



# Year 10 CH TH Maths Curriculum Summary

**YEAR GROUP: 10 F****SUBJECT: Maths**

When?	Topic	Knowledge	Unit Assessments
HALF TERM 1	<b>Algebra: Linear graphs</b>	<ul style="list-style-type: none"><li>• plot negative coordinates</li><li>• work out the gradient of a line</li><li>• draw a straight-line graph from its equation</li><li>• work out the equation of a linear graph</li><li>• draw linear graphs parallel to other lines</li><li>• read information from a conversion graph</li><li>• use graphs to work out formulae and solve simultaneous linear equations.</li></ul>	Plot coordinates (negative), gradient of a line, draw line from equation, draw parallel line, conversion graph, solve simultaneous equations graphically
HALF TERM 2	<b>Algebra: Expressions &amp; formula</b>	<ul style="list-style-type: none"><li>• use letters to represent numbers</li><li>• form simple algebraic expressions</li><li>• simplify expressions by collecting like terms</li><li>• substitute numbers into expressions and formulae</li><li>• expand and factorise expressions</li><li>• expand two pairs of brackets</li><li>• factorise quadratic expressions</li><li>• rearrange formulae.</li></ul>	Letters to represent numbers, form expressions, collect like terms, substitute, expand and factorise expressions, expand 2 pairs of brackets, factorise quadratics, rearrange formula



When?	Topic	Knowledge	Unit Assessments
<p>HALF TERM 3</p>	<p><b>Ratio, proportion &amp; rates of change: Ratio, speed and proportion</b></p>	<ul style="list-style-type: none"> <li>• know what a ratio is</li> <li>• divide an amount in a given ratio</li> <li>• calculate speed</li> <li>• solve problems involving direct proportion</li> <li>• compare prices of products.</li> </ul>	<p>Know what a ratio is, divide in a given ratio, calculate speed, direct proportion, best prices</p>
<p>HALF TERM 4</p>	<p><b>Geometry &amp; Measures: Perimeter &amp; Area</b></p>	<ul style="list-style-type: none"> <li>• I can work out the perimeters and areas of rectangles, triangles, parallelograms, trapeziums and compound shapes</li> <li>• I can calculate the circumference and area of a circle and give your answers in terms of <math>\pi</math>.</li> </ul>	<p>Perimeter &amp; area of rectangles, triangles, parallelograms, trapeziums and compound shapes, area and circumference of a circle including it terms of <math>\pi</math></p>
<p>HALF TERM 5</p>	<p><b>Geometry &amp; Measures: Transformations</b></p>	<ul style="list-style-type: none"> <li>• work out the order of rotational symmetry for a 2D shape</li> <li>• translate, reflect, rotate and enlarge 2D shapes</li> <li>• what is meant by a transformation</li> <li>• add and subtract vectors.</li> </ul>	<p>Order of rotational symmetry, translate, reflect, rotate, enlarge, understand ‘transformation’, add &amp; subtract vectors</p> <p>Probability scale, language of probability, prob of ‘happening’/’not happening’, mutually</p>





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	<p><b>Algebra: Linear equations</b></p> <p><b>Ratio, proportion &amp; rates of change:</b></p> <p><b>Ratio, proportion &amp; rates of change: Percentages &amp; variation</b></p>	<ul style="list-style-type: none"> <li>• solve linear equations with the variable on one side</li> <li>• solve linear equations involving brackets</li> <li>• solve linear equations with fractions</li> <li>• solve linear equations with the variable on both sides</li> <li>• set up linear equations from real-life problems.</li> <li>• convert between fractions, decimals and percentages</li> <li>• use a percentage multiplier</li> <li>• work out percentage increase and decrease</li> <li>• work out one quantity as a percentage of another</li> <li>• calculate compound measures (rates of pay, density, pressure).</li>   <li>• calculate compound interest and repeated percentage change</li> <li>• calculate a reverse percentage</li> <li>• solve problems where two variables are in direct proportion</li> <li>• solve problems where two variables are in inverse proportion</li> <li>• recognise graphs that show direct and inverse proportion</li> </ul>	<p>Convert between FDP, percentage multiplier, percentage increase &amp; decrease, one quantity as a percentage of another, compound measures (rates of pay, density, pressure)</p> <p>Compound interest, repeated percentage change, reverse percentage, direct &amp; inverse proportion, graphs for direct &amp; inverse proportion, growth &amp; decay,</p> <p>Data handling cycle, unbiased sample, pie charts, mode &amp; estimated mean, scatter diagrams &amp; lines of best fit</p> <p>Construct a triangle, bisect a line &amp; angle, construct angles of <math>60^\circ</math> &amp; <math>90^\circ</math>, define a locus,</p>



When?	Topic	Knowledge	Unit Assessments
	<p><b>Statistics: Representation &amp; Interpretation</b></p> <p><b>Geometry &amp; Measures: Construction &amp; Loci</b></p> <p><b>Geometry &amp; Measures: Curved shapes &amp; pyramids</b></p> <p><b>Algebra: Number &amp; Sequences</b></p>	<ul style="list-style-type: none"><li>• work out problems about growth and decay</li><li>• work out problems about original values.</li><li>• describe the data-handling cycle</li><li>• collect data to obtain an unbiased sample</li><li>• draw and interpret pie charts</li><li>• identify the modal group and estimate the mean from grouped data</li><li>• draw scatter diagrams and lines of best fit</li><li>• interpret scatter diagrams and the different types of correlation.</li><li>• construct a triangle from given data</li><li>• bisect a line and an angle</li><li>• construct angles of <math>60^\circ</math> and <math>90^\circ</math></li><li>• define a locus</li><li>• solve locus problems.</li> <li>• calculate the length of an arc</li><li>• calculate the area and angle of a sector</li><li>• calculate the volume and surface area of a pyramid</li><li>• calculate the volume and surface area of a cone and a sphere.</li></ul>	<p>solve loci problems</p> <p>Arc length, sector area &amp; angle, volume &amp; surface area of a pyramid, cone and sphere</p> <p>Rules for sequences, express rules in words &amp; algebra, generate terms from n-th term, find the n-th term of a linear sequence, common sequences eg Fibonacci</p>



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		<ul style="list-style-type: none"><li>• recognise rules for sequences</li><li>• express a rule for a sequence, in words and algebraically</li><li>• generate the terms of a linear sequence, given a formula for the <math>n</math>th term</li><li>• find the <math>n</math>th term of a linear sequence</li><li>• know some common sequences of numbers.</li></ul>	