



## CHS South Curriculum Intent

**SUCCESSFUL:** An education where imagination, curiosity and resilience enable us to ignite our learning.

**CREATIVE:** A shared belief that optimism, empathy and responsibility are the foundations for a respectful, safe and inclusive community.

**HAPPY:** Individuals who are ready to learn, practise being reflective, and are motivated to become champions.

## CHS Curriculum Area Framework for Learning – Years 7-11

<b>SUBJECT</b>	<b>Maths</b>
<b>INTENT</b>	Maths is a universal language that explains the world around us. The study of Mathematics enables you to make sense of everyday situations, forge links between topics and establish connections to real life context. Maths fosters curiosity, equipping students with various strategies to tackle problems; it empowers students with resilience to take risks, get it wrong, form a new strategy and start again, with determination and drive to reach the final answer. Maths is logical thinking, reasoning, intuition, analysis, construction, generalisation and beauty.



<b>Year Group</b>	7					
<b>Rationale/ Narrative</b>	Working on a range of topics, through a mastery approach, students will have the opportunity to work to consolidate and extend their existing skills from primary school, in order to apply these to more complex situations. Through a four-part lesson structure, students have the opportunity to discuss multiple methods for a given problem and start to develop their evaluative skills in assessing which methods are more appropriate for a given task.					
	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
<b>KNOWLEDGE</b>	<u>Sequences, Algebraic Thinking and Equality and Equivalence</u> <ul style="list-style-type: none"> <li>Linear and non-linear sequences</li> <li>Function machines</li> <li>Substitution</li> <li>Generating sequences from a rule</li> <li>Solving one-step and two-step equations</li> <li>Collecting like terms</li> </ul>	<u>Place Value and Fraction, decimal and Percentage Equivalence</u> <ul style="list-style-type: none"> <li>Place value</li> <li>Range</li> <li>Median</li> <li>Rounding</li> <li>Fractions, decimal and percentage equivalence</li> </ul> Interpreting pie-charts  <u>Application of Number</u> <ul style="list-style-type: none"> <li>Addition and subtraction</li> <li>Perimeter of shapes</li> <li>Frequency trees</li> <li>Multiplying by powers of ten</li> <li>Factors and multiples</li> </ul>	<u>Application of Number cont'd</u> <ul style="list-style-type: none"> <li>Addition and subtraction</li> <li>Perimeter of shapes</li> <li>Frequency trees</li> <li>Multiplying by powers of ten</li> <li>Factors and multiples</li> <li>Areas of triangles, rectangles and parallelograms</li> <li>Finding the mean</li> <li>Fractions and percentages of amounts</li> <li>Solving two-step equations</li> <li>Order of operations</li> </ul>	<u>Directed Numbers and Fractional Thinking</u> <ul style="list-style-type: none"> <li>Negative numbers</li> <li>Adding and subtracting fractions with common and different denominators</li> <li>Manipulate mixed numbers and improper fractions</li> </ul> Adding and subtracting simple algebraic fractions  <u>Lines and Angles</u> <ul style="list-style-type: none"> <li>Measuring and drawing lines and angles</li> <li>Properties of triangles, quadrilaterals and other polygons</li> <li>Drawing angles, given certain</li> </ul>	<u>Lines and Angles cont'd</u> <ul style="list-style-type: none"> <li>Measuring and drawing lines and angles</li> <li>Properties of triangles, quadrilaterals and other polygons</li> <li>Drawing angles, given certain criteria (SSS, SAS, ASA)</li> <li>Drawing and interpreting pie charts</li> </ul> <u>Geometric Reasoning</u> <ul style="list-style-type: none"> <li>Calculate angles at a point, on a straight line and vertically opposite angles.</li> <li>Calculate missing angles in triangles and quadrilaterals</li> </ul>	<u>Developing Number Sense</u> <ul style="list-style-type: none"> <li>Use of mental methods for four operations for integers, decimals and fractions</li> <li>Using factors to simplify calculations</li> <li>Using estimation as a method for checking calculations</li> </ul> <u>Sets and Probability</u> <ul style="list-style-type: none"> <li>Identify and represent sets and Venn diagrams</li> <li>Create and use sample spaces</li> <li>Calculate the probability of a single event</li> </ul>



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		<ul style="list-style-type: none"> <li>• Areas of triangles, rectangles and parallelograms</li> <li>• Finding the mean</li> <li>• Fractions and percentages of amounts</li> <li>• Solving two-step equations</li> <li>• Order of operations</li> </ul>		<ul style="list-style-type: none"> <li>• criteria (SSS, SAS, ASA)</li> <li>• Drawing and interpreting pie charts</li> </ul>	<ul style="list-style-type: none"> <li>• Angles in polygons</li> </ul>	
<b>SKILLS</b>	<p><u>Exploring Sequences</u> Describe and continue sequences in diagram and number forms. Explore linear and non-linear sequences</p> <p><u>Understanding and Using Algebraic Notation</u> Use a variety of representations to explore algebraic notation. Form and substitute into expressions, including generating sequences.</p> <p><u>Equality and Equivalence</u></p>	<p><u>Place Value</u> Understand the number system and place value to include decimals. Order positive and negative integers, fractions and decimals, using representations such as number lines Use the symbols =, ≠, ≤, ≥, &lt; and &gt; 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.</p>	<p><u>Application of number</u> Use formal written methods applied to positive integers and decimals. Recognise and use inverse operations. Derive and apply formulae to calculate and solve problems involving perimeter and area of triangles, parallelograms and trapezia. Construct and interpret tables, charts and diagrams. Derive and apply formulae to calculate. Describe and interpret the mean.</p>	<p><u>Directed Number</u> Use of 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 formulae.</p> <p><u>Fractional Thinking</u> Move between numerical, graphical and diagrammatical representations (e.g., for fractions, decimals and percentages).</p>	<p><u>Lines and Angles</u> 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.</p> <p><u>Geometric Reasoning</u> 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</p>	<p><u>Developing Number Sense</u> Select and use appropriate calculation strategies, including mental and formal written methods.</p> <p><u>Sets and Probability</u> 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.</p> <p><u>Prime Numbers and Proof</u></p>



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	<p>Understand the idea of equivalence. Form and solve equations. Understand 'like terms' and be able to simplify expressions.</p>	<p><u>Fraction, decimal and Percentage Equivalence</u> 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.</p>		<p>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. Extend the use of four operations to include fractions. Work interchangeably between terminating decimals and fractions.</p>	<p>and other polygons to solve increasingly complex problems.</p>	<p>Use the concepts and vocabulary of prime numbers, factors and multiple. Use the unique factorisation property. Use integer powers (squares, cubes and higher) and their associated real roots. Recognise powers and 2,3,4, and 5.</p>
<b>ASSESSMENTS</b>	<p>1 x Sequences Assessment 1 x Algebraic Notation Assessment 1 x Equality and equivalence Assessment</p>	<p>1 x Place Value assessment 1 x Autumn Progress Test  1 x GL Maths Assessment</p>	<p>1 x Multiplication and Division Assessment 1 x Fractions of an Amount Assessment 1 x Negative Number Assessment</p>	<p>1 x Adding &amp; Subtracting Fractions Assessment 1 x Spring Progress Test</p>	<p>1 x Angles Assessment 1 x Geometric Reasoning Assessment 1 x Number sense Assessment</p>	<p>1 x Probability Assessment 1 x Summer Progress Test 1 x GL Assessment</p>
<b>HOME LEARNING</b>	<p>Weekly assessments set on Hegarty Maths VLE relevant to that week's topic</p>	<p>Home study in preparation for Autumn Progress Test</p>	<p>Weekly assessments set on Hegarty Maths VLE relevant to that week's topic</p>	<p>Home study in preparation for Spring Progress Test</p>	<p>Weekly assessments set on Hegarty Maths VLE relevant to that week's topic</p>	<p>Home study in preparation for Summer Progress Test</p>
<b>READING, WRITING, TALK</b>	<p>During 'Anchor Tasks' students are asked to</p>	<p>During one session in this half term,</p>	<p>Use of the reading strategy 'Form</p>	<p>Correct use of mathematical</p>	<p>Students are encouraged to reason</p>	<p>Use of the reading strategy 'Breaking</p>



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	<p>write a journal to document their methods and evaluate other students' methods, describing the limitations of each.</p> <p>Students are encouraged to discuss and present their methods for their Anchor Task, both to their partner and also the rest of the class and through participation in class discussion.</p>	<p>students will peer-assess each other's journals, providing the opportunity to identify areas of strength and weakness, thereby developing their own evaluative skills.</p> <p>Use of the reading strategy 'Predict' – showing students a mathematical image and predicting what area of Maths it relates to - what <i>could</i> the question be asking them?</p>	<p>Opinions' - students are encouraged to develop their journaling skills by evaluating which methods are the most efficient when solving a problem.</p>	<p>vocabulary is developed through tasks in which students need to firstly describe their solution to a problem using annotations only, with no discussion. Then they need to describe their solution using only using mathematical vocabulary and full sentences, the aim being for students to really focus upon the language that they use.</p>	<p>using the correct angle facts and make use of them in their written methods, using precise vocabulary.</p> <p>Use of the reading strategy 'Visualisation' - students are provided with clues involving the properties of 2D shapes and are asked to use the clues to visualise and subsequently draw the correct 2D shape with correct dimensions.</p>	<p>Down Information' – students are encouraged to break down worded questions into smaller parts or identify and exploring key words that are vital in establishing what mathematical skills need to be used to solve a problem.</p>
<p><b>TIER 3 VOCAB</b></p>	<p>Linear, non-linear, arithmetic, geometric, Fibonacci, expressions, equations, identity, functions, input, output, solve, simplify, substitute, 'like' terms.</p>	<p>Integers, decimals, difference, terminating decimals, recurring decimals, significant figures, approximate, rounding, equivalent, percentage, range, median, index, improper, convert.</p>	<p>Integers, commutative, associative, partition, divisor, dividend, perimeter, area, product, perpendicular, factors, multiples, highest common factor, lowest common multiple, parallelogram, profit, loss, balance, credit.</p>	<p>Sea-level, positive, negative, zero, highest common factor, lowest common multiple.</p>	<p>Acute, obtuse, reflex, adjacent, vertically opposite, isosceles, quadrilateral, polygon, regular, alternate, corresponding, co-interior, supplementary, parallel, perpendicular.</p>	<p>Squared, cubed, triangular numbers, prime, prime factor decomposition, union/intersection, conjecture, systematic, counter example.</p>



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<p><b>PSPSMC, BRITISH VALUES</b></p>	<p><u>British Values</u> are promoted through the nature of our lesson structure. Students are encouraged to share their views and listen attentively and respectfully to that of others. Values are reiterated through classroom rules.</p> <p><u>Cultural</u> – mathematical sequences such as Fibonacci are explored with links made to where these sequences appear in nature.</p> <p><u>Cultural</u> – why do we use <math>x</math>? Explore the different cultures that developed our algebraic notation.</p>	<p><u>Personal</u> students are encouraged to develop a positive mind-set when problem solving or learning to cope with new methods.</p> <p><u>Social</u> - Developing self-awareness and the ability to support other students allows effective use of self and peer reviewing to be used, which enables students to have an accurate understanding of their strengths and weaknesses.</p>	<p><u>Social</u> explore how area and perimeter are used extensively through real-life contexts such as DIY, gardening. Exploring which polygon gives the most area for the least perimeter.</p>	<p><u>Cultural</u> – students explore how Egyptians used the sum of fractions with numerators no larger than 1 to represent any fraction</p> <p><u>Cultural</u> – When did negative numbers appear? Why did they need to be invented? Nrich Task.</p> <p><u>Economic well-being</u> Making links between negative numbers and debt.</p>	<p><u>Cultural</u> – Exploration of the mathematics behind famous pieces of art are explored during this topic.</p>	<p><u>Economic well-being</u> How are prime factors used to keep online transactions secure.</p>



<b>Year Group</b>	<b>8</b>					
<b>Rationale/ Narrative</b>	<p>In Year 8, students develop their skills in multiplicative reasoning, working on topics such as percentages, ratio and proportion. Many real life situations encountered are connected by the idea of proportionality. Recognising how these areas of Maths are connected by proportionality and the same underlying mathematics of multiplicative reasoning can help deepen students' understanding of these topics. Knowledge of basic algebra skills are revisited and then deepened, encountering topics such as quadratics and rearranging formulae.</p>					
	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
<b>KNOWLEDGE</b>	<p><u>Ratio &amp; Scale</u></p> <ul style="list-style-type: none"> <li>Understand ratio and its link to multiplication</li> <li>Use ratio notation</li> <li>Reduce ratios to simplest form</li> <li>Solve ratio problems</li> <li>Calculate the circumference of a circle</li> </ul> <p><u>Multiplicative Change</u></p> <ul style="list-style-type: none"> <li>Use scale factors, linking to ratio, solve simple direct proportion problems</li> <li>Convert between currencies, including using graphs</li> </ul>	<p><u>Working in the Cartesian plane</u></p> <ul style="list-style-type: none"> <li>Plot and interpret straight line graphs</li> <li>Understand and use equations of a straight line, including lines parallel to the axes</li> <li>Make links between direct proportion and straight lines of the form <math>y = kx</math></li> <li>Model situations by translating them into expressions, formulae and graphs</li> </ul>	<p><u>Brackets, equations and inequalities cont'd</u></p> <ul style="list-style-type: none"> <li>Expand, and factorise into single brackets</li> <li>Form and use expressions, formulae and identities</li> <li>Form and solve equations and inequalities with and without brackets</li> <li>Distinguish between equations, expressions, formulae and identities</li> </ul>	<p><u>Fractions and Percentages</u></p> <ul style="list-style-type: none"> <li>Develop understanding of fractions, decimals and percentages</li> <li>Evaluate percentages increases and decreases</li> <li>Use multipliers to solve percentage problems</li> <li>Express one number as a percentage of another</li> </ul> <p><u>Standard Index Form</u></p> <ul style="list-style-type: none"> <li>Convert between numbers in</li> </ul>	<p><u>Angles in parallel lines and polygons cont'd</u></p> <ul style="list-style-type: none"> <li>Review Year 7 angles rules</li> <li>Understand and use angles in parallel lines</li> <li>Revisit geometric notation</li> <li>Work angles in special quadrilaterals</li> <li>Find and use the sum of the interior angles of a polygon</li> <li>Prove simple geometric facts</li> </ul> <p><u>Area of trapezia and circles</u></p> <ul style="list-style-type: none"> <li>Review area of shapes covered in Year 7</li> </ul>	<p><u>The data handling cycle</u></p> <ul style="list-style-type: none"> <li>Understand and use primary and secondary sources of data</li> <li>Collect data, including questionnaires</li> <li>Interpret and construct statistical diagrams, including multiple bar charts</li> <li>Identify misleading graphs</li> </ul> <p><u>Measure of location and dispersion</u></p> <ul style="list-style-type: none"> <li>Revisit the median and mean, including finding</li> </ul>



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	<ul style="list-style-type: none"> <li>• Draw and interpret scale diagrams and maps</li> </ul> <p><u>Multiplying and dividing fractions</u></p> <ul style="list-style-type: none"> <li>• Multiply and divide fractions by integers</li> <li>• Multiply and divide fractions by fractions</li> <li>• Understand and use reciprocals</li> </ul>	<p><u>Representing Data</u></p> <ul style="list-style-type: none"> <li>• Draw and interpret scatter graphs</li> <li>• Understand correlation</li> <li>• Draw and use lines of best fit</li> <li>• Understand grouped, ungrouped, discrete and continuous data</li> <li>• Design and use one and two way tables</li> </ul> <p><u>Probability</u></p> <ul style="list-style-type: none"> <li>• List outcomes using sample space diagrams for one and two events</li> <li>• Find probabilities using tables and Venn diagrams</li> </ul> <p><u>Brackets, equations and inequalities</u></p> <ul style="list-style-type: none"> <li>• Expand, and factorise into single brackets</li> <li>• Form and use expressions,</li> </ul>	<p><u>Sequences</u></p> <ul style="list-style-type: none"> <li>• Generate sequences using more complex rules, e.g. with brackets, squared terms, both in words and algebraically</li> </ul> <p><u>Indices</u></p> <ul style="list-style-type: none"> <li>• Form expressions, using indices</li> <li>• Understand and use addition and subtraction rules</li> </ul>	<p>ordinary and standard form</p> <ul style="list-style-type: none"> <li>• Calculate with numbers given in standard form, with and without a calculator</li> </ul> <p><u>Number Sense</u></p> <ul style="list-style-type: none"> <li>• Developmental strategies</li> <li>• Convert between metric measures and units</li> <li>• Estimation including rounding to a given number of decimal places</li> </ul> <p>Use the order of operations</p> <p><u>Angles in parallel lines and polygons</u></p> <ul style="list-style-type: none"> <li>• Review Year 7 angles rules</li> <li>• Understand and use angles in parallel lines</li> <li>• Revisit geometric notation</li> </ul>	<ul style="list-style-type: none"> <li>• Calculate the area of a trapezium</li> <li>• Calculate the area of a circle and the areas of parts of a circle</li> <li>• Use significant figures</li> <li>• Calculate the area of compound shapes</li> </ul> <p><u>Line symmetry and reflection</u></p> <ul style="list-style-type: none"> <li>• Recognise line symmetry in polygons and other shapes</li> </ul> <p>Reflect shapes in horizontal, vertical and diagonal lines</p>	<p>the total given the mean</p> <ul style="list-style-type: none"> <li>• Find the mean of grouped data</li> <li>• Work out the mode and modal class</li> <li>• Choose the appropriate average</li> <li>• Comparing distributions using measures</li> </ul>
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		<p>formulae and identities</p> <ul style="list-style-type: none"> <li>Form and solve equations and inequalities with and without brackets</li> <li>Distinguish between equations, expressions, formulae and identities</li> </ul>		<ul style="list-style-type: none"> <li>Work angles in special quadrilaterals</li> <li>Find and use the sum of the interior angles of a polygon</li> </ul> <p>Prove simple geometric facts</p>		
<b>SKILLS</b>	<p><u>Ratio, proportion and rates of change</u> Change freely between related standard units [for example time, length, area, volume/capacity, mass]</p> <p>Use ratio notation, including reduction to simplest form.</p> <p>Divide a given quantity into two or more parts.</p> <p>Understand that a relationship between two quantities can be</p>	<p><u>Working in the Cartesian plane</u> Move freely between numerical, algebraic, graphical and diagrammatic representations.</p> <p>Make connections between number relationships and their algebraic and graphical representations.</p> <p>Substitute numerical values into formulae and expressions.</p> <p>Recognise, sketch and produce graphs of</p>	<p><u>Expressions and Formulae</u> Substitute numerical values into formulae and expressions, including scientific formulae.</p> <p>Using a variety of representations to simplify and manipulate algebraic expressions to maintain equivalence by:</p> <ul style="list-style-type: none"> <li>- multiplying a single term over a bracket</li> <li>- taking out common factors</li> </ul>	<p><u>Percentages</u> 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%.</p>	<p><u>Angles in Parallel Lines and polygons</u> Apply the properties if angles at a point, angles on a straight line and vertically opposite angles.</p> <p>Understand and use the relationship between parallel lines and alternate and corresponding angles.</p> <p>Derive and use the sum of the angles in a triangle and use it to deduce the angle sum in any polygon.</p>	<p><u>The Data Handling Cycle</u> Describe, interpret and compare data. Construct and interpret appropriate tables, charts and diagrams.</p> <p><u>Measures of Location</u> Describe, interpret and compare observed through appropriate measures of central tendency, such as the mean, mode, median and spread (range and outliers).</p>



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	<p>expressed as a ratio or a fraction.</p> <p>Use compound units such as speed, unit pricing and density to solve problems.</p> <p>Solve problems involving direct and inverse proportion, including graphical and algebraic representations. Examples may include:</p> <ul style="list-style-type: none"> <li>- Recipe problems</li> <li>- Best buy problems</li> </ul> <p>Exchange rates</p> <p><u>Fractions</u> Use a variety of representations to multiply and divide fractions including proper and improper fractions. Understanding of the reciprocal and its uses.</p>	<p>linear functions in the Cartesian plane.</p> <p><u>Representing Data</u> Construct and interpret appropriate tables charts and diagrams including frequency tables, bar charts, pie charts and pictograms.</p> <p>Describe mathematical relationships for bivariate data.</p> <p><u>Tables &amp; Probability</u> Record, describe and analyse the frequency of outcomes of simple probability experiments, involving randomness, fairness, equally and unequally likely outcomes, using appropriate language and the 0-1 probability scale.</p>	<ul style="list-style-type: none"> <li>- expanding products of two or more binomials.</li> <li>- simplifying expressions involving sums, products and powers, including the laws of indices.</li> <li>- Understand and use the vocabulary of inequalities.</li> </ul> <p>Use a variety of methods to solve linear equations in one variable (including all forms that require rearrangement), including those with brackets and fractions.</p>	<p>Percentage increase decrease and original value problems and simple interest in financial mathematics.</p> <p>Making use of fractions and decimal conversions.</p>	<p>Use standard conventions for labelling sides and angles.</p> <p><u>Area of trapezia and circles</u> Derive and apply formulae to calculate and solve problems involving perimeter and area of triangles, parallelograms, trapezia and circles.</p> <p>Efficient use of a calculator.</p> <p><u>Line symmetry and reflection</u> 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.</p> <p>Identify properties of and describe the</p>	
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		Generate theoretical sample spaces for single or combined events.			results of reflections applied to given figures.	
<b>ASSESSMENTS</b>	<p>1 x Ratio &amp; Scale Assessment</p> <p>1 x Multiplicative Change Assessment</p> <p>1 x GL Assessment</p>	<p>1 x Multiplying and Dividing Fractions Assessment</p> <p>1 x Working in the Cartesian Plane</p> <p>1 x Autumn Progress Test</p>	<p>1 x Brackets, Equations and Inequalities Assessment</p> <p>1 x Sequences &amp; Indices Assessment</p> <p>1 x Fractions and Percentages Assessment</p>	<p>1 x Standard Form Assessment</p> <p>1 x Number Sense Assessment</p> <p>1 x Spring Progress Test</p>	<p>1 x Angles Assessment</p> <p>1 x Area of Trapezia and Circles Assessment</p> <p>1 x Line Symmetry Assessment</p>	<p>1 x Statistics Assessment</p> <p>1 x Summer Progress Test</p> <p>1 x GL Assessment</p>
<b>HOME LEARNING</b>	Weekly assessments set on Hegarty Maths VLE relevant to that week's topic	Home study in preparation for Autumn Progress Test	Weekly assessments set on Hegarty Maths VLE relevant to that week's topic	Home study in preparation for Spring Progress Test	Weekly assessments set on Hegarty Maths VLE relevant to that week's topic	Home study in preparation for Summer Progress Test
<b>READING, WRITING, TALK</b>	During 'Anchor Tasks' students are asked to write a journal to document their methods and evaluate other students' methods, describing the limitations of each.	<p>Use of the reading strategy 'Predict' - Allow students to read one paragraph / exam style question</p> <p>Based on what they have read, ask them to identify key words</p>	Developing students' confidence with worded questions, for example when forming and solving equations, how does a worded question translate into a mathematical sentence (equation)	Use of the reading strategy 'Empathise'. Use class discussions to focus emotional topics and themes that could be incorporated within this topic, such as money, debt, loans, interest rates, mortgages	Use of the reading strategy 'Visualisation' Give students an image from an exam question. Ask them to write down three things that it makes them think or imagine. Get them to share with a partner.	Encouraging students to discuss the various averages – which average should you use for a given set of data and why – students to debate these.



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	<p>Students are encouraged to discuss and present their methods for their Anchor Task, both to their partner and also the rest of the class and through participation in class discussion.</p> <p>Developing students' ability to spot the correct methods to use when solving a ratio question, for example when dividing into a ratio, which parts of the sentence define how a bar model representation will look.</p>	<p>Predict which methods are going to be useful to answer the question.</p>	<p>which can then be solved.</p>			
<b>TIER 3 VOCAB</b>	<p>Ratio, proportion, parts, directly proportional.</p> <p>Integer, improper fraction, mixed numbers, reciprocal, increase, decrease</p>	<p>Scale, axis, co-ordinate, increase, decrease, line of best fit, outlier, extrapolate, negative, positive, strong, weak correlation.</p>	<p>Expressions, equations, formulae, substitute, factorise, binomial, indices, inequalities, rearrange formulae/change the subject</p>	<p>Percentage, reverse percentages, multiplier, simple finance</p>	<p>Area, trapezium, isosceles, compound shape, circle, arc, sector, radius, diameter.</p>	<p>Primary data, secondary data, discrete, continuous, frequency, grouped frequency, mean, median, mode, range, outliers.</p>
<b>PSPSMC, BRITISH VALUES</b>	<p><u>Cultural</u> – Coordinates were thought up one day in</p>	<p><u>British Values</u> – are promoted through the nature of our</p>	<p><u>Personal</u> – Use of formulae in everyday life such as calculating</p>	<p><u>Personal</u> – Looking at percentage discount in shop sales</p>	<p><u>Personal</u> Wherever possible, questions are linked</p>	<p><u>Moral</u> Discussion on how the media/politicians</p>



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	<p>the 1600's while Descartes lying in bed as a sick child watching a fly crawl on the ceiling. He wanted to find a way of stating exactly where the fly was positioned. He started off by drawing two lines at right angles to each other.</p> <p><u>Cultural</u> – The effects of a change in exchange rate on the value of the pound when going on holiday.</p> <p><u>Personal</u> – Looking at buying identical products in bulk and whether it is better value for money.</p> <p><u>Personal</u> – Understand that certain jobs such architects, product designers, map makers, etc. have to work with scale drawings of products and places.</p>	<p>lesson structure. Students are encouraged to share their views and listen attentively and respectfully to that of others. Values are re-iterated through classroom rules.</p>	<p>the cost of calling out a plumber with a fixed charge and hourly rate and taxi rates with a fixed charge and rate per mile.</p>	<p><u>Social</u> – Awareness of the risk of borrowing money with a high interest rate and what this means for repayments.</p>	<p>to contextual problems such as finding the area of a garden to then calculate how much grass seed to buy or how the area of a wall to calculate the amount of paint required.</p>	<p>use statistics to promote their side of an argument.</p>
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Year Group	9					
Rationale/ Narrative	Year 9 is the final year of KS3 where students will consolidate and extend their existing skills gained in Years 7 and 8 with a blend of formal methods complementing the mastery approach to problem solving and reasoning. Students will work on a range of new topics, applying their skills to complex situations and promoting their communication and strategising throughout. Students will become familiar with the formal assessment process and expectations.					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
KNOWLEDGE	<u>Calculations</u> <ul style="list-style-type: none"> <li>Place Value</li> <li>Rounding</li> <li>Error Intervals</li> <li>Adding and Subtracting</li> <li>Multiplying and Dividing</li> <li>Roots and indices</li> <li>Surds</li> <li>Standard form</li> </ul> <u>Expressions</u> <ul style="list-style-type: none"> <li>Simplifying Expressions</li> <li>Indices</li> <li>Expanding and Factorising</li> <li>Algebraic Fractions*</li> </ul> <u>Handling Data</u> <ul style="list-style-type: none"> <li>Sampling</li> <li>Organising data</li> <li>Representing Data</li> <li>Averages and Spread</li> </ul>	<u>Percentages</u> <ul style="list-style-type: none"> <li>Percentage Change</li> <li>Percentages Increase/Decrease</li> <li>Compound Interest</li> <li>Reverse Percentages</li> </ul> <u>Equations and Inequalities</u> <ul style="list-style-type: none"> <li>Solving Linear Equations</li> <li>Solving quadratics by factorizing</li> <li>Solving inequalities</li> <li>Simultaneous equations</li> </ul> <u>Angles in Polygons</u> <ul style="list-style-type: none"> <li>Calculating missing angles:               <ul style="list-style-type: none"> <li>-around a point</li> <li>-in a straight line</li> <li>-in a triangle</li> <li>-in a quadrilateral</li> </ul> </li> </ul>	<u>Angles in Polygons</u> <ul style="list-style-type: none"> <li>(cont'd)</li> </ul> <u>Linear graphs</u> <ul style="list-style-type: none"> <li>Working with coordinates</li> <li>Rearranging equations</li> <li>Plotting linear graphs</li> <li>Finding the gradient</li> <li>Applying <math>y = mx + c</math></li> <li>Finding the equation of a line given two points</li> </ul> <u>Working in 2D</u> <ul style="list-style-type: none"> <li>Measuring Lengths and Angles</li> <li>Area of 2D Shapes</li> <li>Transformations 1</li> <li>Transformations 2</li> </ul> <u>Probability</u> <ul style="list-style-type: none"> <li>Probability Experiments</li> </ul>	<u>Probability (cont'd)</u> <u>Formulae and Functions</u> <ul style="list-style-type: none"> <li>Substituting into Formulae</li> <li>Using Standard Formulae</li> <li>Equations, Identities and Functions</li> </ul> <u>Pythagoras &amp; Intro to Trigonometry</u> <ul style="list-style-type: none"> <li>Pythagoras – finding missing lengths</li> <li>Problem solving with Pythagoras</li> <li>Introduction to trig – finding a missing angle</li> <li>Trig – finding a missing side</li> </ul>	<u>Measure and Accuracy</u> <ul style="list-style-type: none"> <li>Estimation and Approximation</li> <li>Calculator Methods</li> <li>Bounds</li> </ul> <u>Circles</u> <ul style="list-style-type: none"> <li>Circumference</li> <li>Area</li> <li>Arc length and sector area</li> </ul> <u>Working with 3D shapes</u> <ul style="list-style-type: none"> <li>3D shapes</li> <li>Volume of a prism</li> <li>Volume and surface area of prisms and spheres</li> </ul>	<u>Sequences (cont'd)</u> <u>Combined Events (Probability)</u> <ul style="list-style-type: none"> <li>Sets</li> <li>Possibility Spaces</li> <li>Tree Diagrams</li> </ul> Flexi – prep for Year 10 GCSE



# CHS South: CURRICULUM

	<p>Fractions, decimals and percentages</p> <ul style="list-style-type: none"> <li>Decimals and Fractions</li> <li>Fractions and Percentages</li> <li>Calculations with Fractions</li> <li>Fractions, Decimals and Percentages</li> </ul>	<p>-in parallel lines</p> <ul style="list-style-type: none"> <li>Coordinates</li> <li>Congruence</li> <li>Similarity</li> <li>Angle sum in polygons</li> </ul>	<ul style="list-style-type: none"> <li>Expected outcomes</li> <li>Theoretical Probability</li> <li>Mutually Exclusive Events</li> </ul>		<p><u>Sequences</u></p> <ul style="list-style-type: none"> <li>Sequence Rules</li> <li>Nth term</li> <li>Special Sequences</li> <li>Quadratic Sequences</li> </ul>	
<b>SKILLS</b>	<p>Addition Subtraction Multiplication Division Percentage multipliers Mental Methods Solving multistep word problems Pattern recognition Trends and relationships Use of mathematical equipment Estimation Rounding Ability to mathematically reason</p>	<p>Addition Subtraction Multiplication Division FDP Mental Methods Solving multistep word problems</p>	<p>Simplifying Substitution Reading from axes Drawing and labelling axes Use of mathematical equipment</p> <p>Multiplication Division Ability to mathematically reason Use of mathematical equipment Use of language in probability</p>	<p>Substitution Calculator skills Number skills Ability to answer problem-solving questions Recalling and manipulating formulae</p>	<p>Recalling and manipulating formulae Substitution Ability to spot patterns Ability to answer problem-solving questions Recall of key formulae</p>	<p>Ability to manipulate fractions. Representing data in various formats. Ability to answer problem-solving questions</p>
<b>ASSESSMENTS</b>	<p>1 x Calculations Assessment 1 x Expressions Assessment 1x Handling Data Assessment</p>	<p>1 x Equations and Inequalities Assessment 1 x Progress test 1 x Angles in polygons Assessment</p>	<p>1 X Linear Graphs Assessment 1 x Working in 2D Assessment</p>	<p>1 x Probability Assessment 1 x Progress Test 1 x Pythagoras Assessment</p>	<p>1 x Measures &amp; Accuracy 1 x Working in 3D Assessment</p>	<p>1 x Sequences Assessment 1 x Progress Test 1 x GL Assessment</p>



# CHS South: CURRICULUM

<b>HOME LEARNING</b>	Weekly assessments set on Hegarty Maths VLE relevant to that week's topic	Home study in preparation for Autumn Progress Test	Weekly assessments set on Hegarty Maths VLE relevant to that week's topic	Home study in preparation for Spring Progress Test	Weekly assessments set on Hegarty Maths VLE relevant to that week's topic	Home study in preparation for Summer Progress Test
<b>READING, WRITING, TALK</b>	<p>Parents can encourage students to research irrational numbers, with an introduction written by NRICH Maths: <a href="http://www.nrich.maths.org/8394">www.nrich.maths.org/8394</a></p> <p>Parents can encourage students to download inspiring TED Talks about the magic behind square numbers: <a href="http://www.ted.com/playlists/189/math_talks_to_blow_your_mind">www.ted.com/playlists/189/math_talks_to_blow_your_mind</a></p> <p>'All About Infinity' <a href="https://nrich.maths.org/2756">https://nrich.maths.org/2756</a></p> <p>Read about why we need the concept of infinity and how this relates to natural numbers:</p>	<p>'Alex's Adventures in Numberland' by Alex Bellos</p> <p>Visualisation: Give students one – three pieces of information about a problem they need to solve, such as angles in polygons. Ask them to use this to predict what they might have to calculate.</p> <p>Building Connections: Use visual clues or key words that students could explore in algebra</p>	<p>Articles and puzzles to be solved on the Nrich website: <a href="https://nrich.maths.org/">https://nrich.maths.org/</a></p> <p>Allow students to look at an image related to an exam style question</p> <p>Based on the image ask them to use this to predict what the exam question might be asking.</p> <p>Challenge students to discuss probability outcomes that have zero chance of happening/50% chance of happening/100% chance of happening</p>	<p>Predicting: Allow students to look at an image related to an exam style question. Based on the image ask them to use this to predict what the exam question might be asking</p> <p>Encourage students to be creative by writing their own Pythagoras question and mark scheme and then test their partner.</p>	<p>'The Code Book' by Simon Singh</p> <p>Encourage students to discuss the concepts of over and underestimation and what implications this has in the real world.</p>	<p>'The curious incident of the dog in the night-time' by Mark Haddon</p> <p>Students are encouraged throughout to reason mathematically and provide full sentence answers where appropriate.</p>



# CHS South: CURRICULUM

<p><b>TIER 3 VOCAB</b></p>	<p>Sum, product, rounding, bounds, indices, roots, simplifying, expressions, 'like' terms, expanding, factorising, Numerator, denominator</p>	<p>Compound interest, reverse percentages, growth and decay. Solve, simplify, factorise, expand. Interior, exterior, congruence, similarity</p>	<p>Binomial, polynomial, factor, lowest common multiple, rotation, reflection, translation, enlargement</p> <p>Event, outcome, bias, fair, theoretical probability, experimental probability, mutually exclusive, relative frequency, exhaustive events, sum, product, trials,</p>	<p>Term, expression, equation, identity, formulae, quadratic simultaneous, inequalities, simplifying, scale factors compound interest.</p>	<p>Estimation, approximation, significant figure, compound units.</p> <p>Area, circumference, arc, sector, segment, chord, tangent</p>	<p>Outcome, dependent, independent, conditional.</p>
<p><b>PSPSMC, BRITISH VALUES</b></p>	<p><u>Cultural</u> – explore number systems from different and historical cultures.</p> <p><u>Cultural</u> – When did negative numbers appear? Why did they need to be invented?</p> <p><u>Economic Wellbeing</u> – How are prime factors keeping online transactions secure?</p>	<p><u>Economic Wellbeing</u> – Interest rates, mortgages, tax.</p> <p><u>Moral</u> – look into the percentage of wealth in companies or countries. Is it fair? Discussing the percentage of a countries wealth that is given as international aid.</p> <p><u>Cultural</u> – encourage students to reflect on where we see angles in real-life. What type of angles are these? What are the most common</p>	<p><u>Social</u> – Group work tasks about decorating a house, classroom, planning a garden Investigation between perimeter and area. What polygon gives the most area for least perimeter?</p> <p><u>Economic Wellbeing</u>- data and equations for the linear graph can be based upon energy prices, bulk buying costs, bank account interest, etc. Students can plot the graphs for two different companies and compare/decide which is cheaper.</p>	<p><u>Citizenship/ Cultural</u> – Why do we have different units for measurement? Where did they come from?</p> <p><u>Cultural/ Citizenship</u> – abstract art, who discovered pi? Cultural – Constructions are useful for a range of jobs including engineering, architecture and town planning. Discussion of why engineers use triangles in</p>	<p><u>Citizenship/ Cultural</u> – Why do we have different units for measurement? Where did they come from?</p> <p><u>Cultural/ Citizenship</u> – abstract art, who discovered pi? Cultural – Constructions are useful for a range of jobs including engineering, architecture and town planning. Discussion of why engineers use triangles in</p>	<p><u>British Values</u> – are promoted throughout the curriculum. During lessons students are encouraged to reflect on right from wrong and accept responsibility for their behavior. Students are encouraged to respect their peers and to respect democracy.</p>



# CHS South: CURRICULUM

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		types of angles that we see? Why is this?			constructions such as bridges.  Cultural/ Citizenship – abstract art, who discovered pi?	
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# CHS South: CURRICULUM

<b>Year Group</b>	<b>10</b>					
<b>Rationale / Narrative</b>	Year 10 continues to equip students to problem solve and reason with resilience and determination. Students will consolidate and extend their existing skills gained in Year 9. Students will work on a range of GCSE topics, applying their skills to complex situations and promoting their communication and strategising throughout. Students will become more familiar with the GCSE assessment and expectations.					
	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
<b>KNOWLEDGE</b>	<u>Ratio and Proportion</u> <ul style="list-style-type: none"> <li>Proportion</li> <li>Ratio and scales</li> <li>Percentage Change</li> </ul> <u>Equations and Inequalities</u> <ul style="list-style-type: none"> <li>Solving linear equations</li> <li>Solving quadratic equations</li> <li>Solving simultaneous equations</li> <li>Using iterative processes to approximate solutions</li> <li>Solving inequalities</li> </ul>	<u>Factors, Powers and Roots</u> <ul style="list-style-type: none"> <li>Factors and multiples</li> <li>Prime factor decomposition</li> <li>Powers and roots</li> </ul> <u>Graphs 1</u> <ul style="list-style-type: none"> <li>Drawing straight-line graphs</li> <li>Equation of straight line</li> <li>Kinematic graphs</li> </ul>	<u>Pythagoras and Trigonometry</u> <ul style="list-style-type: none"> <li>Pythagoras' Theorem</li> <li>Trigonometry</li> <li>Vectors</li> </ul> <u>Handling data</u> <ul style="list-style-type: none"> <li>Frequency diagrams</li> <li>Averages and spread</li> <li>Scatter graphs and correlation</li> <li>Time series</li> </ul> <u>Calculations 2</u> <ul style="list-style-type: none"> <li>Calculating with roots and indices</li> <li>Exact calculations</li> <li>Standard Form</li> </ul>	<u>Preparation for Progress Test</u> <ul style="list-style-type: none"> <li>Revision of key topics covered across</li> </ul> <u>Graphs 2</u> <ul style="list-style-type: none"> <li>Properties of quadratic functions</li> <li>Sketching functions</li> <li>Real-life Graphs</li> </ul>	<u>Circles and Constructions</u> <ul style="list-style-type: none"> <li>Circumference</li> <li>Area</li> <li>Surface area of 3D shapes such as cones, cylinders</li> <li>Arc length and sector area</li> <li>Constructions</li> <li>Loci</li> </ul> <u>Units of proportionality</u> <ul style="list-style-type: none"> <li>Compound Units</li> <li>Direct Proportion</li> <li>Inverse Proportion</li> <li>Growth and Decay</li> </ul> <u>Working with 3D shapes</u> <ul style="list-style-type: none"> <li>Plans and elevations</li> <li>3D shapes</li> <li>Volume of a prism</li> <li>Volume and surface area</li> </ul>	<u>Working with 3D shapes cont.</u> <ul style="list-style-type: none"> <li>3D shapes</li> <li>Volume of a prism</li> <li>Volume and surface area</li> </ul> <u>Angles</u> <ul style="list-style-type: none"> <li>Calculating missing angles: <ul style="list-style-type: none"> <li>-around a point</li> <li>-in a straight line</li> <li>-in a triangle</li> <li>-in a quadrilateral</li> <li>-in parallel lines</li> </ul> </li> <li>Coordinates</li> <li>Congruence</li> <li>Similarity</li> <li>Angle sum in polygons</li> </ul>



# CHS South: CURRICULUM

<p><b>SKILLS</b></p>	<p>Multiplying and dividing by powers of ten            Percentage multipliers            Visualising and drawing shapes            Reading maps and scales            Ability to answer problem-solving questions</p> <p>Collecting like terms            Simplifying expressions            Expanding brackets            Factorising expressions            Drawing inequalities on a number line</p>	<p>-Recalling factors, multiples and primes            -Square numbers            -Cube numbers            -Reading axes            -Drawing and labelling axes            -Ability to answer problem-solving questions            -Substitution</p> <p>-Plotting coordinated            -substitution            - Reading from graphs accurately</p>	<p>Substitution            Recalling formulae            Pattern recognition            Trends and relationships            Substitution            Multiplication            Division            Addition            Subtraction            Ability to mathematically reason            Recognising different parts of shapes            Use of mathematical equipment            Ability to mathematically reason            Use of square numbers            Use of a calculator            Index laws</p>	<p>Reading axes            Drawing and labelling axes            Substitution            Calculator skills            Number skills            Ability to answer problem-solving questions            Recalling formulae</p>	<p>Use of language in probability            Manipulation of equations            Ability to answer problem-solving questions</p>	<p>Addition            Subtraction            Multiplication            Division            FDP            Mental Methods            Solving multistep word problems            Recalling and manipulating formulae            Substitution</p>
<p><b>ASSESSMENTS</b></p>	<p>1 x Ratio and Proportion assessment            1 x Equations and Inequalities assessment            2 x Seen Papers (self/peer assessed)</p>	<p>1 x Hegarty Focus/ Skills check – whole class feedback            1 x Seen Papers (teacher assessed)            1 x Seen Papers (self/peer assessed)            1 x Autumn Progress Test</p>	<p>1 x Pythagoras and Trigonometry unit assessment            1 x Handling Data assessment            2 x Seen Papers (self/peer assessed)</p>	<p>1 x Calculations unit assessment            1 x Seen Papers (teacher assessed)            1 x Seen Papers (self/peer assessed)            1 x Spring Progress Test</p>	<p>1 x Circles and constructions unit assessment            1 x Units of proportionality unit assessment</p>	<p>1 x Working in 3D unit assessment            1 x Seen Papers (teacher assessed)            1 x Seen Papers (self/peer assessed)            2 x Summer Progress Test – Paper 1 &amp; 2</p>



# CHS South: CURRICULUM

<p><b>HOME LEARNING</b></p>	<p>Fortnightly home learning set through Hegarty Maths based upon topics covered in the previous term. Fortnightly home learning set to revise Seen Papers which are tested the following week.</p>	<p>Fortnightly home learning set through Hegarty Maths based upon topics covered in the previous term. Fortnightly home learning set to revise Seen Papers which are tested the following week. Hegarty revision focuses on Progress tests preparation.</p>	<p>Fortnightly home learning set through Hegarty Maths based upon topics covered in the previous term. Fortnightly home learning set to revise Seen Papers which are tested the following week.</p>	<p>Fortnightly home learning set through Hegarty Maths based upon topics covered in the previous term. Fortnightly home learning set to revise Seen Papers which are tested the following week. Hegarty revision focuses on Progress tests preparation.</p>	<p>Fortnightly home learning set through Hegarty Maths based upon topics covered in the previous term. Fortnightly home learning set to revise Seen Papers which are tested the following week.</p>	<p>Fortnightly home learning set through Hegarty Maths based upon topics covered in the previous term. Fortnightly home learning set to revise Seen Papers which are tested the following week. Hegarty revision focuses on Progress tests preparation.</p>
<p><b>READING, WRITING, TALK</b></p>	<p>Students have much exposure to problem-solving questions that require algebraic skills. In this half term, they develop skills in forming and solving equations from worded questions.</p> <p>Students to create their own worded questions which require their partner to form and solve algebraic equations.</p>	<p>Parents can encourage students to download a fascinating talk from Nira Chamberlain (President for the Institute of Mathematics and its Applications) on how Maths is used to solve real world problems. When does a crowd or people become unsafe? How well will Manchester United do next season? When is it</p>	<p>'Fermat's Last Theorem' by Simon Singh.</p> <p>Visualisation - get students to work in pairs. Get one student to describe a 3D shape using correct mathematical language and get the other student to draw.</p> <p>Parents can encourage students to download inspiring TED Talks</p>	<p>Read all about one of Manchester's famous Mathematicians, Alan Turing and discover the contributions he made to Mathematics</p> <p><a href="https://www.britannica.com/biography/Alan-Turing">https://www.britannica.com/biography/Alan-Turing</a></p> <p>Building Connections: Provide tasks so that students can explore solving quadratics, e.g. use of graphs, completing the square, factorising.</p>	<p>'The curious incident of the dog in the night-time' by Mark Haddon</p> <p>Reading, linking topics such as growth and decay to news articles such as R rate associated COVID19.</p> <p>Marcus du Sautoy gives a captivating talk on how Fibonacci numbers (1, 1, 2, 3, 5..) were actually discovered by Indian musicians investigating the numbers of rhythms made by long and short beats.</p> <p><a href="https://www.youtube.com/watch?v=vZ2d3Njax8g">https://www.youtube.com/watch?v=vZ2d3Njax8g</a></p>	<p>Once students are proficient with the skills of finding angles in polygons, ask them to write a question for their partner to test their knowledge.</p> <p>Give students an image from an exam question Ask them to think about 3 things that it makes them think or imagine. Get them to share with a partner.</p>



# CHS South: CURRICULUM

		cost effective to change a kitchen? <a href="https://www.bbc.co.uk/programmes/m000w4rr">https://www.bbc.co.uk/programmes/m000w4rr</a>	about the how Statistics fool juries: <a href="http://www.mathsinsider.com/ted-ed/">http://www.mathsinsider.com/ted-ed/</a>	Pre-reading: Give students one – three pieces of information about a problem they need to solve.  Ask them to use this to predict what they might have to calculate.		
<b>TIER 3 VOCAB</b>	Scale factors, compound interest, variable, quadratic, factorising, iteration, inequality, region	Prime factor decomposition, highest common factor, lowest common multiple, irrational numbers, surds, linear, quadratic, bisector, intercept, function,	Cubic, reciprocal, exponential, trigonometric functions, gradients, hypotenuse, vectors, sine, cosine, tangent, frequency, quartiles, spread, centrality, box plot, interquartile range, correlation, anomaly, time series	Cubic, reciprocal, exponential, trigonometric functions, gradients, area, circumference, arc, sector, segment, chord, tangent, perpendicular, locus,	Area, circumference, arc, sector, segment, chord, tangent, perpendicular, locus, compound, direct, inverse, rate, plan, elevation, net, prism, vertex, edge, face, frustrum	Acute, obtuse, reflex, interior, exterior, congruence, similarity
<b>PSPSMC, BRITISH VALUES</b>	<u>Economic Wellbeing</u> – Interest rates, mortgages, tax.  <u>Economic Wellbeing</u> - data and equations for the linear graph can be based upon energy prices, bulk buying costs, bank account interest, etc. Students	<u>Cultural</u> – Coordinates were thought up one day in the 1600s while Descartes lying in bed as a sick child watching a fly crawl on the ceiling. He wanted to find a way of stating exactly	<u>British Values</u> - collecting data on preferences or public opinions before elections. Ensuring samples are not biased.  <u>Self-confidence</u> - Through marking feedback, students	<u>Social</u> - Use of the internet and historic house price data for Manchester to investigate the trends of house prices in the Manchester area over the last 50 years.  <u>Cultural</u> – Moving objects (cars, boats,	<u>Cultural/ Citizenship</u> – abstract art, who discovered pi? <u>Cultural</u> – Constructions are useful for a range of jobs including engineering, architecture and town planning. Discussion of why engineers use triangles in constructions such as bridges.	<u>Cultural</u> – encourage students to reflect on where we see angles in real-life. What type of angles are these? What are the most common types of angles that we see? Why is this?



# CHS South: CURRICULUM

	<p>can plot the graphs for two different companies and compare/decide which is cheaper.</p> <p><u>British Values</u> – are promoted throughout the curriculum. During lessons students are encouraged to reflect on right from wrong and accept responsibility for their behavior. Students are encouraged to respect their peers and to respect democracy.</p>	<p>where the fly was positioned. He started off by drawing two lines at right angles to each other.</p> <p><u>Economic Wellbeing</u> – Debt. How are prime factors keeping online transactions secure?</p>	<p>develop their self-confidence and self-esteem.</p> <p><u>Moral</u> – Hans Rosling show data which looks at countries' populations over 200 years. Discussion point for impact of WW1, WW2, the population and economic growth of Eastern Asia.</p> <p><a href="http://www.youtube.com/watch?feature=player_embedded&amp;v=jbkSRLYSojo">http://www.youtube.com/watch?feature=player_embedded&amp;v=jbkSRLYSojo</a></p>	<p>aeroplanes) when you have the speed and direction of motion.</p>	<p><u>Social</u> - Use of the internet and historic house price data for Manchester to investigate the trends of house prices in the Manchester area over the last 50 years.</p>	
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# CHS South: CURRICULUM

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