

Longcroft School Curriculum Overview
MATHEMATICS



LONGCROFT

—SCHOOL AND SIXTH FORM COLLEGE—

Longcroft School Mission Statement

Longcroft strives to be a positive, warm and welcoming school where pupils aim to do their very best and, with great heart, thought and vision, take pride in their achievements and those of our community. By constantly challenging our pupils to excel, we nurture aspiration and strive to cultivate a lifelong love of learning in our young people. We provide a creative, safe, inclusive and caring environment where every child is known and cared for as an individual. In this climate, every young person has the opportunity to thrive as they develop in personality, character and intellect and become a highly successful learner and individual.

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Introduction

This document outlines the curriculum and key considerations including:

- Aims and purpose
- Alignment with the whole school provision and curriculum intent
- A summary programme of study which includes sequencing of taught content

We use the National Curriculum as our statutory foundation and broadly share its principles and aims including:

- ‘To provide pupils with an introduction to the essential knowledge that they need to be educated citizens. To introduce pupils to the best that has been thought and said; and help engender an appreciation of human creativity and achievement’.
- To prepare students to be confident in themselves, to have a fulfilled and successful life beyond our school - one where they contribute positively to society.
- Our statutory curriculum is just one element in the education of every child. There is time and space in the school day and in each week, term and year to range beyond statutory specifications.
- Provision of a framework of core knowledge around which teachers can develop exciting and stimulating lessons to promote the development of pupils’ knowledge, understanding and skills as part of the wider school curriculum.
- The wider school curriculum includes an extensive range of opportunities and activities that are routinely available to students, are inclusive and reflect our diverse community.

Inclusion

In accordance with our school curriculum statement, teachers will set high expectations for every pupil. They should plan stretching work for all pupils, including those whose attainment is significantly above the expected standard. There is an even greater obligation to plan lessons for pupils who have low levels of prior attainment or come from disadvantaged backgrounds. Evidence based approaches must be taken to respond to specific needs including students with special educational needs and those for whom English is not their first language; and be regularly reviewed. Teachers must at all times take account of their duties under equal opportunities legislation and act consistently with our vision and values.

Numeracy and literacy

Teachers should take opportunities to develop pupils’ mathematical fluency, spoken language, reading, writing and vocabulary within their specific discipline and in line with the expectations laid out in our school curriculum statement.

Purpose of study

‘Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history’s most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.’ Adapted from National Curriculum, DfE, 2014.

Aims

The Longcroft School and Sixth Form curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.
- are confident in their mental arithmetic as well as in using when appropriate calculators.

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- are prepared to effectively articulate their knowledge and skills in the way that best represents these in statutory assessments such that they have the requisite outcomes to enable the widest access of opportunity.

Subject Curriculum Vision

The mathematics department strives to give students the confidence to acquire and use mathematical skills to become the engineers, scientists, politicians and teachers of the future. The department seeks to achieve excellence in the teaching and learning of mathematics, in order for the students to make significant progress, irrespective of their prior attainment in this varied subject. We are committed to ensure our young people are equipped with the skills to manage their daily finances and work/household commitments.

Our curriculum develops a deep mathematical understanding, our practices embeds the importance of mastering the essential skills through small steps that ensures proficiency before progressing to the next step.

We ensure our learner are able to assess risk and become independent and informed thinkers. The curriculum draws on content that ensure they have the acquired depth of understanding to be able to combine different mathematical disciplines to support more complex problem solving.

Our curriculum reflects our core school values of Great Heart, Great Thought and Great Vision:

Great Heart

To promote a welcoming, supportive, safe environment where both students and staff work together to challenge each other. Students will have the resilience to make mistakes, learning from their mistakes allowing them to gain in confidence achieving a feeling of success.

Great Thought

To provide an enriching, engaging and challenging mathematics curriculum for all, delivered to develop logical reasoning and problem-solving skills.

To provide a structured learning experience that is well sequenced, building effectively on prior learning that secures the knowledge and skills required for academic and real-world success.

To instil within our young people the enjoyment and confidence in tackling mathematical problems, by showing clear working out and reflecting to ensure progress.

Great Vision

To have a sense of purpose as to where their mathematical ability could lead them. To acknowledge that their hard work and commitment to learning now, will be rewarded in future accomplishments.

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Key subject skills

Assessment Objective 1	Assessment Objective 2	Assessment Objective 3
<p>Use and apply standard techniques</p> <p>Students should be able to:</p> <ul style="list-style-type: none"> accurately recall facts, terminology and definitions use and interpret notation correctly accurately carry out routine procedures or set tasks requiring multi-step solutions. 	<p>Reason, interpret and communicate mathematically</p> <p>Students should be able to:</p> <ul style="list-style-type: none"> make deductions, inferences and draw conclusions from mathematical information construct chains of reasoning to achieve a given result interpret and communicate information accurately present arguments and proofs assess the validity of an argument and critically evaluate a given way of presenting information. 	<p>Solve problems within mathematics and in other contexts</p> <p>Students should be able to:</p> <ul style="list-style-type: none"> translate problems in mathematical or non-mathematical contexts into a process or a series of mathematical processes make and use connections between different parts of mathematics interpret results in the context of the given problem evaluate methods used and results obtained evaluate solutions to identify how they may have been affected by assumptions made.

Building on prior learning - *What can students do by the end of KS2?*

Number - addition, subtraction, multiplication and division	Number - fractions (including decimals and percentages)	Ratio and proportion	Algebra	Measurement	Geometry	Statistics
<p>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</p> <p>Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</p>	<p>Use common factors to simplify fractions; use common multiples to express fractions in the same denomination</p> <p>Compare and order fractions, including fractions > 1</p> <p>Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</p> <p>Multiply simple pairs of proper fractions, writing</p>	<p>Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</p> <p>Solve problems involving the calculation of percentages and the use of percentages for comparison</p> <p>Solve problems involving similar shapes where the scale factor is known or can be found</p>	<p>Use simple formulae</p> <p>Generate and describe linear number sequences</p> <p>Express missing number problems algebraically</p> <p>Find pairs of numbers that satisfy an equation with two unknowns</p> <p>Enumerate possibilities of combinations of two variables</p>	<p>Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</p> <p>Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places</p>	<p>Draw 2-D shapes using given dimensions and angles</p> <p>Recognise, describe and build simple 3-D shapes, including making nets</p> <p>Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons</p> <p>Illustrate and name parts of circles, including radius, diameter and circumference and know</p>	<p>Interpret and construct pie charts and line graphs and use these to solve problems</p> <p>Calculate and interpret the mean as an average.</p>

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<p>Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context</p> <p>Perform mental calculations, including with mixed operations and large numbers</p> <p>Identify common factors, common multiples and prime numbers</p> <p>Use their knowledge of the order of operations to carry out calculations involving the four operations</p> <p>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</p> <p>Solve problems involving addition, subtraction, multiplication and division</p> <p>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</p>	<p>the answer in its simplest form</p> <p>Divide proper fractions by whole numbers</p> <p>Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction</p> <p>Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places</p> <p>Multiply one-digit numbers with up to two decimal places by whole numbers</p> <p>Use written division methods in cases where the answer has up to two decimal places</p> <p>Solve problems which require answers to be rounded to specified degrees of accuracy</p> <p>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</p>	<p>Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</p>		<p>Convert between miles and kilometres</p> <p>Recognise that shapes with the same areas can have different perimeters and vice versa</p> <p>Recognise when it is possible to use formulae for area and volume of shapes</p> <p>Calculate the area of parallelograms and triangles</p> <p>Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units.</p>	<p>that the diameter is twice the radius</p> <p>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. describe positions on the full coordinate grid (all four quadrants)</p> <p>Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</p>	
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What are the skills gaps?

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- Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions
- Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
- Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
- Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit
- Construct pie charts

Progression Map



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Strand	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13
Number - addition, subtraction, multiplication and division	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	Use the 4 operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers.		Ordering decimals. Rounding numbers and measures to an appropriate degree of accuracy	Calculate with and interpret standard form $A \times 10^n$, where $1 < A < 10$ and n is an integer.	Converting between normal numbers and standard form.		
	Divide numbers up to 4 digits by a two-digit number using the formal written method of long and short division where appropriate, interpreting remainders according to the context	Use four operations with directed numbers	Calculations with money		Apply and interpret limits of accuracy. Change freely between related standard units. Use compound units such as speed, rates of pay, unit pricing, density and pressure.	Plotting and interpreting graphs in real contexts to find approximate solutions to problems such as simple kinematic problems		
	Perform mental calculations, including with mixed operations and large numbers	Compare and order numbers						
	Identify common factors, common multiples and prime numbers	Use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, HCF, LCM, prime factorisation, including using product notation and the unique factorisation property			Fraction arithmetic including exact values	Change recurring decimals into their corresponding fractions and vice versa	Using inequality notation to specify simple error intervals	
	Use knowledge of the order of operations to carry out calculations involving the four operations	Understand fractions as division				Ratios and Fractions	Proving equivalence	
	Solve addition and subtraction multi-step problems in contexts.	Appreciate the infinite nature of the sets of integers, real and rational numbers						
			Explore powers, prime factorisation, Highest Common Factor (HCF) and Lowest Common Multiple (LCM)	Write numbers of any size in standard form	Use positive integer powers and associated real roots. Recognise powers of 2, 3, 4, 5. Estimate powers and roots of any given positive number	Calculate exactly with surds. Simplify surd expressions involving squares	Calculating with roots and with integer indices. Calculating with fractional indices	Understand and use the laws of indices for all rational exponents. Use and manipulate surds, including rationalising the denominator



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Number – fractions decimals and percentages	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination	Represent any fraction as a diagram or on a number line	Find the product of a pair of fractions	Define percentage as 'number of parts per hundred'	Expressing one quantity as a fraction of another			
	Compare and order fractions, including fractions > 1	Identify and use simple equivalent fractions		Compare two quantities using percentages	Expressing a multiplicative relationship between two quantities as a ratio or a fraction			
	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions	Add and subtract fractions mixed numbers	Multiply and divide fractions and mixed numbers	Express one quantity as a percentage of another	Finding percentages and percentage changes			
	Multiply simple pairs of proper fractions, writing the answer in its simplest form	Represent tenths and hundredths on number lines and in diagrams. Interchange between fractional and decimal number lines	We will be able to multiply a fraction by an integer					
	Divide proper fractions by whole numbers	Convert between fractions and decimals - tenths and hundredths, fifths and quarters, eighths and thousandths	Divide an integer by a fraction/ a fraction by a unit fraction	Interpret percentages and percentage changes as a fraction or decimal and interpret these multiplicatively	Finding percentages and percentage changes multiplicatively using decimals			
	Associate a fraction with division and calculate decimal fraction equivalents	Convert fluently between fractions, decimals and percentages			Converting between fractions, decimals and percentages			
	Multiply one-digit numbers with up to two decimal places by whole numbers	Multiply and divide by powers 10.	Interpret and compare numbers in standard form $A \times 10^n$, where n is a positive or negative integer or 0					
	Solve problems which require answers to be rounded to specified degrees of accuracy	Round numbers and measures to an appropriate degree of accuracy.	Understand and use the reciprocal					



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Number – fractions decimals and percentages	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination	Represent any fraction as a diagram or on a number line	Find the product of a pair of fractions	Define percentage as 'number of parts per hundred'	Expressing one quantity as a fraction of another			
	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	Order positive and negative integers, decimals and fractions; use the number line as a model for ordering of the real numbers; use the symbols =, ≠, <, >, ≤, ≥						
	Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000.	Understand and use place value for decimals, measures and integers of any size	Write numbers of any size in standard form	Use positive integer powers and associated real roots (square, cube and higher). Estimate powers and roots of any given positive number.	Calculate exactly with surds. Simplify surd expressions involving squares	Calculating with roots and with integer indices . Calculating with fractional indices	Understand and use the laws of indices for all rational exponents, Use and manipulate surds, including rationalising the denominator	
Algebra	Use Simple Formulae	Use function Machines, form and solve one and two step equations	Solve inequalities, form and solve equations with brackets	Form and solve equations and inequalities with unknowns on both sides	Solving two linear simultaneous equations algebraically by elimination. Solving two linear simultaneous equations graphically or algebraically by substitution	Using inequality notation to specify simple error intervals	Work with quadratic functions and their graphs; the discriminant of a quadratic function; completing the square; solution of quadratic equations. Express solutions through correct use of 'and' and 'or' or through set notation. Represent linear and quadratic inequalities graphically.	
	Generate and describe linear number sequences	Recognise linear and non linear sequences, generate sequences	Find the nth term for a linear sequence	Testing conjectures about sequences. Representing sequences. Finding the rule for the nth term of a linear sequence	Recognise and use: sequences of triangular, square and cube numbers; simple arithmetic progression; Fibonacci type sequences; quadratic sequences, and simple geometric progressions	Further Maths - Pascals triangle	Understand and use the binomial expansion of $(a + bx)^n$ for positive integer n	Extend to any rational n including its use for approximation



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Geometry and measurements	Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius	Know properties of triangles and quadrilaterals, name and construct polygons	Explore diagonals of quadrilaterals	Surface area of cuboids. Volume of cuboids and prisms. Surface area of prisms	Derive and apply the properties and definitions of: special types of quadrilaterals, including square, rectangle, parallelogram, trapezium, kite and rhombus and triangles and other plane figures using appropriate language	Perimeter of polygons.		Understand and use numerical integration of functions, including the use of the trapezium rule and estimating the approximate area under a curve and limits that it must lie between
	Draw 2-D shapes using given dimensions and angles, recognise, describe and build simple 3-D shapes, including making nets	Geometric notation		Explore volumes of cones, spheres and compound shapes.	Standard ruler and compass constructions. Know that the perpendicular distance from a point to a line is the shortest distance to the line. Use these to construct given figures and solve loci problems.	Mixed loci problems		
	Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons	Simple angle proofs	Find and prove simple geometric facts	Recognise rotational symmetry, rotate points about a given point. Perform a series of transformations.	Apply and use the concepts of congruence and similarity, including the relationships between lengths, areas and volumes in similar figures	Congruence criteria for triangles. Simple geometric proofs		
	Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	Draw lines, angles and simple shapes	recognise line symmetry, reflect shapes in a given line					



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Geometry and measurements	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	Parallel and perpendicular lines	Interior and exterior angles of a polygon, angles in parallel lines	Apply angle facts, triangle congruence, similarity and properties of quadrilaterals to conjecture and derive results about angles and sides including the base angles of an isosceles triangle are equal, and use known results to obtain simple proofs	Know the formula for Pythagoras' Theorem. Apply it to find angles and lengths in right angled triangles and, where possible, general triangles in two and three dimensional figures.	The sine rule. The cosine rule. Area of a triangle using sine. Mixed problems using trigonometric formulas. Graphs of trigonometric functions.	Understand and use the sine, cosine and tangent functions, their graphs, periodicity and symmetry. Understand and use the trig identities for tan, sin and cos	Know and use exact values in radian form. Work with radian measure. Understand and use the definitions of secant, cosecant and cotangent and of arcsin, arccos and arctan; their relationships to sine, cosine and tangent
	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons	Angles at a point, vertically opposite, quadrilaterals			Apply addition and subtraction of vectors, multiplication of vectors by a scalar, and diagrammatic and column representation of vectors Use vectors to construct geometric arguments and proofs		Use vectors in two dimensions. Calculate the magnitude and direction of a vector and convert between component form and magnitude and direction form	
	Convert units of measure, using decimal notation up to three decimal places where appropriate							
	Recognise that shapes with the same areas can have different perimeters and vice versa	Solve perimeter problems	Circumference of a circle	Surface area and volume cylinders	Surface area and volume cones, spheres and frustrums	Calculate exactly with multiples of 'pi'		
	Recognise when it is possible to use formulae for area and volume of shapes, inc. parallelograms and triangles	Area rectangles, parallelograms, triangles, trapezium	Area circle, and compound shapes					



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Statistics / Probability	Construct line graphs and pie charts	Solve problems with line charts, bar charts and pie charts	Construct and interpret frequency tables grouped and ungrouped and two way tables	Interpret analyse and compare distributions of data sets from inivariate empirical distributions through appropriate graphical representations involving discrete, continuous and grouped data	Infer properties of populations or distributions from a sample, whilst knowing the limitations of sampling		Link to discrete and continuous distributions	
	Calculate and interpret mean as an average	Find median, range and mean	Find the mode, identify outliers, find distribution using statistical measures	Find the modal class. Compare distributions. Find the median and quartiles from cumulative frequency diagrams	Interpret, analyse and compare the distributions of data sets from univariate empirical distributions through appropriate measures of central tendency and spread	Applying statistics to describe a population	Calculate standard deviation, including from summary statistics. Calculate expected frequencies associated with the binomial distribution	Understand and use the Normal distribution as a model; find probabilities using the Normal distribution
		Language of probability, calculate probabilities, probability scale, sample space, set notation, venn diagrams and probability adds to 1.	Construct sample space for more than one event and find probabilities, use tables and venn diagrams	Compare experimental and theoretical probability. Use frequency trees to find probabilities. Simple tree diagrams	Apply ideas of randomness, fairness and equally likely events to calculate expected outcomes or multiple future experiments. Relate relative expected frequencies to theoretical probability.	Expected value. Properties of probability. Tree diagrams. Conditional probability	Understand and use mutually exclusive and independent events when calculating probabilities	Understand and use conditional probability. Understand and use conditional probability formula
			Recognise different types of data				Understand and apply the language of statistical hypothesis testing, developed through a binomial model	Understand and apply correlation coefficients as measures of how close data points lie to a straight line and be able to interpret a given correlation coefficient using a given p-value or critical value
							Conduct a statistical hypothesis test for the proportion in the binomial distribution and interpret the results in context	Conduct a statistical hypothesis test for the mean of a Normal distribution with known, given or assumed variance and interpret the results in context



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Statistics / Probability							Understand that a sample is being used to make an inference about the population and appreciate that the significance level is the probability of incorrectly rejecting the null hypothesis	
Ratio and Proportion	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts		Convert area and volume measurements	Ratio's in the context of area and volume; gradients as a rate of change	Compare lengths using ratio notation; make links to trigonometric ratios.			
	Solve problems involving the calculation of percentages and use percentages for comparison	Convert metric units	Currency conversion	Scale drawings - Revisit conversion graphs - solve direct proportion problems - inverse proportion				
	Solve problems involving similar shapes where the scale factor is known or can be found	Use multiplicative relationships between known facts	Scale factors, scale diagrams, similar shapes	Working with ratios and fractions . Reverse percentages. Financial maths. Repeated percentage change.	Interpret percentages and percentage changes as a fraction or a decimal, and interpret these multiplicatively; express one quantity as a percentage of another; compare two quantities using percentages; work with percentages greater than 100%;	Solve problems involving percentage change, including percentage increase / decrease and original value problems, and simple interest including in financial mathematics		
	Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.		Ratio notation, divide into given ratio, work parts and whole, link gradient and ratio and 1:n Direct proportion graphs					

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Exponential and Logarithms							<p>Know and use the function a^x and its graph, where a is positive.</p> <p>Understand and use the laws of logarithms</p> <p>Know and use the function e^x and its graph. Know that the gradient of e^{kx} is equal to ke^{kx} and hence understand why the exponential model is suitable in many applications</p> <p>Know and use the function $\ln x$ and its graph</p> <p>Use logarithmic graphs to estimate parameters in relationships of the form $y = ax^n$ and $y = kb^x$, given data for x and y</p> <p>Understand and use exponential growth and decay: use in modelling</p>	
Proof							<p>Understand and use the structure of mathematical proof, proceeding from given assumptions through a series of logical steps to a conclusion, use methods of proof, including proof by deduction, proof by exhaustion. Disproof by counter example.</p>	<p>Proof by contradiction (including proof of the irrationality of root 2 and the infinity of primes, application to unfamiliar proofs</p>

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Forces and Newtons Law							Understand the concept of a force: understand and use Newtons first law.	
							Understand and use Newton's second law for motion in a straight line	Extend to situations where forces need to be resolved.
							Understand and use weight and motion in a straight line under gravity; gravitational acceleration, g , and its value in SI units to a varying degree of accuracy.	
							Understand and use Newton's third law; equilibrium of forces on a particle and motion in a straight line	Understand and use Newton's third law, equilibrium of forces on a particle; resolving forces in 2 dimensions, equilibrium of a particle under coplanar forces
Parametric Equations								Understand and use the parametric equations of curves and conversion between Cartesian and parametric forms
								Use parametric equations in modelling in a variety of contexts
								Differentiate simple functions and relations defined parametrically.

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Termly Curriculum Content

Year	Autumn			Spring			Summer		
	Topics	Links to prior learning	How does this prepare students for future learning?	Topics	Links to prior learning	How does this prepare students for future learning?	Topics	Links to prior learning	How does this prepare students for future learning?
7	<p>Sequences - generate and describe linear sequences</p> <p>Understanding and using algebraic notation</p> <p>Equality and Equivalence</p> <p>Place value, ordering numbers and integers</p>	<p>Use simple formulae. Generate and describe linear number sequences. Express missing number problems algebraically.</p> <p>Solve number and practical problems that involve all of the above. Identify the value of each digit in numbers given to three decimal places. Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places. Multiply one-digit numbers with up to two decimal places</p>	<p>Autumn Block 2 Generate sequences from an algebraic rule</p> <p>Spring Block 4 Revisit notation and substitution in the context of directed number. Spring Block 5 Additional Higher content. Simple algebraic fractions</p> <p>Summer 3 Explore related algebraic expressions. Using coordinates.</p> <p>Spring Block 4 Revisit collecting like terms in the context of directed number. Spring Block 4 Form and solve two-step equations</p> <p>Spring block 2 Use factors and multiples. Spring Block 4 Order directed number. Summer Block 5 Prime factorisation. HCF and LCM</p>	<p>Solving problems with addition and subtraction</p> <p>Solving problems with multiplication and division</p> <p>Fractions and percentages of amounts</p> <p>Operations and equations with directed numbers</p>	<p>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</p> <p>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication · Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</p> <p>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</p> <p>Round any whole number to a required degree of</p>	<p>Autumn Block 1 - Circumference of a circle</p> <p>Spring Block 4 · Use the four operations with directed number Spring Block 5 · Add and subtract fractions including mixed numbers Summer Block 3 · Use Known facts. Summer Block 2 · Area of a trapezium · Area of a circle · Area of compound shapes</p> <p>Spring Block 5 Additional Higher content, Simple algebraic Fractions. Summer 3 Explore related algebraic expressions.</p> <p>Revise and extend Y7 coverage. Solve inequalities. Form and solve equations with brackets. Identify and use formulae, expressions, identities and equations.</p> <p>Summer 3 Explore related algebraic expressions. Revise</p>	<p>Addition and subtraction of fractions</p> <p>Constructing, measuring and using geometric notation</p> <p>Developing geometric reasoning</p> <p>Developing number sense</p>	<p>Recognise, describe and build simple 3-D shapes, including making nets. Draw 2-D shapes using given dimensions and angles. Compare and classify geometric shapes based on their properties and sizes. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</p> <p>Describe positions on the full coordinate grid (all four quadrants) · Draw and translate simple shapes on the coordinate plane, and reflect them in the axes</p> <p>Find unknown angles in any triangles, quadrilaterals, and regular polygons</p>	<p>Multiply and divide fractions. Additional Higher content Multiply and divide mixed numbers</p> <p>Summer Blocks 1/2/3 Revise and extend Y7 coverage. Additional Higher content Explore diagonals of quadrilaterals</p> <p>Summer Block 1 Revise Y7 coverage. Angles in parallel lines. Interior and exterior angles of polygons. Additional Higher content Angles formed by diagonal of quadrilaterals</p> <p>Revisit and extend Y7 work including: · Convert between units of time · order of operations · Calculate with money · Use</p>



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	<p>Fraction, decimal and percentage equivalence</p> <p>Solving problems with addition and subtraction</p>	<p>by whole numbers. Use written division methods in cases where the answer has up to two decimal places. Solve problems which require answers to be rounded to specified degrees of accuracy</p> <p>Associate a fraction with division and calculate decimal fraction equivalents (for example, 0.375) for a simple fraction (for example $\frac{3}{8}$). Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts</p>	<p>Spring Block 4 Use the four operations with directed number. Spring Block 5 Add and subtract fractions including mixed numbers. Summer Block 3 Use known facts</p>	<p>Addition and subtraction of fractions</p>	<p>accuracy. Use negative numbers in context, and calculate intervals across zero. Solve number and practical problems that involve all of the above</p>	<p>and extend Y7 coverage. Solve inequalities. Form and solve equations with brackets. Identify and use formulae, expressions, identities and equations. Additional Higher Content: Form and solve equations with inequalities and unknowns on both sides</p>	<p>Sets and probability</p> <p>Prime Numbers and proof</p>	<p>Identify common factors, common multiples and prime numbers</p>	<p>estimation Additional Higher context · Convert metric units of length and area · Use error interval notation</p> <p>Autumn Block 6 · Review and extend Y7 coverage · Construct sample spaces for more than one event · Use sample spaces to find probabilities · Use tables and Venn diagrams to find probabilities · Additional Higher content Use the product rule for finding total number of outcomes</p> <p>Spring Block 5 · Revisit Y7 comparing and ordering · Write numbers of any size in standard form Additional Higher content · Use negative and fractional indices</p>
8	<p>Ratio and Scale</p> <p>Multiplicative Change</p> <p>Multiplying and dividing fractions</p>	<p>Use multiplicative relationships between known facts</p> <p>Use multiplicative relationships between known facts</p> <p>Add and subtract fractions including mixed numbers</p>	<p>Ratios in the context of area and volume; gradients as a rate of change</p> <p>Scale drawings - Revisit conversion graphs - solve direct proportion problems - inverse proportion</p> <p>Fraction arithmetic including exact values</p>	<p>Brackets, equations and inequalities</p> <p>Sequences</p>	<p>Understand the difference between equality and equivalence, collecting like terms. Simple algebraic fractions. Explore related algebraic expressions</p> <p>Recognise linear and non-linear sequences. Generate sequences</p>	<p>Change the subject of a formula. Testing algebraic conjectures. Expand a pair of binomials. Form and solve equations and inequalities with unknowns on both sides</p> <p>Testing conjectures about sequences. Representing sequences. Finding the</p>	<p>Number sense</p> <p>Angles in parallel lines and Polygons</p> <p>Area of trapezia and circles</p>	<p>Order of operations. Round to powers of 10 and 1 significant figure.</p> <p>Properties of triangles and quadrilaterals. Angles at a point. Adjacent angles on a straight line.</p> <p>Solve perimeter problems. Area of</p>	<p>Financial maths. Estimate powers and roots. Error intervals and calculations with bounds</p> <p>Chains of reasoning to find angles. Bearings. Standard ruler and compass constructions. Loci</p> <p>Surface area of cuboids and cylinders.</p>



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	Working in the Cartesian Plane	Represent functions graphically - Sequences	Use the form $y = mx + c$ to identify parallel and perpendicular lines, find the equation of the line through given points, or through one point with a given gradient	Indices	from an algebraic rule	rule for the nth term of a linear sequence		rectangles, parallelograms and triangles. Area of a trapezium	Volume of cuboids, cylinders and other prisms. Explore volumes of cones, spheres and compound shapes. Surface area of prisms
	Representing data	Construct and interpret Pie Charts. Solve problems with line charts and bar charts	Construct and interpret diagrams for grouped discrete data and continuous data	Fractions and Percentages	Algebraic notation	Laws of indices. Work with powers and roots	Line Symmetry and reflection		Recognise rotational symmetry, rotate points about a given point. Perform a series of transformations
	Tables and Probability	Use the language of probability. Calculate simple probabilities. Use the probability scale. Sample spaces. Understand and use set notation, including Venn diagrams	Compare experimental and theoretical probability. Use frequency trees to find probabilities. Simple tree diagrams	Standard Index form	Interchange between fractions and decimals below 1. Explore fractions above 1. Find fractions of an amount. Solve problems with fractions greater than 1.	Working with ratios and fractions. Reverse percentages. Financial maths. Repeated percentage change.	The data handling cycle	Solve problems with line charts and bar charts. Construct and interpret pie charts.	Interpret analyse and compare distributions of data sets from invariant empirical distributions through appropriate graphical representations
					Understand and use place value. Compare and order numbers. Use factors and multiples. Index laws.	Standard form	Measures of location	Find the median and the range. Find the mean	Find the modal class. Compare distributions. Finding the median and quartiles from cumulative frequency diagrams
9	Coordinates and Linear Graphs	Plot graphs of equations that correspond to straight line graphs in the co-ordinate plane	Identify and interpret gradients and intercepts of linear functions graphically and algebraically. Recognise, sketch and interpret graphs of linear functions, quadratic functions, simple cubic functions and the reciprocal function	Basic Number	Rounding numbers and measures to an appropriate degree of accuracy	Order of operations, including brackets, powers, roots and reciprocals	Ratio and Proportion	Equivalent fractions and simplifying fractions. Expressing one quantity as a fraction of another Using ratio notation, and reducing ratios to simplest form	Understand and use proportion as equality of ratios. Relate ratios to fractions and to linear functions.
	Sequences	Substituting numerical values into formulae and expressions	Deduce expressions to calculate the nth term of linear and quadratic sequences	Factors and Multiples	An ability to multiply and divide with whole numbers is assumed.	Factors, multiples and primes assorted problems	Rounding	Round numbers and measures to an appropriate degree of accuracy (e.g. to a specified number of decimal places or significant figures) Use inequality notation to specify simple error intervals due to	Apply and interpret limits of accuracy including upper and lower bounds
	Equations	Simplify and manipulate algebraic expressions	Solving two linear simultaneous equations algebraically by elimination.	Basic Fractions	Equivalent fractions and simplifying fractions. Calculate exactly with fractions	Apply the four operations, including formal written methods, to simple fractions (proper and improper) and mixed numbers - both positive and negative			
				Basic Decimals	Apply the four operations, including formal written methods, to	Interpret percentages and percentage changes as a fraction or decimal and			



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		(including those involving surds) by: collecting like terms multiplying a single term over a bracket taking out common factors	Solving two linear simultaneous equations graphically or algebraically by substitution		decimals - both positive and negative Understand and use place value (e.g. when calculating with decimals)	interpret these multiplicatively		truncation or rounding	
Basic Algebra	Use conventional notation for priority of operations, including brackets, powers, roots and reciprocals. Understand and use the concepts and vocabulary of expressions, equations, formulae, identities, inequalities, terms and factors	Simplify and manipulate algebraic expressions (including those involving surds) by collecting like terms, multiplying a single term over a bracket, taking out common factors. Solve linear equations in one unknown algebraically including those with the unknown on both sides of the equation		Basic Percentages	Express one quantity as a percentage of another. Compare two quantities using percentages.	Finding percentages and percentage changes multiplicatively using decimals	Basic Probability	Record, describe and analyse the frequency of outcomes of probability experiments using tables and frequency trees.	Probability and sampling. Enumerating sets and combinations of sets systematically, using tables, grids, Venn diagrams and tree diagrams. Tree diagrams
Perimeter and Area	Students will need to understand the definition of polygon. A knowledge of the four operations is assumed—in particular the ability to multiply.	Lengths, areas and volumes in similar shapes		Angles	2D geometry - terms and notation	Properties of special triangles and quadrilaterals. Congruence criteria for triangles. Simple geometric proofs.	Collecting and Representing Data	Interpret and construct tables, charts and diagrams including, for categorical data: frequency tables bar charts, pie charts, pictograms vertical line charts for ungrouped discrete numerical data tables and line graphs for time series data know their appropriate use.	Construct and interpret diagrams for grouped discrete data and continuous data, i.e. histograms with equal and unequal class intervals and cumulative frequency graphs, and know their appropriate use. Applying statistics to describe a population.
Circumference and area	Know and use the formulae: Circumference = 2π Radius = πr Area = πr^2			Scale diagrams and bearings	Alternate and corresponding angles on parallel lines	Scale drawings	Scatter Graphs	Interpret, analyse and compare distributions of data sets from univariate empirical distributions through appropriate graphical representation.	
2D Representation of 3D shapes				Transformations	Co-Ordinates. Rotation Reflection Translation Enlargement	Apply addition and subtraction of vectors, multiplication of vectors by a scalar, and diagrammatic and column representation of vectors. Use vectors to construct geometric arguments and proofs.			
				Pythagoras Inc. (3D)	Conventions for labelling the sides and angles of triangles. Angles at a point, angles at a point on a straight line, vertically opposite angles. Alternate and corresponding angles on parallel lines. The sum of angles in a triangle and the angle	Trigonometric ratios - sin, cos and tan Pythagoras— and surds assorted problems.			



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					properties of polygons. Properties of special triangles and quadrilaterals				
10	Standard Form	Understand and use place value (e.g. when working with very large or very small numbers)	Rounding numbers and measures to an appropriate degree of accuracy.	Pythagoras Theorem and basic Trigonometry	2D geometry - terms and notation. Conventions for labelling the sides and angles of triangles. Angles at a point, angles at a point on a straight line, vertically opposite angles. Alternate and corresponding angles on parallel lines. Properties of special triangles and quadrilaterals	Use of Pythagoras theorem in 2D and 3D. Be able to apply trigonometry and Pythagoras theorem to 2 and 3 dimensional problems including the angle between a line and a plane and the angle between two planes.	Real Life Graphs	Recognise, sketch and interpret graphs of linear functions, quadratic functions, simple cubic functions and the reciprocal function	Calculating or estimating the area under a graph. Interpreting gradients of graphs and areas under graphs in the context of kinematics
	Calculating with Percentages	Interpret fractions and percentages as operators. Converting terminating decimals into fractions and vice versa.					Volume	Know and apply the formulae to calculate the volume of cuboids and other right prisms (including cylinders)	Calculate exactly with multiples of 'pi'
	Measures	Changing between standard units and compound units in numerical and algebraic contexts	Plotting and interpreting graphs in real contexts to find approximate solutions to problems such as simple kinematic problems	Probability	Calculate and interpret conditional probabilities through representation using expected frequencies with two-way tables, tree diagrams and Venn diagrams	Conditional probability	Direct and Inverse Proportion	Constructing and interpreting equations that describe direct and inverse proportion	Recognising and interpreting graphs that illustrate direct and inverse proportion
	Statistical Measures	Interpreting fractions and percentages as operators	Applying statistics to describe a population				Inequalities	Solving linear equations in one unknown algebraically where the unknown is on both sides of the equation	Solve linear inequalities in one or two variables and quadratic inequalities in one variable
	Indices	Using powers and roots	Converting between normal numbers and standard form	Sketching Graphs	Recognise, sketch and interpret graphs of linear functions, quadratic functions, simple cubic functions and the reciprocal function	Plotting and interpreting graphs in real contexts to find approximate solutions to problems such as simple kinematic problems			
	Construction and Loci	2D geometry - terms and notation	Constructing triangles. Mixed loci problems						
	Number recap and review	A knowledge of the four operations is assumed.	Using inequality notation to specify simple error intervals	Vectors	Apply addition and subtraction of vectors, multiplication of vectors by a scalar, and diagrammatic and column representation of vectors				
	Algebra recap and review	Substituting numerical values into formulae and expressions. Plotting straight-line graphs of the form $y = mx + c$	Recognise, sketch and interpret graphs of linear functions, quadratic functions, simple cubic functions and the reciprocal function						



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	Congruence and similarity	Angles at a point, angles at a point on a straight line, vertically opposite angles	Simple geometric proofs	Properties of Polygons	Derive and use the sum of angles in a triangle	Congruence criteria for triangles (SSS, SAS, ASA, RHS)			
	SURDS	A knowledge of graphs will allow you to link arithmetic, geometric and quadratic sequences to linear, exponential and quadratic graphs respectively.	Pythagoras' theorem Pythagoras– and surds assorted problems. Trigonometric ratios - sin, cos and tan. Inverse trigonometric functions						
11	Algebra: introduction to quadratics and rearranging formulae	Using and interpreting algebraic notation		Inequalities	Solving linear equations in one unknown algebraically where the unknown is on both sides of the equation		Gradients and Rates of change	Identifying and interpreting gradients and intercepts of linear functions graphically and algebraically	
	Linear and quadratic equations and their graphs	Understand and use standard mathematical formulae Rearrange formulae to change the subject		Vectors (Higher)	Apply addition and subtraction of vectors, multiplication of vectors by a scalar, and diagrammatic and column representation of vectors		Pre- calculus and area under a curve (Higher)	Plotting and interpreting graphs in real contexts to find approximate solutions to problems such as simple kinematic problems	
	Algebra; Further Quadratics, Rearranging Formulae and Identities	Simplify and manipulate algebraic expressions by expanding products of two binomials or factorising quadratic expressions		Further Sketching Graphs	Substituting numerical values into formulae and expressions. Plotting straight-line graphs of the form $y = mx + c$		Algebraic fractions (Higher)	Using and interpreting algebraic notation	
	Growth and Decay	Solving problems involving percentage change		Sine and cosine rule (Higher)	Trigonometric ratios - sin, cos and tan. Inverse trigonometric functions				
	Equations of a Circle (Higher)	Circle parts - definitions and properties. Pythagoras' theorem		Transforming functions (Higher)	Interpreting functions and composite functions				
	Further Equations and Graphs	Simplifying and manipulating algebraic		Numerical methods					

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	<p>Simultaneous equations</p> <p>Direct and Inverse proportion (Higher)</p>	<p>expressions by collecting like terms</p>		<p>(Higher)</p> <p>Circle Theorems (Higher)</p>	<p>Relationships between operations, including inverse operations</p> <p>Conventions for labelling the sides and angles of triangles (essential). Angles at a point, angles at a point on a straight line, vertically opposite angles (essential). The sum of angles in a triangle and the angle properties of polygons (essential) Properties of special triangles and quadrilaterals (essential)</p>				
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Enrichment Opportunities

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Date	Event/Project	About	Events/Links
September			
	Maths Story Telling Day	<p>Maths Storytelling Day encourages everyone to tell stories through maths. This is a day to appreciate all the ways maths enhances our daily lives. The day is a great opportunity to get children excited about maths through stories and games. Maths stories can include logic, patterns, puzzles and numbers. Tell maths jokes and sing songs about maths. It's a great way to explore maths and promote learning.</p>	<ul style="list-style-type: none"> Library: Create a maths storybook <ul style="list-style-type: none"> -Play a story telling game - Display work in a collage House competition: Develop maths puzzles that tell a story Maths KS3 lesson
	BBC Maths Challenge	<p>Maths Challenge is for pupils aged 9 to 11 and aims to consolidate their mental maths skills. The programmes aim to build pupils' confidence with the mental maths element of Key Stage 2 mathematics – the emphasis is on having fun with numbers! A great transition for Year 7 and maybe 8 School Radio - Maths Challenge (bbc.co.uk)</p>	<ul style="list-style-type: none"> Student voice: promote to form reps. Assembly: Student voice read results, Challenge in assembly. Promote challenge Use as a cross- curricular starter
October			
	Celebration of Mind	<p>Held in honour of Martin Gardner's birthday, encourages a fun and playful approach to mathematics and logic puzzles. Celebrants can mark the day by doing fun maths puzzles, performing magic tricks, or even sharing maths stories. Puzzles & Games Celebration of Mind</p>	<ul style="list-style-type: none"> Maths KS3/4 lesson Use as a cross-curricular starter House competition: Solve maths puzzles etc
November			
	STEM Day	<p>The day is an opportunity to focus on helping kids advance in the fields of science, technology, engineering, art, and math. 50+ STEM activities for any classroom - Secondary.pdf</p>	<ul style="list-style-type: none"> Cross curricular lessons Assembly: Student voice. Design a wallet, purse, or credit card holder for a target consumer, and explain the rationale underlying their design. Suggested Materials Paper; pens; ruler; card; scissors; sticky tape

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			<p>and glue; dimensions of bank cards/paper money etc. Promote competition.</p> <ul style="list-style-type: none"> • Display of students work and competition
	Fibonacci Day	<p>An annual holiday that honours one of the most influential mathematicians of the Middle Ages - Leonardo Bonacci.</p> <p>November 23 is celebrated as Fibonacci day because when the date is written in the mm/dd format (11/23), the digits in the date form a Fibonacci sequence: 1,1,2,3.</p>	<ul style="list-style-type: none"> • Maths KS3/4 lesson • Cross curricular lesson. Fibonacci and the Golden Ratio, The sequence in nature and architecture
All month	UKMT Challenges	<p>United Kingdom Mathematics Trust.</p> <p>Solo competitions</p> <p>Competitions UK Mathematics Trust (ukmt.org.uk)</p>	<ul style="list-style-type: none"> • Student voice: promote to form reps. • Assembly: Student voice read results, Challenge in assembly. Promote challenge
December			
26 th December	Charles Babbage's Birthday	<p>Charles Babbage Biography. Mathematician (1791–1871) Charles Babbage was known for his contributions to the first mechanical computers, which laid the groundwork for more complex future designs.</p>	<ul style="list-style-type: none"> • Cross-curricular computing lesson • Assembly
January			
	Euclid Birthday	<p>Euclid of Alexandria was a Greek mathematician who is widely regarded as the founder of geometry. Euclid's Elements, a compilation of 13 books, is considered to be one of the oldest and most influential books on mathematics.</p>	<ul style="list-style-type: none"> • Maths KS3/4 geometry lesson • Display of students work
February			
	e - Day	<p>While not as well-known as Pi, e is also an irrational number that occurs naturally in the grand scheme of mathematics. Discovered by a number of mathematicians, it's useful in helping puzzle out exponential and logarithmic functions. The rough numerical equivalent of e is 2.7, making the logical day to celebrate it February 7th.</p>	<ul style="list-style-type: none"> • Cross-curricular lesson. Food and technology lesson making and eating foods that start with an e • Poetry lesson: Read the poetry of EE Cummings • KS3/4 Maths lesson
	Palindrome Days	<p>A Palindrome Day happens when the day's date can be read the same way backward and forwards. The dates are similar to word palindromes in that they are symmetrical. 'BOB' is a palindrome.</p>	<ul style="list-style-type: none"> • Cross curricular English lesson • - Explore palindromes in English, create your own sentences • Display students work

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		<ul style="list-style-type: none"> 12 February, 2021 (12-02-2021) 	
March			
	World Maths Day	<p>A celebration of maths. It's an opportunity to practise and develop your maths with an online competition with millions of participants from all over the world. This event marks how maths has developed over the years and means everyone can enjoy celebrating their maths skills.</p> <p>World Maths Day - World Maths Day Mathletics United Kingdom Empowering Maths Learning Online</p>	<ul style="list-style-type: none"> Student voice: promote to form reps. Assembly: Student voice read results, Challenge in assembly. Promote challenge Use as a cross- curricular starter
	British Science Week	<p>British Science Week, run by the British Science Association is a ten-day celebration of science, technology, engineering and maths, featuring entertaining and engaging events and activities across the UK for people of all ages.</p>	<ul style="list-style-type: none"> Student voice: promote to form reps. House competition Display on entrants work <p>Competitions: http://www.schoolscience.co.uk/competitions</p>
14 th March	Pi Day	<p>This holiday recognizes the mathematical constant of Pi, which is often abbreviated to 3.14– hence the date of the holiday.</p>	<ul style="list-style-type: none"> Maths lesson Film Club: Pi Cross- curricular lessons: Food technology/Pi inspired Art
	Earth Hour	<p>The annual Earth Hour lights out event is held worldwide towards the end of March to encourage individuals, households, communities and businesses to turn off their non-essential lights for one hour as a symbol for their commitment to the planet.</p>	<ul style="list-style-type: none"> Maths lesson exploring mathematical facts and figures around the day. Library Lesson: Extract/Article environment, climate change.
April			
	Sonia Kovalevsky Mathematics Day	<p>A way to encourage young women to pursue a career in a math or science field, inspired by Sonia Kovalevsky, an important Russian mathematician.</p>	<ul style="list-style-type: none"> Library lesson: Research on female Mathematicians particularly Sonia Kovalevsky
15 th April	Euler's Birthday	<p>Euler made significant contributions to almost every major field in mathematics, including algebra, trigonometry, and geometry. In physics, his works on fluid dynamics and Fourier series is unmatched.</p>	<ul style="list-style-type: none"> Maths lesson exploring Euler's work Display of students work
May			

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	Archimedes Birthday	Archimedes was one of the pioneers of geometry, who derived formulas for the area of a circle, volume, and surface area of a sphere. His method of determining the value of pi remained unchallenged and the only known way to calculate the circumference of a circle for decades.	<ul style="list-style-type: none"> • Maths lesson with focus on area of a circle, volume, and surface area of a sphere • Display of students work
June			
	World Environment Day	World Environment Day is celebrated on 5 th June every year, and is the United Nations' principal vehicle for encouraging awareness and action for the protection of our environment.	<ul style="list-style-type: none"> • Maths lesson exploring mathematical facts and figures around the day. • Cross curricular Science/Geography lesson • Library Lesson: Article on global warming, plastic pollution. Mathematical figures/analysis
23 rd June	Alan Turing's Birthday	Alan Turing was a famous mathematician and World War II cryptanalyst, working for the British government.	<ul style="list-style-type: none"> • Film Club: The Imitation Game • Assembly
July			
	Yellow Pig Day	Despite its name, the day is not a celebration of the porcine world, but a celebration of the number 17.	<ul style="list-style-type: none"> • Maths lesson on the number 17. Research use prime numbers, create some mathematical facts • House competition on above
	AMSP	KS4 and KS5 Problem solving	<ul style="list-style-type: none"> • Enrichment activities