Maths Curriculum Overview 2023

KEYSTAGE 3

		Autumn 1 Number	Autumn 2 Number and Measure	Spring 1 Number and Algebra	Spring 2 Geometry	Summer 1 Statistics	Summer 2 Problem Solving
ALL YEARS KEY QUESTIONS		What is a Number? How do we calculate numbers? Can I solve simple word problems?What number skills do i need?	What can we measure? Why do we measure? What are the units of measurement? Can we put these objects in order? What is the length?How do we measure liquids or weight? What's the time? What is the duration (How long)? When....? How old? How much? How much change? Which is the best buy?	What is Algebra? Where is Algebra used? How is Algebra used in business? What algebra skills do i need? What is a number sequence? What is an equation? What is a formula? What is a variable?	What are angles? What are 2D shapes? What are 3D shapes? What different ways we can change shapes. What is symmetry? What is the position and direction of a shape? How do you turn left and right? Can you plan a route?how do we organise shapes?	What is Statistics? How can we collect information? How can we represent data? How do we interpret data? How do we analyse data? What does the information mean? Can draw a graph? Can I collect Data? Can I sort Data? Can I read a graph?Can I read a timetable? Can i work out an average?	How do we solve a problem? What is the problem? Do you understand the problem? What part of maths is the problem linked to?What maths skills do we need? can we do the maths? Does the answer make sense?

Year 7/A

Topic	Number	Number and Measure	Number and Algebra	Geometry	Statistics	Problem Solving
Outline	Developing an understanding of Number. Including; Counting, place value, addition, subtraction, multiplication and division. Solving simple add and subtract word problems.	Use and apply standard techniques for measuring by measuring length ,time and drawing lines, using metric units. Begin to estimate size.we also start to count money.	Developing fluency in all operations including inverse operations. Finding missing numbers and using function machines.. Identifying and continuing sequences and patterns. Solving simple equations	Identify compare and classify geometric shapes based on their properties and sizes.Use language and properties precisely to analyse some 2-D and 3-D shapes	Collecting and organising data, Construction and interpretation of graphs – pictograms, bar charts,Interpret and compare statistical representations Find the Mean, median and mode averages.	Begin to use mathematical knowledge to solve problems. Recognise that mathematical knowledge is used to solve problems.Understand some basic mathematical representations. Select appropriate concepts, methods and techniques. Read a word problem and dentify the main purpose of a question

Year 8/B

Topic	Number	Measure	Algebra	Geometry	Statistics	Problem Solving
Outline	Developing fluency in counting, number sequences, place value, addition, subtraction, multiplication and division. Understanding negative numbers, fractions and decimals.	The above + Use and apply standard techniques for measuring by measuring length , weight, time and drawing lines, using metric units. Begin to convert between metric units. Calculate amounts of money	The above + Finding missing numbers and using function machines.Identifying and continuing sequences and patterns. Solving problems and understanding algebraic conventions. Substitution, solving equations, simplifying expressions and re-arranging formula (area of rectangle)	The above + Draw, measure and name acute and obtuse angles Find unknown angles (straight lines, at a point, vertically opposite) Properties of triangles and quadrilaterals	The above + Collecting and organising data, Construction and interpretation of graphs – pictograms, bar charts, pie charts, Interpret and compare statistical representations, Find Mean, median and mode averages. Understanding probability.	The above + Develop mathematical knowledge, in part through solving problems independently. Develop mathematical knowledge to interpret and solve problems. Recognise mathematical models and describe the results using some basic mathematical representations. Use appropriate concepts, methods and techniques to apply to real life problems. Identify the key points of a question.

Year 9/C

Topic	Number	Measure	Algebra	Geometry	Statistics	Problem Solving
Outline	Developing a fluency and confidence in counting, number sequences, place value, addition, subtraction, multiplication and division. Using negative numbers, fractions and decimals. Understanding primes, factors and multiples.	The above + Using and applying standard techniques for measuring Developing mathematical knowledge by solving measurement problems Extending knowledge of measure by reasoning, interpreting and communicating mathematically to solve problems about length, weight , money and Time	The above + Identifying and continuing sequences and patterns including finding the nth term. Solving problems and understanding algebraic conventions. Substitution, solving equations, simplifying expressions and re-arranging formula (area of rectangle). Using equations to produce linear graphs	The above + Draw accurate triangles and quadrilaterals (ruler, protractor, compasses). Find unknown angles (including parallel lines). Visualise and identify 3D shapes and their nets.Understand congruence and similarity.Transformations (translation, rotation, reflection)	The above + Collecting and organising data, Construction and interpretation of graphs – pictograms, bar charts, pie charts, line graphs, freqency graphs, Interpret and compare statistical representations including frequency tables, Able to find the Mean, median and mode averages, Construct, read and interpret pie charts, find quantity of amounts (percentages), developing understanding of probability.	Explore what can and cannot be inferred in statistics and probability. developmathematical knowledge through solving problems and evaluating the outcomes, including multi-step problems. Apply mathematical knowledge to interpret and solve problems. Recognise mathematical models and describe the results using a range of formal mathematical representations Select appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems. Quickly locate specific information to solve a written problems

KEYSTAGE 4/5

	Course options	Units taught	Specification	Examinations
	KS 4/5 Maths Curriculum			
	GCSE 9 -1 Foundation	Factors, multiples and primes Decimals Algebra: the basics Expressions and substitution into formulae Sequences Mean mode median range		Students are entered for their final examination papers at different levels, according to prior individual progress and attainment: Higher level will award grades 3-9 (with 9 being the highest) Foundation level will award grades 1-5
		Tables, charts and graphs Real-life graphs Pie charts Scatter graphs Fractions, decimals and percentages Fractions and reciprocals		Paper 1 (Non calculator exam) This exam is mainly applicable to those areas of maths which don't require a calculator as much depending on the tier classification (higher or foundation). Students undertaking Foundation will be using their maths mastery skills in topics such as algebra, shape, number and data representation. Higher classification students will be required to know additional topics such as surds, vectors and circle theorems.Paper 2 and 3 (calculator exams)
		Statistics, sampling Indices, powers and roots Similarity and congruence in 2D Plans and elevations Perimeter, area and volume Ratio		Paper 2 and 3 (calculator exams) These exams will require the student to be skilful in areas of maths which could require the use of a calculator. Such topics could be percentage growth and decay, volume of compound shapes, area of a circles and trigonometry. Higher students will be expected to know additional topics such as the sine & cosine rule and the tangent function
	GCSE 9-1 Higher	Proportion Probability Straight-line graphs Properties of shapes, parallel lines and angle facts Interior and exterior angles of polygons		
		Percentages Equations and inequalities Quadratic equations: expanding and factorising Quadratic equations: graphs Indices and standard form		Higher papers Students which are undertaking the higher GCSE course need to have the same skills as the foundation course students but also have mastery of more. Students will be expected to have a more in depth understanding of topics such as shape, algebra, graphs and trigonometry.
		Circles, cylinders, cones and spheres Right-angled triangles: Pythagoras and trigonometry Multiplicative reasoning Transformations		
	Edexcel Entry Level Certificate in Mathematics	Topic 1 – Number: Count Topic 2 – Number: Read, write and order Topic 3 – Number: Fractions and decimals		The Pearson Edexcel Entry Level Certificate in Mathematics consists of one externally-set test and one externally-set task for Entry 1 and 2 and two externally-set tests and one externally-set task for Entry 3.
		Topic 4 – Number: Pattern Topic 5 – Number: Facts Topic 6 – Number: Operations Topic 7 – Number: Equipment		Students must complete all their assessment at the same Entry Level.
		Topic 8 – Algebra Topic 9 – Ratio and proportion Topic 10 – Geometry: 2D shapes		
		Topic 11 – Geometry: 3D shapes Topic 12 – Geometry: Perimeter and area Topic 13 – Geometry: Position, movement and pattern Topic 14 – Geometry: Angles Topic 15 – Measures: Unit		

Topic 16 – Measures: Measuring instruments
Topic 17 – Statistics