<b>KS4 Module 1</b> (Year 10 Module 1 of 3 – start date W.C. 05.09.22)	<b>KS4 Module 2</b> (Year 10 Module 2 of 3 – start date W.C. 09.01.23)	<b>KS4 Module 3</b> (Year 10 Module 3 of 3 – start date W.C. 17.04.23)
Knowledge What pupils will know	Knowledge What pupils will know	Knowledge What pupils will know
<ul> <li>Foundation Tier</li> <li>Negative numbers including decimals and BIDMAS</li> <li>Comparing numbers, rounding and estimating</li> <li>Simplifying and substitution into expressions</li> <li>Substitution into expressions</li> <li>Expanding and Factorising expressions</li> <li>Solving equations (one step, two step, with brackets and with unknows on both sides) and rearranging formulae</li> <li>Plotting and interpreting co-ordinates in all four quadrants</li> <li>Four rules of operations with fractions</li> <li>Angles on straight lines, at a point and in polygons</li> <li>Angles on parallel lines</li> </ul> Higher Tier <ul> <li>Negative numbers including decimals and BIDMAS</li> <li>Comparing numbers, rounding and estimating</li> <li>Simplifying and substitution into expressions</li> <li>Solving equations (one step, two step, with brackets and with unknows on both sides) and rearranging formulae</li> </ul>	<ul> <li>Foundation Tier</li> <li>Transformations: Reflect, Rotate, Enlarge and Translate</li> <li>Percentages of an amount, increase, decrease, reverse and change</li> <li>Ratio: Simplify, 1:n, share an amount into a give ratio, compare ratios, overlapping ratios and mixed questions that involve fractions, percentages and ratios</li> <li>2D and 3D shapes: area, perimeter, surface area, volume, general properties, plans of elevation</li> <li>Draw and interpret linear graphs</li> <li>Convert and calculate in standard form</li> <li>Higher Tier</li> <li>Solve simultaneous equations</li> <li>Percentages of an amount, increase, decrease, reverse and change</li> <li>Ratio: Simplify, 1:n, share an amount into a give ratio, compare ratios, overlapping ratios and mixed questions that involve fractions, percentages and ratios</li> <li>Convert and calculate in standard form</li> <li>ZD and 3D shapes: area, perimeter, surface area, volume, general properties, plans of elevation</li> <li>Percentages of an amount, increase, decrease, reverse and change</li> <li>Ratio: Simplify, 1:n, share an amount into a give ratio, compare ratios, overlapping ratios and mixed questions that involve fractions, percentages and ratios</li> <li>Convert and calculate in standard form</li> <li>2D and 3D shapes: area, perimeter, surface area, volume, general properties, plans of elevation</li> <li>Pythagoras</li> <li>Trigonometric ratios</li> </ul>	<ul> <li>Foundation Tier</li> <li>Formulae for circle area and circumference. Solve problems that involving circles, semi-circles and sectors</li> <li>Pythagoras</li> <li>Trigonometric ratios</li> <li>Special sequences: arithmetic, geometric and Fibonacci. Nth term of a sequence. Finding missing terms.</li> <li>Calculating averages- including from tables</li> <li>Interpreting and displaying data: pie charts, stem and leaf diagram, scatter graphs, frequency polygons</li> <li>Higher Tier</li> <li>Calculating averages- including interquartile range</li> <li>Interpreting and displaying data: pie charts, stem and leaf diagram, scatter graphs, frequency polygons</li> <li>Compound Measures and Kinematics</li> <li>Simplifying Algebraic Fractions</li> <li>Further trigonometry including in 3D</li> <li>Transformations</li> <li>Maps and Bearings</li> </ul>

Skill What pupils will be able to do	Skill What pupils will be able to do	Skill What pupils will be able to do
<ul> <li>Apply sign rules</li> <li>Use inverse operations</li> <li>Plot in all four quadrants</li> <li>LCM and HCF</li> </ul>	<ul> <li>Substitution</li> <li>Use a calculator</li> <li>Use multipliers</li> <li>Use visual representation for example: bar modelling</li> </ul>	<ul><li>Substitution</li><li>Use a protractor accurately</li></ul>
KS4 Module 4	KS4 Module 5:	KS4 Module 6:
(Year 11 Module 1 of 3 – start date W.C. 05.09.22)	(Year 11 Module 2 of 3 – start date W.C. 09.01.23)	(Year 11 Module 3 of 3 – start date W.C. 17.04.23)
Knowledge What pupils will know	Knowledge What pupils will know	Knowledge What pupils will know
<ul> <li>Foundation Tier</li> <li>Fractions, Decimals and percentages</li> <li>Probability scale, experimental probability, probability trees, space and sample diagrams, two-way tables and Venn diagrams</li> <li>Real life graphs connected to ratio and proportion</li> <li>Direct and inverse proportion</li> <li>Inequalities</li> <li>Surface area</li> <li>Volume</li> <li>Compound measures</li> <li>Simultaneous equations</li> <li>Maps and Bearings</li> </ul> Higher Tier <ul> <li>Collecting and displaying data – including Histograms</li> <li>Algebraic proof</li> <li>Problems involving area and circumference of circles</li> <li>Circle Theorems</li> <li>Further graphs</li> <li>Proportion</li> <li>Set notation</li> <li>2D ad 3D shapes including Pythagoras, volume surface area</li> </ul>	<ul> <li>Foundation Tier</li> <li>Know the difference between similarity and congruence</li> <li>Understand the aim of collecting Data, by looking at methods, bias and sample sizes.</li> <li>Calculating averages- including from tables</li> <li>Representing and interpreting data from graphs: bar charts, composite bar charts, pie charts, stem and leaf diagrams, pictograms and scatter graphs</li> <li>Construction of accurate triangles</li> <li>Trail and Improvement</li> <li>Algebraic Reasoning</li> <li>Describe translations as 2D vectors; apply addition and subtraction of vectors, multiplication of vectors by a scalar, and diagrammatic and column representations of vectors</li> <li>Higher Tier</li> <li>Interpret simple expressions as functions with inputs and outputs. Interpret the reverse process as the "inverse function"</li> <li>Construction</li> <li>Transformations- including transformation of graphs</li> <li>Find approximate solutions to equations numerically using iteration</li> <li>Solving and representing inequalities</li> </ul>	<ul> <li>Revision of bespoke topics identified from mock exams</li> <li>Walk and talking exam coaching</li> <li>Completion of past papers</li> <li>Completion of predicted papers</li> </ul>

Similarity and Congruence	<ul> <li>Calculating bounds</li> <li>Use vectors to construct geometric arguments and proof</li> </ul>	
Skill What pupils will be able to do	Skill What pupils will be able to do	Skill What pupils will be able to do
<ul> <li>Fluently convert between fractions, decimals and percentages</li> <li>Use the multiplier method on the calculator to work out percentage increase and decrease</li> <li>Use a probability model to predict the outcomes of future experiments</li> <li>Substitute into formulae</li> <li>Use protractors and compass accurately</li> <li>Use the calculator effectively to work out trigonometric ratios</li> </ul>	<ul> <li>Multiply and divide mentally to work out scale factor</li> <li>Compare averages</li> <li>Use the calculator accurately for trial and improvement</li> <li>Substitute, collect like terms, expand and factorise expressions</li> <li>Apply all four rules to vectors</li> </ul>	<ul> <li>Planning multi- step questions to maximise exam results</li> <li>Interpret mark schemes</li> </ul>