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Academic outline 2024-25

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Mathematics

	Term 1 Aug-Oct	Term 2 Nov-Dec	Term 3 Jan-Feb	Term 4 Mar-Apr	Term 5 Apr-May	Term 6 Jun-Jul
Year 7:	Sequences Algebraic Notation Equality and Equivalence Home Learning White Rose Maths Oak Academy link 1 Oak Academy link 2	Place Value and Ordering Numbers FDP equivalence Home Learning White Rose Maths Oak Academy link 1 Oak Academy link 2	Solving Problems with Addition/Subtraction Solving Problems with Multiplication/Division Fractions and Percentages of Amounts Home Learning White Rose Maths Oak Academy link 1 Oak Academy link 2 Oak Academy link 3 Oak Academy link 4	Operations and Equations with Directed Numbers Addition and Subtraction of Fractions Home Learning White Rose Maths Oak Academy link 1 Oak Academy link 2	Constructing, Measuring and Using Geometric Notation Developing Geometric Reasoning Home Learning White Rose Maths Oak Academy link 1 Oak Academy link 2	Developing Number Sense Sets and Probability Prime Numbers and Proof Home Learning White Rose Maths Oak Academy link 1 Oak Academy link 2
Year 8:	Ratio and Scale Multiplicative Change Multiplying and dividing fractions Home Learning White Rose Maths Oak Academy link 1 Oak Academy link 2 Oak Academy link 3	Working in the Cartesian plane Representing data Tables and probability Home Learning White Rose Maths Oak Academy link 1 Oak Academy link 2 Oak Academy link 3	Brackets, equations and inequalities Sequences Indices Home Learning White Rose Maths Oak Academy link 1 Oak Academy link 2 Oak Academy link 3	Fractions and Percentages Standard Index Form Number Sense Home Learning White Rose Maths Oak Academy link 1 Oak Academy link 2 Oak Academy link 3	Angles in parallel lines and polygons Area of trapezia and circles Line symmetry and reflection Home Learning White Rose Maths Oak Academy link 1 Oak Academy link 2 Oak Academy link 3	The Data Handling Cycle Measures of Location Home Learning White Rose Maths Oak Academy Link 1



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<p>Year 9</p>	<p>Straight line graphs Forming and solving equations Testing Conjectures Home Learning White Rose Maths</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3</p>	<p>Three-dimensional shapes</p> <p>Constructions and Congruency</p> <p>Home Learning White Rose Maths</p> <p>Oak Academy link 1 Oak Academy link 2</p>	<p>Numbers</p> <p>Using percentages</p> <p>Maths and Money Home Learning White Rose Maths</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3</p>	<p>Deduction</p> <p>Rotation and Translation</p> <p>Pythagoras</p> <p>Home Learning White Rose Maths</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3</p>	<p>Enlargement and Similarity</p> <p>Solving ratio and proportion problems</p> <p>Rates Home Learning White Rose Maths</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3</p>	<p>Probability</p> <p>Algebraic representation</p> <p>Revision</p> <p>Home Learning White Rose Maths</p> <p>Oak Academy link 1 Oak Academy link 2</p>
<p>Year 10 : GCSE HIGHER</p>	<p>Representing solutions of equations & inequalities</p> <p>Simultaneous Equation</p> <p>Home Learning White Rose Maths</p> <p>Oak Academy link 1 Oak Academy link 2</p>	<p>Congruence, similarity & enlargement</p> <p>Trigonometry Home Learning White Rose Maths</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3 Oak Academy link 4</p>	<p>Angles and Bearings</p> <p>Working with circles</p> <p>Vectors Home Learning White Rose Maths</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3 Oak Academy link 4</p>	<p>Ratios & Fractions</p> <p>Percentages & Interest</p> <p>Probability Home Learning White Rose Maths</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3</p>	<p>Delving into data</p> <p>Home Learning White Rose Maths</p> <p>Oak Academy link 1 Oak Academy link 2</p>	<p>Non-calculator methods</p> <p>Types of Number and sequences</p> <p>Indices & Roots</p> <p>Home Learning White Rose Maths</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3</p>
<p>Year 10: GCSE FOUNDATION</p>	<p>Decimals and Fractions</p> <p>Expressions and Formulae</p> <p>Linear Equations</p> <p>Oak Academy link 1 Oak Academy link 2</p>	<p>Approximations</p> <p>Ratio, Speed and Proportion</p> <p>Angles</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3 Oak Academy link 4</p>	<p>Perimeter and Area</p> <p>Transformations</p> <p>Linear Graphs</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3</p>	<p>Volumes and Surface Areas of Prisms & Curved Shapes and Pyramids</p> <p>Charts, Tables and Averages</p> <p>Oak Academy link 1 Oak Academy link 2</p>	<p>Number and Sequences</p> <p>Linear Inequalities</p> <p>Probability and Events</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3</p>	<p>Pythagoras' Theorem</p> <p>Measures and Scale Drawings</p> <p>Oak Academy link 1 Oak Academy link 2</p>



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Year 11: GCSE HIGHER	<p>Graphs</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3 Oak Academy link 4 Oak Academy link 5</p>	<p>Algebra</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3 Oak Academy link 4</p>	<p>Reasoning</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3 Oak Academy link 4</p>	<p>Revision and Communication</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3 Oak Academy link 4</p>	Revision	Exams
Year 11: GCSE FOUNDATION	<p>Simultaneous Equations</p> <p>Percentages and Compound Measures</p> <p>Percentages and Variation</p> <p>Oak Academy link 1 Oak Academy link 2</p>	<p>Powers and Standard Form</p> <p>Quadratics</p> <p>Representation and Interpretation</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3</p>	<p>Non linear graphs</p> <p>Combined Events</p> <p>Constructions and Loci</p> <p>Congruence and Similarity</p> <p>Vectors</p> <p>Oak Academy link 1 Oak Academy link 2 Oak Academy link 3 Oak Academy link 4 Oak Academy link 5</p>	<p>Right angled triangles</p> <p>Revision</p> <p>Oak Academy link 1</p>	Revision	Exams



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Curriculum overview

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Subject	Mathematics	Year group	7
Vision statement:	<p>At Landau Forte our curriculum exists to ensure all students regardless of background and ability have the opportunity to unlock their potential. We are committed to students being challenged from their previous key stage learning experiences. Our broad and balanced curriculum is ambitious, coherently planned and sequenced, and will provide the platform for preparing students with the foundations for examination success.</p> <p>Our Curriculum Intent has been informed by a wide variety of researchers and is steeped in evidence based research. Christine Counsell summarises the aspiration of our curriculum to empower all learners creating a pathway to success in university, their career and life:</p> <p><i>'A curriculum exists to change the pupil, to give the pupil new power. One acid test for a curriculum is whether it enables even lower attaining or disadvantaged pupils to clamber into the discourse and practices of educated people, so that they gain powers of the powerful.'</i></p> <p>As well as excellent academic success we aim to ensure our students leave us as polite and well-rounded young adults. Our new core values of Compassion, Courage and Curiosity are currently being embedded throughout our curriculum offer to ensure we continue to meet our social, emotional, spiritual and moral obligations.</p>		
Curriculum intent:	<p>All students acquire the mathematical life skills necessary for the world of work, no matter what their starting point is, catering for all abilities and backgrounds. We have a strong belief that all students can achieve in Maths.</p> <p>Students will be taught to have a firm understanding of number bonds and be confident in using non-calculator strategies for solving problems.</p> <p>Students will be stretched and challenged through problem solving tasks to develop resilience.</p> <p>Students are encouraged to show courage through attempting questions in environment where other students show compassion through a culture of being non-judgmental when questions are answered incorrectly. Students are also encouraged to show curiosity through asking questions and taking a genuine interest in the real life applications of the Maths that they are learning.</p> <p>This will be achieved by staff working together in planning lessons that allow ALL students to achieve/ exceed their potential through:</p> <p>Common lesson planning formats; Expert knowledge of the subject; Differentiated material;</p> <p>Regular use of AfL to assess progress in a lesson; Regular use of formal marking and feedback;</p> <p>Regular summative assessments to ensure appropriate progress and intervention.</p>		
Threshold Concepts (TCs):	<p>TC1 Algebraic manipulation - This concept involves recognising mathematical properties and relationships using symbolic representation</p> <p>TC2 Number sense - This concept involves understanding the number system and how they are used in a wide variety of mathematical ways</p> <p>TC3 Shape facts - This concept involves recognising the names and properties of geometry shapes and angles.</p> <p>TC4 Multiplicative reasoning - This concept involves using ratio and proportion and understanding of reciprocals in real world applications</p> <p>TC5 Representing and interpreting data - This concept involves interpreting, manipulating and presenting data in various ways.</p> <p>TC6 Calculator skills - This concept involves fluent application of mathematical operations on a scientific calculator</p> <p>TC7 Understanding and calculating risk - This concept involves knowing the rules of probability in the correct context</p>		



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KS2 National Curriculum summary:

The curriculum ensures that all pupils around England get the essential knowledge they need to become educated citizens. So, it doesn't matter which school or area children are studying at - they will develop the same fundamental maths skills. Included in this frame of work are curriculum aims, which pupils need to meet at the end of each school year. Children who want to expand their knowledge even further will get the opportunity to do so. But essentially, they will all start from basics by learning about the key topic areas covered in the national curriculum for KS2 maths.

The eight main maths areas, which are included in the national curriculum for maths throughout KS2 are:

- Number - Number and Place Value
- Number - Addition and Subtraction
- Number - Multiplication and Division
- Number - Fractions
- Measurement
- Geometry - Properties of Shape
- Geometry - Position and Direction (not included in year 3)
- Statistics

As pupils get to year 6, they would have developed a deep understanding of these maths concepts. That's why two additional topic areas are introduced to the curriculum, which are:

- Ratio and Proportion
- Year 6 Algebra









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<p>Learner skills:</p>	<p>Critical thinking</p>  <p>CRITICAL THINKING</p>	<p>Organisation</p>  <p>ORGANISATION</p>	<p>Collaboration</p>  <p>COLLABORATION</p>	<p>Adaptability</p>  <p>ADAPTABILITY</p>	<p>Oracy</p>  <p>ORACY</p>	<p>Self-quizzing</p>  <p>SELF QUIZZING</p>
	Term 1 Aug-Oct	Term 2 Nov-Dec	Term 3 Jan-Feb	Term 4 Mar-Apr	Term 5 Apr-May	Term 6 Jun-Jul
<p>The Big Question</p>						
<p>Big picture questions:</p>	<p>How do you find and generate patterns?</p>	<p>How can you write numbers in different ways?</p>	<p>What strategies do I need for different operations?</p>	<p>How do you work with fractions?</p>	<p>How do I use mathematical equipment accurately?</p>	<p>How can I use Venn diagrams to solve maths problems?</p>
<p>Content (Linked to TCs):</p>	<p>TC1 – Algebraic Manipulation TC2 – Number Sense TC6 – Calculator Skills</p> <ul style="list-style-type: none"> Describe and continue a sequence given diagrammatically Predict and check the next term(s) of a sequence Represent sequences in tabular and graphical forms Recognise the difference between linear and non-linear sequences Continue numerical linear sequences Continue numerical non-linear sequences 	<p>TC2 – Number Sense TC6 – Calculator Skills</p> <ul style="list-style-type: none"> Recognise the place value of any digit in an integer up to one billion Understand and write integers up to one billion in words and figures Work out intervals on a number line Position integers on a number line Round intervals to the nearest power of 10 Compare two numbers using =, ≠, <, >, ≤ and ≥ 	<p>TC2 – Number Sense TC6 – Calculator Skills</p> <ul style="list-style-type: none"> Properties of addition and subtraction Mental strategies for addition and subtraction Use formal methods for addition of integers Use formal methods for addition of decimals Use formal methods for subtraction of integers Use formal methods for 	<p>TC2 – Number Sense</p> <ul style="list-style-type: none"> Understand and use representations of directed numbers Order directed numbers using lines and appropriate symbols Perform calculations that cross zero Add directed numbers Subtract directed numbers Multiplication of directed numbers Multiplication and division of directed numbers 	<p>TC3 – Shape Facts</p> <ul style="list-style-type: none"> Understand and use letter and labelling conventions including those for geometric figures Draw and measure line segments including geometric figures Understand angles as a measure of turn Classify angles Measure angles up to 180 degrees. Draw angles up to 180 degrees. Draw and measure angles between 180 and 360 degrees 	<p>TC2 – Number Sense TC7 – Understanding and Calculating Risk</p> <ul style="list-style-type: none"> Know and use mental addition and subtraction strategies for integers Know and use mental multiplication and division strategies for integers Know and use mental strategies for decimals Know and use mental strategies for fractions Use factors to simplify calculations



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- Explain the term-to-term rule of numerical sequences in words
- H - Find missing numbers within sequences
- 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 single operation expressions
- Find numerical inputs and outputs for a series of two function machines
- Use diagrams and letters with a series of two function machines
- Find the function machine given a two-step expression
- Substitute values into two-step expressions
- Generate sequences given an algebraic rule

- Order a list of integers
- Find the range of a set of numbers
- Find the median of a set of numbers
- Understand place value for decimals
- Position decimals on a number line
- Compare and order any number up to one billion
- Round a number to 1 significant figure
- H - Write 10, 100, 1000 etc as powers of 10
- H - Write positive integers in the form $A \times 10^n$
- H - Investigate negative powers of 10
- H - Write decimals in the form $A \times 10^n$
- Represent tenths and hundredths as diagrams
- Represent tenths and hundredths on number lines
- Interchange between fractional and decimal number lines

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- subtraction of decimals
- Choose the most appropriate method: mental strategies, formal written or calculator
- Solve problems in the context of perimeter
- Solve financial maths problems
- Solve problems involving tables and timetables
- Solve problems with frequency trees
- Solve problems with bar charts and line charts
- H - Add and subtract numbers given in standard form
- Properties of multiplication and division
- Understand and use factors
- Understand and use multiples
- Multiply and divide integers and decimals by powers of 10

- Use a calculator for directed number calculations
- Evaluate algebraic expressions with directed number
- Introduction to two-step equations
- Solve two-step equations
- Use order of operations with directed numbers
- H - Understand that positive numbers have more than one square root
- H - Explore higher powers and roots
- Understand representations of fractions
- Convert between mixed numbers and fractions
- Add and subtract unit fractions with the same denominator
- Add and subtract fractions with the same denominator
- Add and subtract fractions from integers expressing the answer as a single fraction

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- Identify parallel and perpendicular lines.
- Recognise types of triangle
- Identify polygons up to decagons.
- Recognise types of quadrilaterals
- Construct triangles using SSS
- Construct triangles using SSS, SAS and ASA
- Construct more complex polygons
- Interpret simple pie charts using proportion
- Interpret pie charts using a protractor
- Draw pie charts
- 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 angles in a triangle
- Know and apply the sum of angles in a quadrilateral

- Use estimation as a method for checking mental calculations
- Use known number facts to derive other facts
- Use known algebraic facts to derive other facts
- Know when to use a mental strategy, formal written method or a calculator
- Identify and represent sets
- Interpret and create Venn diagrams
- Understand and use the intersection of sets
- Understand and use the union of sets
- H - Understand and use the complement of sets
- Know and use the vocabulary of probability
- Generate sample spaces for single events
- Calculate the probability of a single event
- Understand and use the probability scale





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- Represent one- and two-step functions graphically
- Understand the meaning of equality
- Understand and use fact families, numerically and algebraically
- Solve one-step linear equations involving addition and subtraction using inverse operations
- Solve one-step linear equations involving multiplication and division using inverse operations
- Understand the meaning of like and unlike terms
- Understand the meaning of equivalence
- Simplify algebraic expressions by collecting the like term using the \equiv symbol

- Convert between fractions and decimals - tenths and hundredths
- Convert between fractions and decimals - fifths and quarters
- H - Convert between fractions and decimals - eighths and thousandths
- Understand the meaning of percentage using a hundred square
- Convert fluency between simple fractions, decimals and percentages
- Use and interpret pie charts
- Represent any fraction as a diagram
- Represent fractions on number lines
- Identify and use simple equivalent fractions
- Simplify fractions (no small step on this - but this is in the assessment)
- Understand fractions as division

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- H - Multiply by 0.1 and 0.01
- Convert metric units
- Use formal methods to multiply integers
- Use formal methods to multiply decimals
- Use formal methods to divide integers
- Use formal methods to divide decimals
- Understand and use order of operations
- Solve problems using the area of rectangles and parallelograms
- Solve problems using the area of triangles
- H - Solve problems using the area of trapezia
- Solve problems using the mean
- H - Explore multiplication and division in algebraic expressions
- Find a fraction of a given amount
- Use a given fraction to find the whole

- Understand and use equivalent fractions
- Add and subtract fractions where denominators share a simple common multiple
- Add and subtract fractions with any denominator
- Add and subtract improper fractions and mixed numbers
- Use fractions in algebraic contexts
- Use equivalence to add and subtract decimals and fractions
- H - Add and subtract simple algebraic fractions

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- Solve angle problems using properties of triangles and quadrilaterals
- Solve complex angle problems
- H - Find and use the angle sum of any polygon
- H - Investigate angles in parallel lines
- H - Understand and use parallel line angle rules
- H - Use known facts to obtain simple proofs

- Know that the sum of probabilities of all possible outcomes is 1
- Find and use multiples
- Identify factors of numbers and expressions
- Recognise and identify prime numbers
- Recognise square and triangular numbers
- Find common factors of a set of numbers including the HCF
- Find common multiples of a set of numbers including the LCM
- Write a number as a product of its prime factors
- H - Use a Venn diagram to calculate the HCF and LCM
- Make and test conjectures
- Use counterexamples to disprove a conjecture





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		<ul style="list-style-type: none"> • Convert fluently between FDP • H - Explore fractions above one, decimals and percentages 	<ul style="list-style-type: none"> • and/or other fractions • Find a percentage of a given amount using mental methods • Find a percentage of a given amount using a calculator • H - Solve problems with fractions greater than 1 and percentages greater than 100% 			
Key vocabulary:	<p>Sequence: items or numbers put in a pre-decided order</p> <p>Term: a single number or variable</p> <p>Position: the place something is located</p> <p>Rule: instructions that relate two variables</p> <p>Linear: the difference between terms increases or decreases by the same value each time</p> <p>Non-linear: the difference between terms increases or decreases in different amounts</p> <p>Difference: the gap between two terms</p>	<p>Approximate: To estimate a number, amount or total often using rounding of numbers to make them easier to calculate with</p> <p>Integer: a whole number that is positive or negative</p> <p>Interval: between two points or values</p> <p>Median: A measure of central tendency (middle, average) found by putting all the data values in order and finding the middle value of the list.</p> <p>Negative: Any number less than zero; written with a minus sign.</p>	<p>Commutative: changing the order of the operations does not change the result</p> <p>Associative: when you add or multiply you can do so regardless of how the numbers are grouped</p> <p>Inverse: the operation that undoes what was done by the previous operation. (The opposite operation)</p> <p>Placeholder: a number that occupies a position to give value</p> <p>Perimeter: the distance/ length around a 2D object</p>	<p>Subtract: taking away one number from another.</p> <p>Negative: a value less than zero.</p> <p>Commutative: changing the order of the operations does not change the result</p> <p>Product: multiply terms</p> <p>Inverse: the opposite function</p> <p>Square root: a square root of a number is a number when multiplied by itself gives the value (symbol)</p> <p>Square: a term multiplied by itself.</p>	<p>Polygon: A 2D shape made with straight lines</p> <p>Scalene triangle: a triangle with all different sides and angles</p> <p>Isosceles triangle: a triangle with two angles the same size and two angles the same size</p> <p>Right-angled triangle: a triangle with a right angle</p> <p>Frequency: the number of times a data value occurs</p> <p>Sector: part of a circle made by two radii touching the centre</p>	<p>Commutative: changing the order of the operations does not change the result</p> <p>Associative: when you add or multiply you can do so regardless of how the numbers are grouped</p> <p>Dividend: the number being divided</p> <p>Divisor: the number we divide by.</p> <p>Expression: a maths sentence with a minimum of two numbers and at least one math operation (no equals sign)</p> <p>Equation: a mathematical statement</p>



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<p>Arithmetic: a sequence where the difference between the terms is constant</p> <p>Geometric: a sequence where each term is found by multiplying the previous one by a fixed non zero number</p> <p>Function: a relationship that instructs how to get from an input to an output.</p> <p>Input: the number/ symbol put into a function.</p> <p>Output: the number/ expression that comes out of a function.</p> <p>Operation: a mathematical process</p> <p>Inverse: the operation that undoes what was done by the previous operation. (The opposite operation)</p> <p>Commutative: the order of the operations do not matter.</p> <p>Substitute: replace one variable with a number or new variable.</p> <p>Expression: a maths sentence with a minimum of two numbers and at least</p>	<p>Place holder: We use 0 as a place holder to show that there are none of a particular place in a number</p> <p>Place value: The value of a digit depending on its place in a number. In our decimal number system, each place is 10 times bigger than the place to its right</p> <p>Range: The difference between the largest and smallest numbers in a set</p> <p>Significant figure: A digit that gives meaning to a number. The most significant digit (figure) in an integer is the number on the left. The most significant digit in a decimal fraction is the first non-zero number after the decimal point</p> <p>Fraction: how many parts of a whole we have</p> <p>Decimal: a number with a decimal point used to separate ones, tenths, hundredths etc.</p>	<p>Polygon: a 2D shape made with straight lines</p> <p>Balance: in financial questions – the amount of money in a bank account</p> <p>Credit: money that goes into a bank account</p> <p>Debit: money that leaves a bank account</p> <p>Array: an arrangement of items to represent concepts in rows or columns</p> <p>Multiples: found by multiplying any number by positive integers</p> <p>Factor: integers that multiply together to get another number.</p> <p>Mili: prefix meaning one thousandth</p> <p>Centi: prefix meaning one hundredth.</p> <p>Kilo: prefix meaning multiply by 1000</p> <p>Quotient: the result of a division</p>	<p>Expression: a maths sentence with a minimum of two numbers and at least one math operation (no equals sign)</p> <p>Numerator : the number above the line on a fraction. The top number. Represents how many parts are taken</p> <p>Denominator: the number below the line on a fraction. The number represent the total number of parts</p> <p>Equivalent: of equal value</p> <p>Mixed numbers: a number with an integer and a proper fraction</p> <p>Improper fractions: a fraction with a bigger numerator than denominator</p> <p>Substitute: replace a variable with a numerical value</p> <p>Place value: the value of a digit depending on its place in a number. In our</p>	<p>Rotation: turn in a given direction</p> <p>Protractor: equipment used to measure angles</p> <p>Compass: equipment used to draw arcs and circles</p> <p>Vertically Opposite: angles formed when two or more straight lines cross at a point.</p> <p>Interior Angles: angles inside the shape</p> <p>Sum: total, add all the interior angles together</p> <p>Convex Quadrilateral: a four-sided polygon where every interior angle is less than 180°</p> <p>Concave Quadrilateral: a four-sided polygon where one interior angle exceeds 180°</p> <p>Polygon: A 2D shape made with straight lines</p> <p>Scalene triangle: a triangle with all different sides and angles</p>	<p>that two things are equal</p> <p>Quotient: the result of a division</p> <p>Set: collection of things</p> <p>Element: each item in a set is called an element</p> <p>Intersection: the overlapping part of a</p> <p>Venn diagram (AND \cap)</p> <p>Union: two ellipses that join (OR \cup)</p> <p>Mutually Exclusive: events that do not occur at the same time</p> <p>Probability: likelihood of an event happening</p> <p>Bias: a built-in error that makes all values wrong (unequal) by a certain amount, e.g. a weighted dice</p> <p>Fair: there is zero bias, and all outcomes have an equal likelihood</p> <p>Random: something happens by chance and is unable to be predicted.</p>
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<p>one math operation (no equals sign)</p> <p>Evaluate: work out</p> <p>Linear: the difference between terms increases or decreases by the same value each time</p> <p>Sequence: items or numbers put in a pre-decided order</p> <p>Equality: two expressions that have the same value</p> <p>Equation: a mathematical statement that two things are equal</p> <p>Equals: represented by '=' symbol – means the same</p> <p>Solution: the set or value that satisfies the equation</p> <p>Solve: to find the solution.</p> <p>Inverse: the operation that undoes what was done by the previous operation. (The opposite operation)</p> <p>Term: a single number or variable</p> <p>Like: variables that are the same are 'like'</p> <p>Coefficient: a multiplicative factor in front of a variable</p>	<p>Percentage: a proportion of a whole represented as a number between 0 and 100</p> <p>Place value: the numerical value that a digit has decided by its position in the number</p> <p>Placeholder: a number that occupies a position to give value</p> <p>Interval: a range between two numbers</p> <p>Tenth: one whole split into 10 equal parts</p> <p>Hundredth: one whole split into 100 equal parts</p> <p>Sector: a part of a circle between two radius (often referred to as looking like a piece of pie)</p> <p>Recurring: a decimal that repeats in a given pattern</p>	<p>Dividend: the number being divided</p> <p>Divisor: the number we divide by</p> <p>Fraction: how many parts of a whole we have</p> <p>Equivalent: of equal value</p> <p>Whole: a number with no fractional or decimal part.</p> <p>Percentage: parts per 100 (uses the % symbol)</p> <p>Place Value: the value of a digit depending on its place in a number. In our decimal number system, each place is 10 times bigger than the place to its right</p> <p>Convert: change into an equivalent representation, often fraction to decimal to a percentage cycle</p>	<p>decimal number system, each place is 10 times bigger than the place to its right</p>	<p>Isosceles triangle: a triangle with two angles the same size and two angles the same size</p> <p>Right-angled triangle: a triangle with a right angle</p>	<p>Multiples: found by multiplying any number by positive integers</p> <p>Factor: integers that multiply together to get another number.</p> <p>Prime: an integer with only 2 factors.</p> <p>Conjecture: a statement that might be true (based on reasoning) but is not proven.</p> <p>Counterexample: a special type of example that disproves a statement.</p> <p>Expression: a maths sentence with a minimum of two numbers and at least one math operation (no equals sign)</p> <p>HCF: highest common factor (biggest factor two or more numbers share)</p> <p>LCM: lowest common multiple (the first time the times table of two or more numbers match)</p>
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	e.g. $5x$ (5 is the coefficient, x is the variable) Expression: a maths sentence with a minimum of two numbers and at least one math operation (no equals sign)					
Assessment:	KLT 1	KAT 1	KLT 3	KLT 4		KAT 2
Key/Historical misconceptions in this unit:	<ul style="list-style-type: none"> Sequences must be increasing. Sequences must be linear. Division/subtraction are commutative. ($m/6 = 12 \Rightarrow m = 2$) 	<ul style="list-style-type: none"> Misuse of inequality symbols. Can't have greater than 100% Carrying out division in the wrong order when given as a fraction. 	<ul style="list-style-type: none"> Confusing perimeter and area. Numbers wrong way around in the bus stop method. Following BIDMAS in a strict order. 	<ul style="list-style-type: none"> Two Negatives make a positive. Adding and subtracting denominators. Simplifying fractions can only be performed by halving. 	<ul style="list-style-type: none"> Confusing angle measure and line measure. Using the wrong scale on the protractor. Incorrect identification of relevant angles in applying a given angle rule. 	<ul style="list-style-type: none"> Replication of elements in the intersection. 9 is a prime number. Confusing factors and multiples.
Sequencing:	<p>We have chosen to sequence the year 7 curriculum like this because builds on their previous knowledge and begin to put in place the foundations to build upon in future years.</p> <p>For example - In year 7 they start with sequences which will consolidate work previously done in primary school and formalise their understanding (Recognise linear and non-linear sequences) which is then extended by using algebraic notation (Generate sequences from an algebraic rule) in the following block. By introducing algebra early it is then used throughout the scheme to extend and stretch students understanding. Algebra and sequences are then revisited in year 8 during the spring term (Revise and extend Y7 coverage to include more complex rules) to further extend and embed understanding.</p>					



CURIOSITY

COMPASSION

COURAGE



Values	<p>This scheme of work promotes the school values of Compassion, Curiosity and Courage by:</p> <p>Compassion - Students show compassion through a culture of being non-judgmental when questions are answered incorrectly.</p> <p>Curiosity - Students are encouraged to show curiosity through asking questions and taking a genuine interest in the real life applications of the Maths that they are learning.</p> <p>Courage - Students are encouraged to show courage through attempting questions</p>
National Curriculum plus:	<p>In addition to teaching the statutory elements of the national curriculum, we also include opportunities to extend their learning beyond the classroom. For example practical examples and going further than the curriculum in terms of what they are expected to know from a financial literacy perspective.</p>