



# CHORLTON HIGH SCHOOL: CURRICULUM

## CHS Curriculum Intent

**SUCCESSFUL:** Learners who gain deep and powerful knowledge in preparation for life; combining academic rigour, curiosity and creative flair.

**CREATIVE:** Learners who are imaginative, optimistic and inventive; finding their voice to become effective communicators prepared for lifelong adaptability

**HAPPY:** Learners who are confident, resilient, well-rounded citizens; they understand the world's communities and are ready to discover their place in it.

## CHS Curriculum Area Framework for Learning – Year 9

<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.



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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	<p><u>Calculations</u></p> <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> <p><u>Expressions</u></p> <ul style="list-style-type: none"> <li>Simplifying Expressions</li> <li>Indices</li> <li>Expanding and Factorising</li> <li>Algebraic Fractions*</li> </ul> <p><u>Linear graphs</u></p> <ul style="list-style-type: none"> <li>Working with coordinates</li> <li>Rearranging equations</li> <li>Plotting linear graphs</li> </ul>	<p><u>Handling Data</u></p> <ul style="list-style-type: none"> <li>Sampling</li> <li>Organising data</li> <li>Representing Data</li> <li>Averages and Spread</li> </ul> <p><u>Fractions, decimals and percentages</u></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><u>Percentage calculations</u></p> <ul style="list-style-type: none"> <li>Percentage increase/decrease</li> <li>Percentage change</li> <li>Compound interest</li> <li>Growth and decay</li> <li>Reverse percentages</li> </ul>	<p><u>Formulae and Functions</u></p> <ul style="list-style-type: none"> <li>Substituting into Formulae</li> <li>Using Standard Formulae</li> <li>Equations, Identities and Functions</li> <li>Expanding and Factorising 2</li> </ul> <p><u>Working in 2D</u></p> <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> <p><u>Pythagoras' Theorem</u></p> <ul style="list-style-type: none"> <li>Square numbers</li> <li>Square roots</li> <li>Calculating missing lengths in right angles triangles</li> <li>3D context</li> </ul>	<p><u>Probability</u></p> <ul style="list-style-type: none"> <li>Probability Experiments</li> <li>Expected outcomes</li> <li>Theoretical Probability</li> <li>Mutually Exclusive Events</li> </ul> <p><u>Measure and Accuracy</u></p> <ul style="list-style-type: none"> <li>Estimation and Approximation</li> <li>Calculator Methods</li> <li>Measure and Accuracy</li> </ul>	<p><u>Equations and Inequalities</u></p> <ul style="list-style-type: none"> <li>Solving linear equations</li> <li>Quadratic Equations</li> <li>Simultaneous equations</li> <li>Approximate Solutions using Iteration</li> <li>Inequalities</li> </ul> <p><u>Ratio and Proportion</u></p> <ul style="list-style-type: none"> <li>Proportion</li> <li>Ratio and scales</li> <li>Percentage Change</li> </ul>	<p><u>Circles and Constructions</u></p> <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> <p><u>Factors, Powers and Roots</u></p> <ul style="list-style-type: none"> <li>Factors and multiples</li> <li>Prime factor decomposition</li> <li>Powers and roots</li> </ul>



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	<ul style="list-style-type: none"> <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> <p><u>Angles in polygons</u></p> <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>					
<b>SKILLS</b>	Addition Subtraction Multiplication Division Mental Methods Solving multistep word problems Use of mathematical equipment Estimation Rounding Plotting coordinates Ability to mathematically reason	Pattern recognition Trends and relationships Substitution Multiplication Division Addition Subtraction Ability to mathematically reason Recognising different parts of shapes Use of mathematical equipment	Simplifying Substitution Multiplication Division Ability to mathematically reason Use of equipment	FDP Use of mathematical equipment Reading scales Estimation Rounding Ability to mathematically reason	Simplifying Substitution Ability to form and solve equations Ability to mathematically reason Percentage multipliers Visualising and drawing shapes Understanding loci Use of mathematical equipment	Addition Subtraction Multiplication Division Mental Methods Solving multistep word problems Use of mathematical equipment Estimation Rounding Ability to mathematically reason



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		Ability to mathematically reason Use of a calculator			Reading maps and scales Ability to answer problem-solving	
<b>ASSESSMENTS</b>	1 x Calculations Assessment 1x Expressions Assessment	1 x Angles in polygons Assessment 1 x Handling data Assessment 1 x Progress test	1 x FDP Assessment 1 x Formulae and Functions Assessment	1 x Working in 2D (given for homework and self-assessed) 1 x Probability Assessment 1 x Progress test	1 x Measures and accuracy Assessment 1 x Equations and Inequalities Assessment	1 x Ratio and Proportion Assessment 1 x Circles and constructions Assessment 1 x Progress Test