and Factorising • Compound Measures	• Cones, Cylinders and Spheres • Vectors • Re-arranging Equations • Graphs of Quadratic, Cubic and Reciprocal Functions • Simultaneous Equations	• Revision and Consolidation of topics based on Mock Data • Exam Preparation
Key tasks for this module: • Key Task 1 – Transformations and Similarity • Key Task 2 – Quadratic Equations • Key Task 3 – Mock 1 Paper 1 • Key Task 4 – Mock 1 Paper 2 • Key Task 5 – Mock 1 Paper 3	Key tasks for this module: • Key Task 1 – Vectors • Key Task 2 – Simultaneous Equations • Key Task 3 – Mock 1 Paper 1 • Key Task 4 – Mock 1 Paper 2 • Key Task 5 – Mock 1 Paper 3	Key tasks for this module: