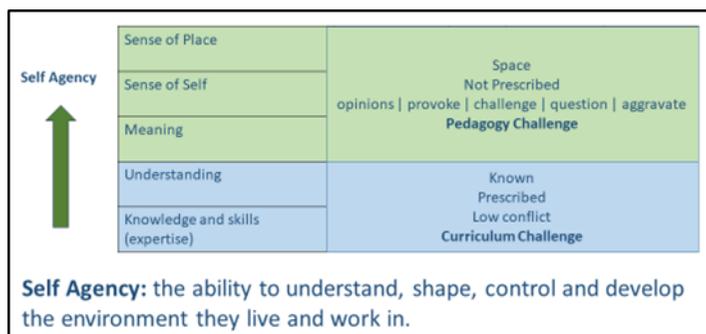


Key Stage 3 Curriculum Excellence

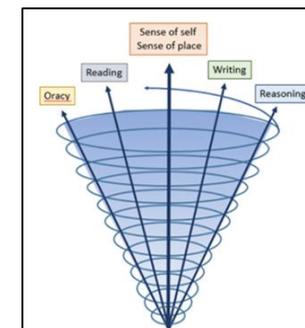
Mathematics – teaching from September 2019

The curriculum enables children to have **self agency**, now and in adulthood, because of a developed **sense of self** and an awareness of their **place in the world**.
 This is the result of children **seeking meaning** and making connections as they build **understanding** from a foundation of **knowledge and skills**




The purpose of the CLF, is at the **HEART**, of all we do:

- Establish **High expectations** for all that we seek to achieve
- Create **Equity** of opportunity, removing disadvantage
- Champion the success and life chances of **All children** in the communities we serve
- Furnish pupils and staff with the **Resilience** to succeed as lifelong learners
- Promote **Tolerance** and respect for ourselves, our communities and our environment

Contents:

1. KS3 Curriculum Principles
2. Subject Vision and Intent
3. ARE Descriptor
4. Curriculum Skeleton Overview (including assessment)
5. Medium Term Plans
6. DOYA

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The curriculum enables children to have **self-agency**, now and in adulthood, because of a developed **sense of self** and an awareness of their **place in the world**. This is the result of children **seeking meaning** and making connections as they build **understanding** from a foundation of **knowledge and skills**:

- The KS3 Curriculum is built-up from KS2 and is based on **Age Related Expectations** assessed through **DOYA**. (**Deepening**, **On track**, **Yet to be on track**, **At** an earlier stage)
- The **progression** of content and concepts are carefully **sequenced** in-line with **3-19 CLF Curriculum**.
- The curriculum is our opportunity to inspire children beyond just subject to develop **disciplinary knowledge** that support children to be **successful individuals, historians, mathematicians, geographers, musicians, authors, artist, sportspeople, scientists, writers, innovators, dreamers, magicians, positive citizens...**
- The shared curriculum releases teachers to secure learning and progress; empowering experts to collaborate so that we **follow the learning to meet needs**.
- The curriculum is designed, developed and evolved by **Curriculum Curators** from across the Trust who ensure that is meeting the needs of all children. We are all **Guardians of the Curriculum**, ensuring that we deliver the **promise of the curriculum** and the **loftier curriculum goals**.
- The curriculum is **progressive, sequenced and spiralled** over time. The curriculum provokes children **to have opinions** so that they build a **sense of self and place**, giving them **agency now and into adulthood**.
- The curriculum seeks to study content to **depth** to build understanding and to seek meaning; stretching and challenging children to **have opinions** and develop a sense of self and place.
- The **shared Curriculum** and an ongoing evaluation of the **learnt curriculum** means that teaching is a **precise and purposeful use of time** in the classroom.
- The Age Related Expectations and exemplars are **widely published** to exemplify the expected standard and **enabling wide ownership of the curriculum**
- **Vertical strands of oracy, reading, reasoning and writing** emphasise the key goals of the curriculum through 3 to 19. **Standardisation and moderation** support teacher planning to develop these strands.
- **Teacher assessment of learning** that uses **standardised exemplar material** to assess attainment against **DOYA**. (**Deepening**, **On track**, **Yet to be on track**, **At** an earlier stage)
- **Shared on-line MCQ assessments** to assess knowledge acquisition, application and understanding. Immediate feedback supports **understanding of gaps** and **re-teaching**.
- Teaching supports children to experience **desirable difficulty** and **grapple, using feedback** to inform the **precise use of modelling, explanations and questioning** to secure progress and develop of **reading (widely and often), oracy, reasoning and quality of writing**.

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KS3 Mathematics in the Cabot Learning Federation

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.

Mastery of mathematics is not a fixed state but a continuum. At each stage of learning, pupils should acquire and demonstrate sufficient grasp of the mathematics relevant to their year group, so that their learning is sustainable over time and can be built upon in subsequent years. This requires development of depth of understanding through looking at concepts in detail using a variety of representations and contexts.

A pupil really understands a mathematical concept, idea or technique if he or she can:

- describe it in his or her own words;
- represent it in a variety of ways (e.g. using concrete materials, pictures and symbols)
- explain it to someone else;
- make up his or her own examples (and non-examples) of it;
- see connections between it and other facts or ideas;
- recognise it in new situations and contexts;
- make use of it in various ways, including in new situations.

Developing mastery with greater depth is characterised by pupils' ability to:

- solve problems of greater complexity (i.e. where the approach is not immediately obvious), demonstrating creativity and imagination;
- independently explore and investigate mathematical contexts and structures, communicate results clearly and systematically explain and generalise the mathematics.

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Statement of Intent

<https://clfacademies.sharepoint.com/:p:/r/sites/clfcurriculumks3/Shared%20Documents/Maths/Curriculum/KS3%20Maths%20curriculum%20rationale.pdf?d=w5c6973af466d4bb79d7ccc4bb8bd1ca5&csf=1&e=GvePkZ>

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ARE Descriptors

Year 7			
KS2 Prior Learning	Knowledge and Skills	Understanding	Meaning
<p>What is the key knowledge, skills, understanding and meaning that children bring from the AREs in KS2 in this subject?</p> <p>Number - number and place value</p> <ul style="list-style-type: none"> • read, write, order and compare numbers up to 10,000,000 and determine the value of each digit • round any whole number to a required degree of accuracy • use negative numbers in context, and calculate intervals across 0 • solve number and practical problems that involve all of the above <p>Number - addition, subtraction, multiplication and division</p> <ul style="list-style-type: none"> • 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 	<p>What is the key knowledge and skills that we want to pass on to children as ARE in Year 7 that build up from KS2?</p> <p>Number</p> <ul style="list-style-type: none"> • Use the vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor and lowest common multiple. Use product notation for prime factorisation. • Use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative • Use conventional notation for the priority of operations, including brackets, powers, roots and reciprocals • Use place value for decimals, measures and integers of any size • Use a calculator and other technologies to calculate results 	<p>What do we want children to build through the application of knowledge and skills, including key concepts and misconceptions?</p> <p>Number</p> <ul style="list-style-type: none"> • Understand place value for decimals, measures and integers of any size • Use the concepts of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor and lowest common multiple. Use product notation and the unique factorisation property • Use integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5 and distinguish between exact representations of roots and their decimal approximations <p>Ratio and proportion:</p> <ul style="list-style-type: none"> • Understand that a multiplicative relationship between two 	<p>What is the meaning that we want children to seek by age that supports their personal growth?</p> <p>Solve problems Make connections Communicate mathematically (demonstrate thinking on the page) Be willing to try and make mistakes</p> <p>Number</p> <ul style="list-style-type: none"> • Develop number sense • Recognise the size of numerical values • Order numerical values in different forms <p>Ratio and proportion:</p> <ul style="list-style-type: none"> • Understand scale • Reason and explain <p>Algebra:</p> <ul style="list-style-type: none"> • Recognise patterns • Use a systematic approach • Think logically • Generalise

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<p>rounding, as appropriate for the context</p> <ul style="list-style-type: none"> • 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 • perform mental calculations, including with mixed operations and large numbers • identify common factors, common multiples and prime numbers • use their knowledge of the order of operations to carry out calculations involving the 4 operations • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • solve problems involving addition, subtraction, multiplication and division • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy <p>Number - Fractions (including decimals and percentages)</p>	<p>accurately and then interpret them appropriately</p> <ul style="list-style-type: none"> • Use standard units of mass, length, time, money and other measures, including with decimal quantities <p>Ratio and proportion:</p> <ul style="list-style-type: none"> • Use ratio notation, including reduction to simplest form • Express one quantity as a fraction of another, where the fraction is less than 1 and greater than 1 <p>Algebra:</p> <ul style="list-style-type: none"> • Use and interpret algebraic notation, including: <ul style="list-style-type: none"> ○ ab in place of $a \times b$ ○ $3y$ in place of $y + y + y$ and $3 \times y$ • Understand and use the vocabulary of expressions, equations (not solving), inequalities, terms and factors • Work with coordinates in all four quadrants • Simplify and manipulate algebraic expressions to maintain equivalence • Collect like terms • Multiply a single term over a bracket 	<p>quantities can be expressed as a ratio or a fraction</p> <ul style="list-style-type: none"> • Relate the language of ratios and the associated calculations to the arithmetic of fractions and to linear functions • Divide a given quantity into two parts in a given part:part or part:whole ratio; express the division of a quantity into two parts as a ratio <p>Algebra:</p> <ul style="list-style-type: none"> • Understand and use the concepts of expressions, equations (not solving), inequalities, terms and factors • Model situations into algebraic expressions, e.g. $h+4$ • Generate terms of a sequence from either a term-to-term or a position-to-term rule • Recognise geometric sequences and appreciate other sequences that arise • Recognise arithmetic sequences and find the nth term: only 'an' and 'n+b' • Recognise graphs of linear functions, including $x=a$, $y=a$, $y=+/- x$ 	<p>Geometry and measures:</p> <ul style="list-style-type: none"> • Develop spatial awareness • Practise fine motor skills <p>Probability:</p> <ul style="list-style-type: none"> • Develop an understanding of chance
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<ul style="list-style-type: none"> • use common factors to simplify fractions; use common multiples to express fractions in the same denomination • compare and order fractions, including fractions >1 • add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions • multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] • divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$] • associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$] • identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places 	<ul style="list-style-type: none"> • Substitute numerical values into formulae and expressions, including scientific formulae • Sketch graphs of linear functions, including $x=a$, $y=a$, $y=+/- x$ <p>Geometry and measures:</p> <ul style="list-style-type: none"> • Use the standard conventions for labelling the sides and angles of triangle ABC • Use conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles, regular polygons, reflection and rotational symmetry • Know the criteria for congruence of triangles • Sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles, regular polygons, and other polygons with symmetries • Calculate perimeters of 2D shapes and composite shapes and area and circumference of circles • Draw and measure line segments and angles in geometric figures, including interpreting scale drawings 	<p>Geometry and measures:</p> <ul style="list-style-type: none"> • Derive and illustrate properties of triangles, quadrilaterals, circles, and other plane figures [for example, equal lengths and angles] using appropriate language and technologies • Describe using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles, regular polygons, and other polygons with symmetries • Solve problems involving perimeters of 2D shapes, composite shapes and area and area and circumference of circles • Identify congruent triangles, and construct similar shapes by enlargement, with and without coordinate grids • Use the criteria for congruence of triangles • Derive and use the sum of angles in a triangle and use it to deduce the angle sum in any polygon, and to derive properties of regular polygons • Recognise and use the perpendicular distance from a point to a line as the shortest distance to the line 	
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<ul style="list-style-type: none"> multiply one-digit numbers with up to 2 decimal places by whole numbers use written division methods in cases where the answer has up to 2 decimal places solve problems which require answers to be rounded to specified degrees of accuracy recall and use equivalences between simple fractions, decimals and percentages, including in different contexts <p>Ratio and proportion</p> <ul style="list-style-type: none"> solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison solve problems involving similar shapes where the scale factor is known or can be found solve problems involving unequal sharing and grouping using knowledge of fractions and multiples 	<ul style="list-style-type: none"> Construct congruent triangles, and construct similar shapes by enlargement, with and without coordinate grids Apply the properties of angles at a point, angles at a point on a straight line Use ruler and compass constructions for triangles and patterns with circles <p>Probability:</p> <ul style="list-style-type: none"> Use appropriate language and the 0-1 probability scale Use the vocabulary and notation of probability Record the frequency of outcomes of simple probability experiments involving randomness, fairness, equally and unequally likely outcomes. Enumerate sets and unions/intersections of sets systematically, using tables, grids and Venn diagrams 	<ul style="list-style-type: none"> Interpret mathematical relationships both algebraically and geometrically <p>Probability:</p> <ul style="list-style-type: none"> Understand that the probabilities of all possible outcomes sum to 1 Describe and analyse the frequency of outcomes of simple probability experiments involving randomness, fairness, equally and unequally likely outcomes. Generate theoretical sample spaces for single and combined events with equally likely, mutually exclusive outcomes and use these to calculate theoretical probabilities 	
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<p>Algebra</p> <ul style="list-style-type: none"> • use simple formulae • generate and describe linear number sequences • express missing number problems algebraically • find pairs of numbers that satisfy an equation with 2 unknowns • enumerate possibilities of combinations of 2 variables <p>Measurement</p> <ul style="list-style-type: none"> • solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate • 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 3 decimal places • convert between miles and kilometres • recognise that shapes with the same areas can have different perimeters and vice versa • recognise when it is possible to use formulae for area and volume of shapes 			
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<ul style="list-style-type: none"> • calculate the area of parallelograms and triangles • calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3] <p>Geometry - properties of shapes</p> <ul style="list-style-type: none"> • draw 2-D shapes using given dimensions and angles • recognise, describe and build simple 3-D shapes, including making nets • compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons • illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles <p>Geometry - position and direction</p>			
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<ul style="list-style-type: none"> • describe positions on the full coordinate grid (all 4 quadrants) • draw and translate simple shapes on the coordinate plane, and reflect them in the axes <p>Statistics</p> <ul style="list-style-type: none"> • interpret and construct pie charts and line graphs and use these to solve problems • calculate and interpret the mean as an average 			
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Year 8			
Year 7 Prior Learning	Knowledge and Skills	Understanding	Meaning
<p>What is the key knowledge, skills, understanding and meaning that children bring from the AREs in Year 7 in this subject?</p> <p>All Year 7 ARE descriptors (above) in number, ratio and proportion, algebra, geometry and measures and probability.</p> <p>Students will have not worked on any statistics since Year 6.</p>	<p>What is the key knowledge and skills that we want to pass on to children as ARE in Year 8 that build up from Year 7?</p> <p>Number:</p> <ul style="list-style-type: none"> • Use the symbols =, ≠, <, >, ≤, ≥ • Define percentage as ‘number of parts per hundred’ • Recognise and use relationships between operations including inverse operations • Use the number line as a model for ordering of the real numbers • Use approximation through rounding to estimate answers and calculate possible resulting errors expressed using inequality notation $a < x \leq b$ <p>Ratio and proportion:</p> <ul style="list-style-type: none"> • Use the vocabulary of percentage change and financial mathematics • Use scale factors, scale diagrams and maps • Use compound units such as speed, unit pricing and density • Change freely between related standard units [for example 	<p>What do we want children to build through the application of knowledge and skills, including key concepts and misconceptions?</p> <p>Number:</p> <ul style="list-style-type: none"> • Appreciate the infinite nature of the sets of integers, real and rational numbers. • Order positive and negative integers, decimals and fractions • Round numbers and measures to an appropriate degree of accuracy [for example, to a number of decimal places or significant figures] • Interpret fractions and percentages as operators • Work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 or 0.375) • Interpret percentages and percentage changes as a fraction or a decimal, interpret these multiplicatively, express one quantity as a percentage of another, compare two quantities using percentages, 	<p>What is the meaning that we want children to seek by age that supports their personal growth?</p> <p>Solve problems Make connections Communicate mathematically (demonstrate thinking on the page) Be willing to try and make mistakes</p> <p>Number:</p> <ul style="list-style-type: none"> • Make sense of how percentages work and are used • Use approximate calculations • Use symbols to communicate efficiently • Recognise the size of numerical values <p>Ratio and proportion:</p> <ul style="list-style-type: none"> • Understand scale • Draw and interpret scale diagrams • Explain reasoning • Develop fluency in working with percentage change <p>Algebra:</p> <ul style="list-style-type: none"> • Understand sequences and patterns

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	<p>time, length, area, volume/capacity, mass]</p> <p>Algebra:</p> <ul style="list-style-type: none"> • Use standard mathematical formulae including perimeter and area of triangles, parallelograms, trapezia, volume of cuboids (including cubes) and other prisms (including cylinders) • Reduce a given linear equation in two variables to the standard form $y = mx + c$; calculate gradients and intercepts of graphs of such linear equations numerically, graphically and algebraically • Use linear and quadratic graphs to estimate values of y for given values of x and vice versa and to find approximate solutions of simultaneous linear equations • Sketch and produce graphs of linear and quadratic functions of one variable with appropriate scaling, using equations in x and y and the Cartesian plane • Find approximate solutions to contextual problems from given graphs of a variety of functions, including piece-wise(S/D/T) linear graphs 	<p>and work with percentages greater than 100%</p> <ul style="list-style-type: none"> • Recognise and use relationships between operations including inverse operations <p>Ratio and proportion:</p> <ul style="list-style-type: none"> • Use compound units such as speed, unit pricing and density to solve problems • Solve problems involving percentage change, including: percentage increase, decrease and original value problems and simple interest in financial mathematics • Solve problems involving direct and inverse proportion, including graphical and algebraic representations <p>Algebra:</p> <ul style="list-style-type: none"> • Recognise arithmetic sequences and find the nth term: $mx + c$; $an + b$ • Interpret gradients and intercepts of graphs of linear equations numerically, graphically and algebraically • Recognise graphs of linear and quadratic functions of one variable with appropriate 	<ul style="list-style-type: none"> • Interpret situations graphically • Model situations <p>Geometry and measures:</p> <ul style="list-style-type: none"> • Develop spatial awareness • Understand positioning and movement <p>Statistics:</p> <ul style="list-style-type: none"> • Obtain information from different charts, tables and diagrams • Recognise how data allows comparisons to be made and relationships tested
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	<ul style="list-style-type: none"> Apply formulae to calculate perimeter and area of triangles, parallelograms, trapezia, volume of cuboids (including cubes) and other prisms (including cylinders) <p>Geometry and measures:</p> <ul style="list-style-type: none"> Use the relationship between parallel lines and alternate, corresponding angles and vertically opposite angles Use the properties of faces, surfaces, edges and vertices of 3D shapes Apply angle facts, triangle congruence, similarity and properties of quadrilaterals Use the properties of faces, surfaces, edges and vertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres <p>Statistics:</p> <ul style="list-style-type: none"> Describe relationships between two variables (bivariate data) in observational and experimental contexts; correlation doesn't imply causation; interpolate/extrapolate Describe observed distributions of a single variable through: 	<p>scaling, using equations in x and y and the Cartesian plane</p> <ul style="list-style-type: none"> Interpret mathematical relationships both algebraically and graphically Use algebraic methods to solve linear equations in one variable (including all forms that require rearrangement) Model situations or procedures by translating them into algebraic expressions or formulae and by using graphs Understand standard mathematical formulae; rearrange formulae to change the subject Derive formulae to solve problems involving: perimeter and area of triangles, parallelograms, trapezia, volume of cuboids (including cubes) and other prisms (including cylinders) <p>Geometry and measures:</p> <ul style="list-style-type: none"> Use Pythagoras' Theorem in similar triangles to solve problems involving right-angled triangles including 3D Understand the relationship between parallel lines and 	
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	<p>appropriate graphical representation involving discrete, continuous and grouped data; and appropriate measures of central tendency (mean, mode, median) and spread (range, consideration of outliers)</p> <ul style="list-style-type: none"> • Construct appropriate tables, charts, and diagrams, including frequency tables, bar charts, pie charts, and pictograms for categorical data, and vertical line (or bar) charts for ungrouped and grouped numerical data 	<p>alternate, corresponding angles and vertically opposite angles</p> <ul style="list-style-type: none"> • Apply angle facts, triangle congruence, similarity and properties of quadrilaterals to derive results about angles and sides, including Pythagoras' Theorem, and use known results to obtain simple proofs • Use the properties of faces, surfaces, edges and vertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3-D • Identify properties of, and describe the results of, translations, rotations and reflections applied to given figures <p>Statistics:</p> <ul style="list-style-type: none"> • Interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts, pie charts, and pictograms for categorical data, and vertical line (or bar) charts for ungrouped and grouped numerical data • Describe simple mathematical relationships between two variables (bivariate data) in 	
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		<p>observational and experimental contexts and illustrate using scatter graphs</p> <ul style="list-style-type: none"> • Describe, interpret and compare observed distributions of a single variable through: appropriate graphical representation involving discrete, continuous and grouped data; and appropriate measures of central tendency (mean, mode, median) and spread (range, consideration of outliers) 	
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Curriculum Skeleton

Year 7				
ARE Point	1	2	3	4
Unit Title	Probability & Number 1	Algebra 1	Ratio and Proportion 1	Geometry and measures 1
MCQ	30 questions on Topic 1	20 questions on Topic 2 10 questions on Topic 1	15 questions on Topic 3 10 questions on Topic 2 5 questions on Topic 1	20 questions on Topic 4 10 questions on Topics 1, 2 and 3
DOYA	45 minute written assessment on Topic 1	45 minute written assessment on Topic 2, some Topic 1 questions included.	45 minute written assessment on Topic 3, some Topic 1 & 2 questions included.	2 x 45 minute written assessment on Topic 4 with Topic 1, 2 and 3; non-calc & calc.

Year 8				
ARE Point	1	2	3	4
Unit Title	Statistics & Number 2	Algebra 2	Ratio and Proportion 2	Geometry and measures 2
MCQ	25 questions on Topic 1 5 questions on Yr7 Topic 4	20 questions on Topic 2 10 questions on Topic 1	15 questions on Topic 3 10 questions on Topic 2 5 questions on Topic 1	20 questions on Topic 4 10 questions on Topics 1, 2 and 3
DOYA	45 minute written assessment on Topic 1	45 minute written assessment on Topic 2, some Topic 1 questions included.	45 minute written assessment on Topic 3, some Topic 1 & 2 questions included.	2 x 45 minute written assessment on Topic 4, with Topic 1, 2 and 3; non-calc & calc.

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Medium Term Plans

<https://clfacademies.sharepoint.com/:p:/r/sites/clfcurriculumks3/Shared%20Documents/Maths/Curriculum/Yr7%20CLF%20Maths%20Routemap.pptx?d=wd8ab71a8b8354a65b8f62286a6e2862d&csf=1&e=l1NONQ>

Subject: Maths	Unit Title: Probability & Number 1	5 weeks	ARE Point: 7.1
Key Essentials: Content: <ul style="list-style-type: none"> • Basic probability [Slides 3 & 4] • Fractions [Slides 5 & 6] • Order of operations [Slides 7 & 8] • Factors, multiples & primes [Slides 9 & 10] • Powers and roots [Slides 11 & 12] • Probability – combined events, Venn diagrams [Slides 13 & 14] 		WHY are children LEARNING this?	
Concepts: <ul style="list-style-type: none"> • Develop number sense • Recognise the size of numerical values • Order numerical values in different forms • Develop an understanding of chance 		HOW will ORACY, READING and WRITING be developed?	
Terminology and Vocabulary (subject specific and academic):			
Extended Response (writing, performance or product):		WHAT will PROGRESS look like in this unit	

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Medium Term Plan

<https://clfacademies.sharepoint.com/:p:/r/sites/clfcurriculumks3/Shared%20Documents/Maths/Curriculum/Yr7%20CLF%20Maths%20Routemap.pptx?d=wd8ab71a8b8354a65b8f62286a6e2862d&csf=1&e=l1NONQ>

Subject: Maths	Unit Title: Algebra 1	6 weeks	ARE Point: 7.2
Key Essentials: Content: <ul style="list-style-type: none"> • Foundations of algebra – using letters [Slides 15 & 16] • Collect like terms [Slides 15 & 16] • Expand single brackets [Slides 15 & 16] • Substitute into formulae [Slides 15 & 16] • Generate sequences from term-to-term rules and nth term [Slides 17 & 18] • Find nth term for sequences [Slides 17 & 18] • Identify geometric and other sequences [Slides 19 & 20] 		WHY are children LEARNING this?	
Concepts: <ul style="list-style-type: none"> • Recognise patterns • Take a systematic approach • Logical sequencing • Generalise 		HOW will ORACY, READING and WRITING be developed?	
Terminology and Vocabulary (subject specific and academic):			
Extended Response (writing, performance or product):		WHAT will PROGRESS look like in this unit?	

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Medium Term Plan

<https://clfacademies.sharepoint.com/:p:/r/sites/clfcurriculumks3/Shared%20Documents/Maths/Curriculum/Yr7%20CLF%20Maths%20Routemap.pptx?d=wd8ab71a8b8354a65b8f62286a6e2862d&csf=1&e=l1NONQ>

Subject: Maths	Unit Title: Ratio and proportion 1	6 weeks	ARE Point: 7.3
Key Essentials: Content: <ul style="list-style-type: none"> • Coordinates [Slides 21 & 22] • Basics of linear graphs [Slides 21 & 22] • Equivalent ratio [Slides 23 & 24] • Ratio – write relationships as ratios or as fractions [Slides 23 & 24] • Ratio – write one number as a fraction of another (could be >1) [Slides 25 & 26] • Ratio – linking to fractions and linear functions [Slides 25 & 26] 		WHY are children LEARNING this?	
Concepts: <ul style="list-style-type: none"> • Understand scale • Reason and explain 		HOW will ORACY, READING and WRITING be developed?	
Terminology and Vocabulary (subject specific and academic):			
Extended Response (writing, performance or product):		WHAT will PROGRESS look like in this unit?	

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Medium Term Plan

<https://clfacademies.sharepoint.com/:p:/r/sites/clfcurriculumks3/Shared%20Documents/Maths/Curriculum/Yr7%20CLF%20Maths%20Routemap.pptx?d=wd8ab71a8b8354a65b8f62286a6e2862d&csf=1&e=l1NONQ>

Subject: Maths	Unit Title: Geometry and measures 1	7 weeks	ARE Point: 7.4
Key Essentials: Content: <ul style="list-style-type: none"> • Properties of two dimensional shapes, including symmetry [Slides 27 & 28] • Calculate perimeter & area [Slides 29 & 30] • Calculate circumference of circles [Slides 31 & 32] • Calculate area of circles [Slides 31 & 32] • Angles – at a point and on a straight line [Slides 33 & 34] • Angle sum of triangle and other polygons [Slides 33 & 34] • Measure and draw lines and angles [Slides 35 & 36] • Construct triangles and circle patterns [Slides 35 & 36] 		WHY are children LEARNING this?	
Concepts: <ul style="list-style-type: none"> • Develop spatial awareness • Improve fine motor skills 		HOW will ORACY, READING and WRITING be developed?	
Terminology and Vocabulary (subject specific and academic):			
Extended Response (writing, performance or product):		WHAT will PROGRESS look like in this unit?	

Key Stage 3 in the Cabot Learning Federation

Medium Term Plan

<https://clfacademies.sharepoint.com/:p:/r/sites/clfcurriculumks3/Shared%20Documents/Maths/Curriculum/Yr8%20CLF%20Maths%20Routemap.pptx?d=wfa1317d6ab284b53a058808dad321ef&csf=1&e=zlloAh>

Subject: Maths	Unit Title: Statistics & Number 2	5 weeks	ARE Point: 8.1
Key Essentials:		WHY are children LEARNING this?	
Content: <ul style="list-style-type: none"> • Averages [Slides 3 & 4] • Graphs – interpreting and comparing data [Slides 5 & 6] • Scatter graphs [Slides 7 & 8] • Ordering, rounding and estimation [Slides 9 & 10] • Convert between fractions, decimals and percentages [Slides 11 & 12] 			
Concepts: <ul style="list-style-type: none"> • Make sense of how percentages work and are used • Use approximate calculations • Use symbols to communicate efficiently 		HOW will ORACY, READING and WRITING be developed?	
Terminology and Vocabulary (subject specific and academic):			
Extended Response (writing, performance or product):		WHAT will PROGRESS look like in this unit?	

Key Stage 3 in the Cabot Learning Federation

Medium Term Plan

<https://clfacademies.sharepoint.com/:p:/r/sites/clfcurriculumks3/Shared%20Documents/Maths/Curriculum/Yr8%20CLF%20Maths%20Routemap.pptx?d=wfa1317d6ab284b53a058808dad321ef&csf=1&e=zlloAh>

Subject: Maths	Unit Title: Algebra 2	6 weeks	ARE Point: 8.2
Key Essentials: Content: <ul style="list-style-type: none"> • Inverse operations [Slides 13 & 14] • Solve linear equations [Slides 15 & 16] • Sequences – nth term & links to equations [Slides 17 & 18] • Straight line graphs, $y = mx + c$ [Slides 19 & 20] 		WHY are children LEARNING this?	
Concepts: <ul style="list-style-type: none"> • Understand sequences and patterns • Interpret situations graphically 		HOW will ORACY, READING and WRITING be developed?	
Terminology and Vocabulary (subject specific and academic):			
Extended Response (writing, performance or product):		WHAT will PROGRESS look like in this unit?	

Key Stage 3 in the Cabot Learning Federation

Medium Term Plan

<https://clfacademies.sharepoint.com/:p:/r/sites/clfcurriculumks3/Shared%20Documents/Maths/Curriculum/Yr8%20CLF%20Maths%20Routemap.pptx?d=wfa1317d6ab284b53a058808dad321ef&csf=1&e=zIloAh>

Subject: Maths	Unit Title: Ratio and proportion 2	6 weeks	ARE Point: 8.3
Key Essentials:		WHY are children LEARNING this?	
Content: <ul style="list-style-type: none"> • Use percentages [Slides 21 & 22] • Percentage change – increase/decrease, reverse problems [Slides 23 & 24] • Proportion – direct and inverse proportion problems [Slides 25 & 26] • Proportion – best value [Slides 35 & 36] • Convert between units [Slides 27 & 28] • Compound measures [Slides 29 & 30] • 			
Concepts: <ul style="list-style-type: none"> • Recognise the size of numerical values • Understand scale • Draw and interpret scale diagrams • Explain reasoning • Develop fluency in working with percentage change • Interpret situations graphically • Model situations 		HOW will ORACY, READING and WRITING be developed?	
Terminology and Vocabulary (subject specific and academic):			
Extended Response (writing, performance or product):		WHAT will PROGRESS look like in this unit?	

Key Stage 3 in the Cabot Learning Federation

Medium Term Plan

<https://clfacademies.sharepoint.com/:p:/r/sites/clfcurriculumks3/Shared%20Documents/Maths/Curriculum/Yr8%20CLF%20Maths%20Routemap.pptx?d=wfa1317d6ab284b53a058808dad321ef&csf=1&e=zlloAh>

Subject: Maths	Unit Title: Geometry and measures 2	7 weeks	ARE Point: 8.4
Key Essentials:		WHY are children LEARNING this?	
Content: <ul style="list-style-type: none"> • Rearrange formulae [Slides 39 & 40] • Volume of cuboids and prisms (including cylinders) [Slides 43 & 44] • Pythagoras' Theorem [Slides 45 & 46] • Alternate, corresponding & opposite angles [Slides 49 & 50] • Faces, edges & vertices of 3D shapes [Slides 51 & 52] • Transformations – translations, rotations and reflections [Slides 53 & 54] • Scale diagrams [Slides 33 & 34] 			
Concepts: <ul style="list-style-type: none"> • Model situations • Develop spatial awareness • Understand positioning and movement 		HOW will ORACY, READING and WRITING be developed?	
Terminology and Vocabulary (subject specific and academic):			
Extended Response (writing, performance or product):		WHAT will PROGRESS look like in this unit?	

Key Stage 3 in the Cabot Learning Federation

DOYA Exemplification

- Deepening (D): describes a child who has reached the year group expectation and is now taking this deeper into more abstract work. These children are following their passion within a broad curriculum that inspires the full range of attainment and interest.
- On track/Working at current age related expectation (O): describes a child who is working at the age related expectation and fulfils all the descriptors.
- Yet to be on track (Y): describes a child who shows some working at age related expectations by fulfilling some of the descriptors, but is not yet on track to achieve all of them.
- At an earlier stage in their learning journey (A): describes a child who working at a level below the age related expectation, typically around a year behind.

Assessment Policy:

https://clfacademies.sharepoint.com/:w:/r/sites/clfcurriculumks3/_layouts/15/Doc.aspx?sourcedoc=%7B4736A05C-B6B1-4F0B-B497-6F232878218E%7D&file=Key%20Stage%203%20Assessment%20Policy%20Dec%202018.docx&action=default&mobileredirect=true

Year 7 & 8 Exemplification:

https://clfacademies-my.sharepoint.com/personal/helen_angell_clf_cabot_ac_uk/_layouts/15/onedrive.aspx?id=%2Fsites%2Fclfcurriculumks3%2FShared%20Documents%2FApproaches%20to%20KS3%20in%20the%20CLF%2FAssessment%2FDec%202018%20DOYA%20Exemplification&listurl=https%3A%2F%2Fclfacademies%2Esharepoint%2Ecom%2Fsites%2Fclfcurriculumks3%2FShared%20Documents

Year 6 Exemplification:

https://clfacademies-my.sharepoint.com/personal/helen_angell_clf_cabot_ac_uk/_layouts/15/onedrive.aspx?id=%2Fsites%2Fclfcurriculumks3%2FShared%20Documents%2FApproaches%20to%20KS3%20in%20the%20CLF%2FAssessment%2FYr%206%20ARE%20Exemplification&listurl=https%3A%2F%2Fclfacademies%2Esharepoint%2Ecom%2Fsites%2Fclfcurriculumks3%2FShared%20Documents