

At IncludEd Learning, we follow an adapted National Curriculum, with well being central to everything we do. We offer a broad and balanced curriculum, with all pupils having the opportunity to study Maths and English up to Level 2 with a range of short course/vocational options in other subjects. The study of these subjects, allows pupils to apply theoretical knowledge to the practical elements of the curriculum. We believe in all our pupils and have high expectations for their futures. A comprehensive package of both pastoral and learning support, delivered by highly trained staff, allows them to navigate their learning journeys and improve their life outcomes, becoming the best versions of themselves.

Engaged A degree of attention, curiosity, interest, optimism, and passion extends to the level of motivation to learn and progress.

Empowered Fostering a sense of ownership, creating active participants who take responsibility for their own growth and development.

IC UC Et A nurturing environment allowing equal access to educational opportunities where all students are safe, valued, and respected.

MATHS CURRICULUM VISION

Our curriculum aims to develop our pupils' mathematical understanding by breaking the National Curriculum objectives into smaller steps which develop skills and knowledge to meet the National Curriculum requirements. This enables all pupils to make good progress from their starting points. Understanding is at the core of our curriculum. Pupils' often start with gaps in their learning and it is important that their needs are understood but expectations remain high. A Concrete, Pictorial, Abstract approach is used to provide a physical/visual representation of mathematical concepts and problems and ensure that literacy skills are integrated into the modules. This helps to develop their conceptual understanding, teaches different strategies to tackle a problem and provides scaffolds to access concepts which a pupil may feel is beyond their abilities. This in turn develops a pupils confidence and motivation for learning.

It is important that pupils know more than a mathematical procedure, because of this each lesson follows a Fluency, Reasoning, Problem-solving model, which allows for skills practice and challenge in every lesson for every pupil. Our curriculum follows a spiral model where taught content is revisited within other units, this keeps skills current and develops a pupil's ability to recall content.

Mathematical vocabulary development is essential to provide the greatest opportunities for success. We focus on this through the teaching of key words and the use of ELKLAN strategies to develop understanding of what these words mean. It is important that our pupils see the value and purpose of maths in the real world, for this reason we highlight the links to potential careers through talks and lessons, cultural capital and essential life skills (see cultural capital map).

MATHS FRAMEWORKING FOR LEARNING			
The Key Goals of Mathematics	 To develop understanding of abstract concepts involving broader thinking skills To build resilience and confidence in having "a go" To develop problem solving approaches in a range of contexts To develop confidence to apply themselves to problem solving in a range of context 		
Characteristic of a Compelling Learning Experience	 Open ended problems to explore Discussion- without fear of being wrong Collaboration group/paired work encouraged to explore problems Using a broad range of strategies and resources (low/hi tech) 		
Key Concepts			
Fluency - Applying su	uitable mathematics accurately within the classroom and beyond.		
Problem-Solving -	- When decisions are made about the steps to take to tackle a mathematical task, this is called mathematics problem-solving.		
Mathematical Rea	soning - Describing why mathematical knowledge, skills or methods are used, this is called mathematical reasoning.		
Reflection (Metacoreflection or metacognition	ognition) - When thinking about the processes and mental strategies involved when doing mathematics, this is called in.		
Multiplicative Rea the values of others, this	soning - When deliberately using multiplication (or division) to compare quantities and work out the value of one based on is called multiplicative reasoning.		
Modelling - When an attempt is made to understand and describe a real-world situation in mathematical terms, this is called mathematical modelling.			
Key Skills	 Identify the mathematical aspects of a situation or problem Select mathematical information, methods and tools to use Make connections within mathematics Begin to justify conjectures and generalisations, considering special cases and counter-examples 		
Key Knowledge	Students are expected through the curriculum to gain a mastery of the subject. Pupils can readily use their knowledge of number, algebra, geometry, and statistical skills when solving problems across all topics/units.		

Promoting SMSC and Fundamental British Values through MATHS

SMSC and British Values	In Maths Lessons Students will:
Spirituality Explore beliefs, experience and faiths, feelings and values; enjoy learning about oneself, others and the surrounding world; use imagination and creativity and reflect on experiences.	 explore pattern, number, shape, space and measures in the world around them, for example, FiFibonacci or angles in everyday life use role play, concrete objects, structured apparatus and real life situations talk creatively using mathematical language develop mathematical reasoning by talking about their learning and listening to others' viewpoints
Moral Recognise right and wrong and respect the law; understand consequences; investigate moral and ethical issues and offer reasoned views.	 calculate and prove whether an answer is right or wrong test and explain mathematical statements, problems or investigations use probability to help them understand risk and real life economics look at moral issues raised in mathematics, for example, lessons linked to global charities such as Children in Need
Social Use a range of social skills to participate in the local community and beyond; appreciate diverse viewpoints; participate, volunteer and cooperate; resolve conflict.	 explore mathematics in the real world, for example, money, shopping, cooking, travel collaborate with others to solve mathematical problems, investigations and challenges use group work as an opportunity to learn from others and notice that different people solve problems in different ways work together to discuss, compare, evaluate and improve their work
Cultural Appreciate cultural influences; appreciate the role of Britain's parliamentary system; participate in cultural opportunities; understand, accept, respect and celebrate diversity.	 investigate patterns from a range of cultures, for example, Islamic tiling or Rangoli patterns explore other number systems from the past and around the world, for example, Roman numerals and Egyptian hieroglyphs recognise that mathematics from many cultures have contributed to modern day mathematics have opportunities to explore mathematical methods and strategies used in other countries, for example, lattice multiplication and Shanghai maths
Democracy A system where everyone plays an equal part.	 work collaboratively on mathematics tasks, investigations and challenges. comparing answers and methods make mistakes and learn from them discuss their work and explain their reasoning question information and data, challenging mathematical assumptions
Rule of law The principle that all people and institutions are subject to and accountable for their actions and behaviour.	 use simple formulae and equations follow rules related to maths, for example, BODMAS
Individual liberty Being free to express views or ideas.	 persevere, take risks and try different methods and strategies explain their reasoning, choices and strategies used when solving problems have opportunities to use self and peer-assessment to identify where they are and what they need to do to improve
Tolerance and respect The ability or willingness to respect and tolerate the opinions or behaviour of others.	 use a range of strategies that are inclusive, irrespective of stages of attainment or gender talk with others about a problem, challenge, investigation with an adult or peers solve problems with others respect others' methods used to reach an answer and use in their own work, where appropriate decide upon the best way to represent their conclusions, drawing upon others' recording methods or ideas

MATHS CURRICULUM MAP

TERM	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
KS3 Y1>		Ters Ones Tenths Hundreths 0 0 0 0 0 0 0 0 0 0	$\begin{array}{c} 2 & 1 & 2 \\ 3x^2 - 2xy + c \\ 3 & 1 & 3 & 1 & 5 \\ \hline 3 & 4 & 3 & 4 & 5 \end{array}$			
	Developing Number Sense	Place Value Sequences	Algebraic Notation Application of Number	FDP Equivalence Equality & Equivalence	Sets & Probability Geometric Reasoning	Lines and Angles Directed Number
KS3 Y2	3:1 3:4 1:3		2.75 2 $\frac{3}{4}$ 275% Decimal Fraction Percentage	Unit Treastantis 0.007601 - 7.601000 - 7.601 × 10 ⁻³ - 0.007601 = 7.601 × 10 ⁻³ -		Tally Frequency French Image: Spanish Image: Market Marke
	Ratio & Scale/Fractions Multiplicative Change	Cartesian Plane Brackets & Equations	Sequences/Indices Fractions & Percentages	Standard Index Form Angles, Lines Polygons	Area of Trapezia and Circles Symmetry & Reflection	Handling Data Location & Dispersion
KS3 Y3	$\frac{\frac{1}{3} + \frac{1}{4}}{1} + \frac{1}{4} = ?$		32° a 80°	Cherrent Che		
	FDP & Percentages Handling Data/Expressions	Equations Angles & Polygons	Working in 2D / Probability Pythagoras & Trigonometry	Circles Working with 3D Shapes	Sequences Combined Events	Maths & Money
KS4 Y1					Favourite Colour gg	
		Number			Handling Data	
KS4 Y2	e of the second			\$	Mattles Control of Con	
	Measure, Shape & Space	Digital Literacy	Financial	Capability	Revision	& Exams

KS3: Y1 - 2023-2024 - MATHS FRAMEWORK FOR LEARNING



Preparing for Life in Modern Britain





Culture Capital



Enrichment Opportunities



Literacy and Communication

AUTUMN1

KNOWLEDGE	SKILLS	ASSESSMENT		
Developing Number Sense Addition & Subtraction Properties of addition and subtraction Mental methods - addition and subtraction Use formal method for addition (including of decimals) Use formal method for subtraction (including of decimals) Select the most appropriate method: mental, written or calculator Solve problems in context of perimeter Solve financial maths problems Multiplication & Division Properties of multiplication and division Understand and use factors Understand and use multiples Multiply and divide by powers of 10 Covert metric units Use formal methods to divide (including decimals)	 Developing Number Sense Know and use mental strategies for addition and subtraction Know and use mental strategies for multiplication and division Know and use mental strategies for decimals Know and use mental strategies for fractions Use factors to simplify calculations Use known number facts to derive other facts Use known algebraic facts to derive other facts Know when to use a mental method, written method or calculator Select and use appropriate calculation strategies, including mental and formal written methods Round to different degrees of accuracy 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test		
AUTUMN 2				
KNOWLEDGE	SKILLS	ASSESSMENT		
 Place Value Recognise the PV of any number in an integer up to 1 billion Understand and write integers up to 1 billion in words and figures 	 Place Value Understand the number system and place value to include decimals Order positive and negative integers, fractions, and decimals, using 	Class Discussions Q&A Practical Observations		

 Integers and decimals on a number line Round integers to the nearest power of 10 Compare 2 numbers using = ≠ < > ≤ ≥ Order a list of integers Find range and median of a set of numbers Understand place value for decimals Compare and order numbers up to 1 billion Sequences Describe and continue sequences Predict and continue sequences Sequences in a table and graphically Linear and non-linear sequences Continue linear sequences Continue non-linear sequences Explain the term to term rule 	 representations such as number lines Use the symbols =, ≠, ≤, ≥, < and > Round numbers to an appropriate degree of accuracy Interpret the median and the range in a given context Interpret and compare numbers in standard form Sequences Describe and continue sequences in diagram and number forms Work out next terms in a linear and nonlinear sequences Substitute into function machines Generate sequences from a rule 	Peer to Peer Learning Information Posters Summative Assessment Formative Assessment/Tes EOT Assessment/Tes		
SPRING 1				
KNOWLEDGE	SKILLS	ASSESSMENT		
 Understand and Use Algebraic Notation Given a numerical input, find the output of a single function machine Use inverse operations to find the input given the output Use diagrams and letters to generalise number operations Use diagrams and letters with single function machines Find the function machine given a simple expression Substitute values into a single operation expression Find numerical inputs and outputs for a series of two function machines Use diagrams and letters with a series of two function machines Substitute values into two-step expression Substitute values into two-step expressions Generate sequences given an algebraic rule Represent one- and two-step functions graphically 	 Understand and Use Algebraic Notation Use a variety of representations to explore algebraic notation. Form and substitute into expressions, including generating sequences 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test		
 Application of Number Work out the perimeter of shapes Interpret and use frequency trees 	Application of Number			

- Use order of operations
- Construct and interpret tables, charts and diagrams
- Describe and interpret the mean

- Calculate and solve problems involving perimeter and area of triangles, parallelograms and trapezia
- Recognise and use inverse operations

SPRING 2				
KNOWLEDGE	SKILLS	ASSESSMENT		
 Fraction, Decimal and Percentage Equivalence Represent tenths and hundreds (diagrams and number lines) See relationship between fractions and decimals Convert between fractions and decimals – tenths and hundredths Understand the meaning of percentage using a hundred square Convert between simple fractions, decimals and percentages Use and interpret pie charts 	 Fraction, Decimal and Percentage Equivalence Move freely between different numerical representations of fractions, decimals and percentages Express one quantity as a fraction of another Compare two quantities using percentages Use knowledge of fractions to interpret pie charts 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test		
 Equality and Equivalence Understand the meaning of equality Understand and use fact families, numerically and algebraically Solve one-step linear equations involving +/- using inverse operations Solve one-step linear equations involving x/÷ using inverse operation Understand the meaning of like and unlike terms Understand the meaning of equivalence Simplify algebraic expressions by collecting like terms, using the ≡ symbol 	 Equality and Equivalence Understand the idea of equivalence Form and solve equations Understand 'like terms' and be able to simplify expressions 			
	SUMMER1			
KNOWLEDGE	SKILLS	ASSESSMENT		
 Geometric Reasoning Understand and use the sum of angles at a point Understand and use the sum of angles on a straight line Understand and use the equality of vertically opposite angles Know and apply the sum of all angles in a triangle Know and apply the sum of all angles in a quadrilateral Solve angle problems using properties of triangles and quadrilaterals 	 Geometric Reasoning Describe, sketch and draw 2D shapes with standard conventions parallel lines, right angles, hatch marks to indicate equality Understand and use angles facts and properties of triangles and other polygons to solve increasingly complex problems 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test		

 Sets and Probability Generate sample spaces for single events Calculate the probability of a single event Understand and use the probability scale Know that the sum of probabilities of all possible outcomes is 1 Identify and represent sets and Venn diagrams 	 Sets and Probability Use appropriate language and the 0-1 probability scale Understand that all probabilities add to 1 Use tables, grids and Venn diagrams to categorise data in a systematic Way 	
	SUMMER 2	
KNOWLEDGE	SKILLS	ASSESSMENT
 Directed Number Use the four operations, extending this to negative numbers Use square and square roots, applying this to negative numbers Substitute numerical values into formulae and expressions including scientific formulaes Fractional Thinking Adding and subtracting fractions with common and different denominators Manipulate mixed numbers and improper fractions Adding and subtracting simple algebraic fractions 	 Directed Number Order negative numbers Understand what a negative number is Recognise square numbers Use function machines Fractional Thinking Add and subtract simple algebraic fractions Move between numerical, graphical and diagrammatical representations (e.g. For fractions, decimals and percentages) Order positive and negative integers, decimals and fractions Convert between mixed and improper fractions Express a quantity as a fraction of another, where the fraction is less than or greater than one Factors and multiples 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test
 Lines and Angles Measure and draw lines and angles. Know the properties of triangles, quadrilaterals and other polygons Draw angles, given certain criteria (SSS, SAS, ASA) Draw and interpret pie charts 	 Lines and Angles Draw and measure lines and angles using a protractor Understand standard conventions for labelling lines and angles Use language and properties precisely to analyse or classify 2D shapes 	

KS3: Y2 - 2024-2025 - MATHS FRAMEWORK FOR LEARNING

AUTUMN 1			
KNOWLEDGE	SKILLS	ASSESSMENT	
 Ratio and Scale Understand the meaning and representation of ratio Understand and use ratio notation Solve problems involving ratio of the form 1:n or n:1 Solve proportional problems involving the ratio m:n Divide a value into a given ratio Express ratio in their simplest integer form Compare ratio and related fractions Understand π as the ratio between diameter and circumference 	 Ratio and Scale Understand that a relationship between two quantities can be expressed as a ratio or a fraction Understand ratio and its link to multiplication Write a ratio Simplify ratios Calculate the circumference of a circle 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test	
 Multiplicative Change Explore conversion graphs Convert between currencies Explore relationship between similar shapes Understand scale factors as multiplicative representations Draw and interpret scale diagrams and maps Interpret maps using scale factors and ratios Use compound units such as speed, unit pricing and density to solve problems Solve problems involving direct and inverse proportion, including graphical and algebraic representations Examples may include: Recipe problems Best buy problems Exchange rates 	 Multiplicative Change Solve problems involving direct and inverse proportion, including graphical and algebraic representations. Convert between currencies, including using graphs Examples may include: Recipe problems Best buy problems Exchange rates 		
 Multiplying and Dividing Fractions Represent multiplication of fractions Multiply a fraction by an integer Find the product of a pair of unit fractions Find the product of a pair of any fractions Divide an integer by a fraction Divide a fraction by a unit fraction Understand and use the reciprocal Divide any pairs of fractions 	 Multiplying and Dividing Fractions Multiply and divide fractions by integers Multiply and divide fractions by fractions Understand and use reciprocals Use diagrams to represent fractions 		

AUTUMN 2

KNOWLEDGE	SKILLS	ASSESSMENT
 Working in the Cartesian Plane Move freely between numerical, algebraic, graphical & diagrammatic representations Make connections between number relationships and their algebraic and graphical representation Substitute numerical values into formulae and expressions Recognise, sketch and produce graphs of linear functions in the Cartesian plane Work with coordinates in all four quadrants Identify and draw lines that are parallel to the axes Recognise and use the line y = x Recognise and use the lines of the form y = kx Link y = kx to direct proportion problems Recognise and use lines of the form y = x+a Explore graphs with negative gradients (y = - kx, y = a - x, x + y = a) Link graphs to linear sequences Plot graphs of the form y = mx + c 	 Working in the Cartesian Plane Plot and interpret straight line graphs Understand and use equations of a straight line, including lines parallel to the axes Model situations by translating them into expressions, formulae and graphs Substitute numerical values into formulae and expressions 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test
 Representing Data Construct and interpret appropriate tables charts and diagrams including frequency tables, bar charts, pie charts and pictograms Describe mathematical relationships for bivariate data 	 Representing Data Draw and interpret scatter graphs Understand correlation Draw and use lines of best fit Understand grouped, ungrouped, discrete and continuous data Design and use one and two way tables 	
 Brackets, Equations and Inequalities Substitute numerical values into formulae and expressions, including scientific formulae Use a variety of representations to simplify and manipulate algebraic expressions Use a variety of methods to solve linear equations in one variable (including all forms that require rearrangement), including those with brackets and fractions Use directed numbers with algebra Multiply out of a single bracket Factorise into a single bracket 	 Brackets, Equations and Inequalities Expand, and factorise into single brackets Form and use expressions, formulae and identities Form and solve equations and inequalities with and without brackets Distinguish between equations, expressions, formulae and identities Expand products of two or more binomials Understand and use the vocabulary of inequalities 	

- Expand multiple single brackets and simplify
- Form and solve equations with brackets
- Understand and solve simple inequalities

SPRING1				
KNOWLEDGE	SKILLS	ASSESSMENT		
Sequences • Explore sequences using the nth term	 Sequences Generate sequences from a rule Generate sequences using more complex rules, e.g. with brackets, squared terms, both in words and algebraically Calculate the nth term of a sequence 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters		
 Indices Use a variety of methods to write/simplify expressions involving indices 	 Indices Form expressions Use indices Understand and use addition and subtraction rules Simplify expressions involving sums, products and powers, including the laws of indices 	Summative Assessment Formative Assessment EOT Assessment/Test		
 Fractions and Percentages Develop understanding of fractions, decimals and percentages Evaluate percentages increases and decreases Use multipliers to solve percentage problems Percentage increase, decrease and original value problems and simple interest in financial mathematics Calculate key fractions, decimals and percentages of an amount without calculators Calculate key fractions, decimals and percentages of an amount with out calculators 	 Fractions and Percentages Define percentage as 'number of parts per hundred' Interpret diagrams as percentages and vice versa Find a percentage of an amount with or without a calculator Interpret percentages as a fraction or decimal Compare two quantities using percentages, and work with percentages greater than 100%. Express one number as a percentage of another 			
SPRING 2				
KNOWLEDGE	SKILLS	ASSESSMENT		
 Standard Index Form Understand how to solve problems with standard form 	 Standard Index Form Convert between numbers in ordinary and standard form Calculate with numbers given in standard form, with and without a calculator 	Class Discussions Q&A Practical Observations		

 Angles in Parallel Lines and Polygons Apply the properties if angles at a point, angles on a straight line and vertically opposite angles Understand and use the relationship between parallel lines and alternate and corresponding angles Derive and use the sum of the angles in a triangle and use it to deduce the angle sum in any polygon Use standard conventions for labelling sides and angles 	 Angles in Parallel Lines and Polygons Review Year 7 angles rules Identify angles in parallel lines Revisit geometric notation Work angles in special quadrilaterals Find and use the sum of the interior angles of a polygon Prove simple geometric facts 	Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test		
	SUMMER1			
KNOWLEDGE	SKILLS	ASSESSMENT		
 Area of Trapezia and Circles Derive and apply formulae to calculate and solve problems involving perimeter and area of triangles, parallelograms, trapezia and circles. Lines of Symmetry and Reflection 	 Area of Trapezia and Circles Review area of shapes covered in Year 7 Calculate the area of a trapezium Calculate the area of a circle and the areas of parts of a circle Use significant figures Calculate the area of compound shapes Lines of Symmetry and Reflection	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test		
 Describe, sketch and draw using conventional terms and notations, point, parallel lines, perpendicular lines, right angles, regular polygons, and other polygons that reflectively and rotationally symmetric Identify properties of and describe the results of reflections applied to given figures 	 Recognise line symmetry in polygons and other shapes Reflect shapes in horizontal, vertical and diagonal lines 			
SUMMER 2				
KNOWLEDGE	SKILLS	ASSESSMENT		
 The Handling Data Cycle Set up a statistical enquiry Design and criticise questionnaires Draw and interpret pictograms, bar charts and vertical line charts 	 The Handling Data Cycle Understand and use primary and secondary sources of data Collect data, including questionnaires Interpret and construct statistical diagrams, including multiple bar charts. Identify misleading graphs 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters		

 Draw and interpret multiple bar charts Draw and interpret pie charts Draw and interpret line graphs Choose the most appropriate diagram for given set of data • Represent and interpret grouped quantitative data • Find and interpret the range Compare distributions using charts Identify misleading graphs 		Summative Assessment Formative Assessment EOT Assessment/Test
 Measure of Location and Dispersion Describe, interpret and compare observed through appropriate measures of central tendency, such as the mean, mode, median and spread (range and outliers) 	 Measure of Location and Dispersion Revisit the median and mean, including finding the total given the mean Find the mean of grouped data Work out the mode and modal class Choose the appropriate average Comparing distributions using measures 	

KS3: Y3 - 2025-2026 - MATHS FRAMEWORK FOR LEARNING

AUTUMN 1		
KNOWLEDGE	SKILLS	ASSESSMENT
 FDP and Percentages Convert between fractions, decimals and fractions Work out Percentage Change Increase/Decrease by a percentage Use compound Interest formula Work with reverse percentages 	 FDP and Percentages Use percentage multipliers Use addition, subtraction, multiplication and division Calculate FDP conversions Mathematically reason Solve multi-step word problems 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test
 Expressions Simplify Expressions Simplify Indices Expand and Factorise Simplify algebraic fractions 	 Expressions Use the four operations to perform calculations with fractions Use mental methods Solve multistep word problems Pattern recognition Mathematically reason 	

Handling Data	Handling Data	
 Use different sampling methods 	Use mental methods	
Organise data	Solve multistep word problems	
Represent Data	Pattern recognition	
 Work with averages and spread 	 Understand trends and relationships 	
	Use mathematical equipment	
	Mathematically reason	

AUTUMN 2

KNOWLEDGE	SKILLS	ASSESSMENT
Equations • Solve Linear Equations • Solve quadratics by factorising • Solve inequalities • Solve simultaneous equations • Rearrange formula	 Equations Use the four operations to perform calculations with integers and fractions Use mental methods Solve multistep word problems Pattern recognition Mathematically reason 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment
 Angles in Polygons Calculating missing angles: - around a point in a straight line in a triangle in a quadrilateral in parallel lines Understand and use coordinates Understand Congruence Use similarity facts Understand and use angle sum in polygons. 	 Angles in Polygons Use addition, subtraction, multiplication and division Calculate FDP conversions Use mental methods Solve multistep word problems. 	EOT Assessment/Test
 Linear Graphs Work with coordinates Rearrange equations Plot linear graphs Find the gradient Apply y = mx + c Find the equation of a line given two points 	 Linear Graphs Simplify expressions Substitute into formula Read from axes Draw and label axes Use mathematical equipment Use addition, subtraction, multiplication and division 	

SPRING1

KNOWLEDGE	SKILLS	ASSESSMENT
 Working in 2D Measure lengths and angles Find area of 2D Shapes Use the four transformations: rotation, reflection, translation and enlargement. 	 Working in 2D Measure and construct 2D shapes using a range of mathematical equipment Complete and describe single and multiple transformations on a 2D shape 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment
 Probability Conduct and interpret probability experiments Work out expected outcomes Work out and use theoretical probability Understand mutually exclusive events 	 Probability Simplify expressions Use addition, subtraction, multiplication and division Use language in probability Use experiments to calculate relative probabilities and know the limitations Calculate the probability of single and multiple events 	Formative Assessment EOT Assessment/Test
 Pythagoras and Trigonometry Use Pythagoras to find missing lengths Problem solve with Pythagoras Use trigonometry to find missing angle Use trigonometry to find a missing side 	 Pythagoras and Trigonometry Calculate the value of an unknown side or angles of a right-angled triangle including in context using Pythagoras' theorem or trigonometry Substitute into formula Use calculators effectively and accurately Recall and manipulate formulae 	

SPRING 2	
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KNOWLEDGE	SKILLS	ASSESSMENT
 Circles Find the circumference of a circle Find the area of a circle Find the arc length and area of a sector. 	Circles Use mental methods for addition, subtraction, multiplication and division Solve multistep word problems Use mathematical equipment Estimate by rounding Able to mathematically reason 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test
 Working with 3D Shapes Name and know the properties of 3D shapes Find the volume of a prism Find the volume and surface area of prisms and spheres. 	 Working with 3D Shapes Identify a variety of 3D shapes and their component sides (especially the base) Use mental methods for addition, subtraction, multiplication and division Solve multistep word problems Use mathematical equipment 	



SUMMER1

KNOWLEDGE	SKILLS	ASSESSMENT	
Sequences • Understand and use sequence rules • Work out and use nth term of linear sequences • Recognise special sequences • Find the nth term of a Quadratic Sequences • Find the nth term of a Quadratic Sequences • Understand and use sets • Construct and interpret tree diagrams	 Sequences Able to recognise patterns and form relationships between list of numbers Use mental methods for addition, subtraction, multiplication and division Solve multistep word problems Use mathematical equipment Able to mathematically reason Combined Events Able to manipulate fractions Represent data in various formats Use mental methods for addition, subtraction, multiplication and division Solve multistep word problems Able to manipulate fractions Represent data in various formats Use mental methods for addition, subtraction, multiplication and division Solve multistep word problems Use mathematical equipment Able to mathematical equipment 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test	
SUMMER 2			
KNOWLEDGE	SKILLS	ASSESSMENT	

 Maths and Money Solve problems with bills and bank statements Calculate simple interest Calculate compound interest Solve problems with VAT Calculate wages and taxes Solve problems with exchange rates Solve unit pricing problems 	 Maths and Money Understand how to analyse payments on a bank statement How interest is charged and how to calculate the rate of interest including compound interest What VAT is and how it is calculated - when VAT is charged Understand a payslip and how take home pay is worked out How exchange rates can impact merchandise trade, economic growth, capital flows, inflation and interest rates To find the unit price of something, by dividing the cost by the number of 	Class Discussions Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test



KS4: Y1 - 2023-2024 - MATHS FRAMEWORK FOR LEARNING











Literacy and Communication

AUTUMN 1-NUMBER

KNOWLEDGE	SKILLS	ASSESSMENT
NUMBER SKILLS and ROUNDING		Class Discussions
 Read, write, order and compare large numbers (up to one million) 	 Read and write, in both word and numerical form, very large numbers (up to one million) and very small numbers Understand place value in very large (up to one million) and very small numbers Understand positive and negative whole numbers, including zero Order and/or compare positive and/or negative numbers given as whole number 	Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test
 Recognise and use positive and negative numbers 	 Add and subtract large numbers (up to one million) using non-calculator and calculator methods Multiply and divide negative numbers using non-calculator and calculator methods Add and subtract negative numbers using non-calculator and calculator methods 	

	 Check their calculations using reverse calculation Multiply and divide negative numbers using non-calculator and calculator methods Add and subtract negative numbers using non-calculator and calculator methods Check their calculations using reverse calculation 		
 Multiply and divide whole numbers and decimals by 10, 100, 1000 	 Multiply whole numbers by 10, 100 and 1000 Multiply large numbers (two digits by two digits or two digits by one digit) using non-calculator methods Multiply large numbers (up to one million) with other large numbers using a calculator Check their calculations using reverse calculation Divide whole numbers by 10, 100 and 1000 Divide large numbers (up to three digits) by one digit and two digit whole numbers using non-calculator methods Divide large numbers (up to one million) with other large numbers using a calculator Check their calculations using reverse calculation 		
Calculate the squares of one-digit and two-digit numbers	 Understand squares of a number, and calculate this using calculator and non-calculator methods. (i.e. 25 = 5 x 5) 		
• Follow the order of precedence of operators (BIDMAS)	• Use the hierarchy of operations to carry out calculations (BIDMAS/BODMAS) including the use of square numbers		
 Approximate by rounding to a whole number or to one or two decimal places 	 Round numbers to a different degree of accuracy, such as whole numbers, or 1 decimal place or 2 decimal places Estimate and approximate answers by rounding, such as 29 x 31 ≈ 30 x 30 		
AUTUMN 2 - NUMBER (cont)			

KNOWLEDGE	SKILLS	ASSESSMENT
DECIMALS		Class Discussions
 Read, write, order and compare decimals up to three decimal places 	 Write down the place value of a decimal digit such as the value of 3 in 0.63 Order positive and negative decimals to find the biggest and the smallest 	Practical Observations Peer to Peer Learning Information Posters
 Add, subtract, multiply and divide decimals up to two decimal places 	 Add and subtract decimals up to two decimal places using calculator and non-calculator methods Check the answers to calculations that involve decimals through use of estimation and approximation Multiply decimals up to two decimal places using non-calculator and calculator methods Multiply decimal numbers by 10, 100 and 1000 	Formative Assessment EOT Assessment/Test

PER	 Check the answers to calculations that involve decimals through use of estimation and approximation Divide decimals up to two decimal places using non-calculator and calculator methods Divide decimal numbers by 10, 100 and 1000 Check the answers to calculations that involve decimals through use of estimation and approximation 	
 Read, write, order and compare percentages in whole numbers 	 Understand that percentage means 'number of parts per 100' Work out the percentage of a shape that is shaded Shade a given percentage of a shape 	
• Calculate percentages of quantities, including simple percentage increases and decreases by 5% and multiples 5% e.g. 5%, 10%, 15%, 20%	 Calculate the percentage of a given quantity using non-calculator and calculator methods for multiples of 5% Read, write, order and compare percentages in whole numbers 	@5.41 ~76
 Calculate simple interest in multiples of 5% on amounts of money Calculate discounts in multiples of 5% on amounts of money 	 Increase and decrease a given percentage for multiples of 5% 	
 Read, write, order and compare percentages in whole numbers 	 Change a percentage to a fraction or decimal and vice versa Convert fractions to decimals and vice versa 	
 Recognise and calculate equivalencies between common fractions, decimals and percentages 	Compare fractions, decimals and percentages	
SPRING 1 - NUMBER (cont)		
KNOWLEDGE	SKILLS	ASSESSMENT
	FRACTIONS	Class Discussions
 Read, write, order and compare common fractions and mixed numbers 	 Find the fraction of a shape shaded Find equivalent fractions Order and compare common fractions including improper fractions Simplify fractions to their simplest form Convert between mixed numbers and improper fractions Order and compare fractions including mixed number 	Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test

 Find fractions of whole number quantities or measurements Estimate answers to calculations using fractions and decimals 	 Calculate fractions of whole number quantities or measurements Simplify fractions to estimate the answer Find a common denominator to compare fractions 	
	PROBABILITY	
 Understand probability on a scale from 0 (impossible) to 1 (certain) and use probabilities to compare the likelihood of events 	 Understand and use the vocabulary of probability including the terms likelihood, chance of etc Understand and use the probability scale Express a probability as a fraction, decimal or percentage 	
 Use equally likely outcomes to find the probabilities of simple events and express them as fractions 	 Use equally likely outcomes to express the probability of an event as a fraction, decimal or percentage Use probabilities to compare the likelihood of events. Identify different mutually exclusive events, and know that, if they cover all outcomes, the sum of their probabilities is 1 	al t K fa
	SPRING 2-HANDLING DATA	
KNOWLEDGE	SKILLS	ASSESSMENT
	STATISTICAL MEASURES	Class Discussions Q&A
 Find the mean and range of a set of quantities 	• Understand that increasing the sample size leads to better estimates	Practical Observations Peer to Peer Learning Information Posters Summative Assessment
	 Calculate the mean for a set of numbers Work out the range for a set of numbers Calculate the mean for a discrete frequency table 	Practical Observations Peer to Peer Learning Information Posters Summative Assessment
	 Calculate the mean for a set of numbers Work out the range for a set of numbers Calculate the mean for a discrete frequency table PERIMETER AND AREA	Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test

 Calculate the volumes of cubes and cuboids 	Calculate the volume of cubes and cuboids	
	SUMMER 1 - HANDLING DATA (cont)	
KNOWLEDGE	SKILLS	ASSESSMENT
COLL	ECTING AND REPRESENTING DATA	Class Discussions
 Represent discrete data in tables, diagrams and charts including pie charts, bar charts and line graph 	 Construct, compare and interpret pictograms Construct, compare and interpret line graphs Construct, compare and interpret bar charts Construct, compare and interpret dual bar charts Construct a pie chart 	Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test
 Group discrete data and represent grouped data graphically 	 Represent grouped data dual bar charts and pie charts Group discrete data into a grouped frequency table Represent grouped data in pictograms, line graphs, bar charts Compare and interpret data from data in tables, diagrams and charts including pie charts, bar charts and line graphs for a range of contextual themes 	
	RATIO AND PROPORTION	
 Use multiplication facts and make connections with division facts 	Simplify a ratio to its simplest form	
 Work with simple ratio and direct proportions 	• Solve simple problems using ratio where one number is a multiple of another	of the Kta
	SUMMER 2 - HANDLING DATA (cont)	
KNOWLEDGE	SKILLS	ASSESSMENT
PRO	PERTIES OF ANGLES AND SHAPES	Class Discussions Q&A
• Draw 2D shapes and demonstrate an understanding of line symmetry and knowledge of the relative size of angles	 Recognise, name and identify the properties of simple 2D shapes including information of line symmetry and knowledge of angles Draw 2D shape Identify scalene, isosceles, equilateral and right-angled triangles Use angle properties for 2D shapes including the properties of triangle angles 	Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test

• Use angles when describing position and direction, and measure angles in degrees	 Recognise acute, obtuse, right and reflex angles Estimate angles and measure them accurately in degrees Use angles when describing position and direction 	
Interpret plans, elevations and nets of simple 3D shapes	 Recognise the net of a simple solid Recognise and name 3D solids Sketch 3D solids Draw the net of a simple shape, such as a box of chocolates Draw the front elevation, side elevation and plan view of a solid Draw 3D shapes using common 2D representations 	

KS4: Y2 - 2024-2025 - MATHS FRAMEWORK FOR LEARNING

AUTUMN 1 - MEASURE, SHAPE AND SPACE

KNOWLEDGE	SKILLS	ASSESSMENT
	SCALE DIAGRAMS	Class Discussions Q&A
 Recognise and make use of simple scales on maps and drawings 	 Measure a line accurately to the nearest millimetre Use simple scale drawings to identify the actual dimensions, such as a scale drawing of a garden Recall and use the 8 points of a compass 	Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test
 Convert between units of length, weight, capacity, money and time, in the same system 	 Know and use standard metric and imperial measures Interpret scales on a range of measuring instruments, including those for time, temperature and weight Use conversions for metric measures including length, capacity and weight Use conversions for imperial measures including length, capacity and weight 	
	ALGEBRA	

Use simple formulae expressed in words for one and two-step operations	 Follow a simple one-step or two-step formulae expressed in word Work out the value of a simple expression when it is given in symbols 	
	AUTUMN 2 - DIGITAL LITERACY	
KNOWLEDGE	SKILLS	ASSESSMENT
	SPREADSHEETS	Class Discussions Q&A
 What is a spreadsheet Create a spreadsheet Collating data in a spreadsheet Create graphs using spreadsheets 	 Know how to create a spreadsheet and record data Know how to collate and format data in an organised way using Google Sheets Know how to create, label and explain graphs from a range of data provided 	Practical Observations Peer to Peer Learning Information Posters Summative Assessment
	DATABASES	EOT Assessment/Test
 Understand what a database is and how to use it Different parts of a database Create information including: charts reports calculates statistics Evaluate data 	 Know how to: create a database collect information for a database know how to sort and group information 	
	BINARY	
 Understand what Binary numbers are Why Binary numbers are used in Computing 	 Know how to: convert Binary numbers into Denary numbers (Decimal) convert Denary numbers into Binary numbers know how to add Binary Numbers 	al the

SPRING 1 - FINANCIAL CAPABILITY

KNOWLEDGE	SKILLS	ASSESSMENT
	PERSONAL FINANCE	Class Discussions
 Introduction to Finance Income and Tax Expenditure and Budgeting Debt Credit Security Money Mindset Financial Features Fintok Project FinTok Project 	 To Understand what finance is and think about the importance of financial choices. To understand what income and income tax is and how this affects your pay To understand how to budget your income To understand debt and how to manage it To understand what credit is and how to manage it To understand how to protect your finances To consider the consequences and rewards of financial choices To understand how managing your finances can help achieve full potential To prepare and plan for a 'FinTok'piece of content using knowledge of Financial Literacy 	Q&A Practical Observations Peer to Peer Learning Information Posters Summative Assessment Formative Assessment EOT Assessment/Test
SECTION 1-S	PENDING SENSE - MANAGING MY MONEY	9 9 9
1.1 - Money, Money, Money	 To understand different forms of money To be able to use coins confidently To understand the characteristics of money 	
1.2 - Getting to grips with money	 To understand the value of coins and notes and be able to carry out simple instructions To be able to calculate change to be given To be able to identify and discuss different payment methods for different types of goods and services 	
1.3 - Needs and wants	 To identify items that are needs and wants To understand that we all have different needs and wants To understand how different situations may influence our spending 	
1.4 - Managing my money	 To be able to calculate the difference between income and expenses To understand the problems of overspending To investigate how to reduce spending on a budget 	
1.5 - Bedroom on a budget	 Understand the concept of spending within a given budget Understand the benefits of managing a budget successfully Understand value for money 	
1.6 - Saving - every little helps	 To understand why it is important to save money To understand different ways of saving money 	

	 To understand where to safely store our savings 	
1.7 - Seeking financial advice	 Understand how certain financial situations can affect a person's health and wellbeing To be able to search for financial help and support online To explore organisations who can offer free, confidential financial help and support 	
SPRING 2	- FINANCIAL CAPABILITY (cont)	
KNOWLEDGE	SKILLS	ASSESSMENT
SECTIO	N 2 - MAKING FINANCIAL DECISIONS	Class Discussions Q&A
2.1 - Eat well for less	 Plan and cost a pizza meal exploring different options Understand value for money when preparing a meal Understand how healthy eating can improve your physical and mental wellbeing 	Practical Observations Peer to Peer Learning Information Posters Summative Assessment
2.2 - Ethical Spending	 To be able to identify ethical products To understand why people make ethical choices To be able to discuss the advantages and disadvantages of buying ethical products 	Formative Assessment EOT Assessment/Test
2.3 - Where do I buy?	 To raise awareness about how advertising is used to influence consumer spending To recognise some of the techniques used by advertisers to influence spending To understand the language used when designing their own advert 	
2.4 - Gambling	 To identify different types of gambling and the potential associated risks To understand the effects that gambling can have on finances, relationships and wellbeing To understand how to seek help and support if gambling becomes a problem 	
2.5 - Borrowing and debt	 To explore different ways of borrowing money to suit individual needs To be able to explain manageable and unmanageable debt To know that APR rates is one way to compare different loans 	
2.6 - Understanding insurance	 To understand that there are different financial risks that can affect people To be able to identify different types of insurance to cover people against losses or circumstances To recognise that sometimes alternatives to insurance may be more appropriate to an an individual's needs 	 ♥ 1) 44 /** (%)
2.7 - Opening a bank account	 To understand the reasons why people may need a bank account To understand the documentation required to open a bank account To research different accounts that best suit and individual's needs 	

	SECTION 3 - SAFETY FIRST
3.1 - Online shopping	 To be aware of how price comparison and auction sites can help people make financial decisions about buying goods and services online To understand the benefits and potential problems of shopping online To be able to make decisions if things go wrong when online shopping
3.2 - Is it OK?	 To understand some of the risks associated with different ways of making money To understand some of the legal implications of making money To consider a number of ethical and moral dilemmas and be able to respond appropriately
3.3 - Protecting yourself online	 To recognise the ways information is shared online To understand why people need to protect their identity online To know what to do if someone uses your personal information illegally
3.4 - Online scams	 To recognise different types of financial scams To be able to identify the characteristics of scams To be able to take steps to prevent being a victim of financial scams
3.5 - Buyer beware: in-app purchases	 To raise awareness of the dangers of in-app purchases To understand the consequences of signing up to online subscriptions To know what to do to in the event of unknowingly signing up to an online subscription
SECTION 4 - THE WORLD OF WORK	
4.1 - The world of work	 To identify UK average starting salaries for a range of different job roles To identify the factors that influence how much money people earn To produce a personalised career plan including a range of jobs/salaries that interest you
4.2 - Understanding your payslip	 To understand the key terms on a payslip To understand how to take home pay is calculated To be able to check a payslip for accuracy
4.3 - Earning Money	 To have an awareness of the law about working and earning money for under 16's To be able to identify some working environments that are illegal for under 16's To be able to access up to date information about child employment