Beamont Collegiate Academy Curriculum Map

Year 10 Mathematics (Foundation)

Intent	Implementation	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge	Units Taught	• Expressions and formulae • Indices and standard form	• Angles and bearings • Statistics • Fractions	• Algebra – Linear Equations • Percentages • Ratio	• Algebra – sequences and graphs • Problem Solving with area	• Pythagoras and Trig • Proportion	• Problem Solving with volume • Probability
	Sequencing	This half term is building on skills that pupils learnt in Year 9. Algebra is going to be an important topic in Year 10 so we are visiting this early on so the pupils have secure knowledge to apply to future topics.	Pupils are building on year 9 knowledge during this half term.	This unit revisits algebra and pupils will be able to apply their knowledge of angles to equations. The pupils are building on their knowledge of percentages and ratio from year 9.	Pupils are using algebra skills and applying them to sequences and graphs. They are also beginning to apply area skills to more problem-solving style of questions.	Pythagoras is being revisited during this half term whereas trigonometry is new. Pupils are also looking at proportion, using their ratio knowledge from Spring 1.	Pupils are using the area knowledge they have gained during the spring term and applying this to volume. They are also visiting probability for the first time since year 9.
	Substantive Knowledge *Declarative : "I Know that.."* *Proceedural : "I Know How"* *Conditional : "I Know When.."*	<u>Expressions and Formulae</u> • Writing algebraic expressions • Expanding and factorising single and double brackets • rearranging • substitution <u>Powers & Roots</u> • powers and roots • laws of indices • simplifying expressions with indices • converting to and from standard form • calculating with standard form	<u>Angles & Bearings</u> • Basic angle facts • Multistep angle problems • Angles in parallel lines • Angles in quadrilaterals • Bearings <u>Statistics</u> • Calculating averages • Comparing averages • Stratified sampling • Averages from grouped data • Drawing and interpreting statistical diagrams <u>Fractions</u> • Ordering fractions • Equivalent FDP • Fractions of amounts • Fraction calculations • Fractions and percentages questions	<u>Linear Equations</u> • Solving 1 & 2 step equations • Solving equations with unknowns on both sides • Forming and solving • Inequalities • Simultaneous equations <u>Percentages</u> • Finding percentages of amounts (non calc) • Percentage increase/decrease • Compound percentages • Number as a percentage • Percentage change <u>Ratio</u> • Ratio as a fraction • Writing a ratio & simplifying a ratio • Sharing in a ratio • Sharing in a ratio given 1 part or difference • Ratio problems (including FDP) • Combining ratios	<u>Sequences</u> • Finding missing terms in a sequence • Finding the nth term of a sequence • Non-Linear Sequences • Quadratic Sequences <u>Graphs</u> • Linear graphs • Equations of lines • Parallel lines • Nonlinear graphs <u>Area</u> • Finding the area and perimeter of a shape • Solving area and perimeter problems • Cost problems and area • Area and circumference of a circle and part-circles •	<u>Pythagoras and Trig</u> • Using Pythagoras' theorem • Solving problems with Pythagoras' theorem • Finding missing sides using trigonometry • Finding missing angles using trigonometry <u>Proportion</u> • Unitary method • Recipes • Exchange rates • Conversion graphs • Speed, distance, time	<u>Volume</u> • Volume of a cuboid • Volume of a prism • Surface area of prisms • Volume problems • Plans and elevations <u>Probability</u> • Probability of events • Expectation • Two-way tables • Frequency trees • Combined events

Links	Main Links across the Curriculum	**Expressions and Formulae** Perimeter & area Angles Factors & multiples	**Angles** Solving equations **Statistics** Algebra **Fractions** Factors, multiples Percentages	**Linear equations** Area and perimeter Angles Money problems **Percentages** Money problems Interest Profit/loss **Ratio** Fractions, decimals and percentages Angles Proportion	**Sequences and Graphs** Algebra Solving equations Coordinates **Problem Solving with area** Money problems Algebra Percentages/fractions of amounts	**Pythagoras' Theorem & Trig** Perimeter and area Money problems Pythagoras **Proportion** Ratio Percentages Decimals Money calculations Conversion between FDP	**Problem Solving with Volume** Perimeter and area Money problems Pythagoras **Probability** Equivalent fractions, decimals & percentages Multiplying fractions and decimals
	Cross-Curricular Links						
	Links to the Real World / Careers / P.D.			Business – percentage profit and loss			
Vocabulary	Key words	Expressions and Formulae - expression - expand - factorise - simplify - factor - quadratic - substitute Powers & Roots - index/indices - reciprocal - power	Angles - parallel - corresponding, alternate, co-interior - isosceles - bearing Statistics - Mode, median, range, mean - frequency - discrete - compare - stratified - sample - correlation Fractions	Linear Equations - expression - Equation - solution - inverse Percentages - percentage - interest - compound - depreciate Ratio - ratio - proportion - parts - equivalent	Sequences and Graphs - linear - quadratic - y intercept - parallel Area - area - perimeter - circle - arc - circumference - sector - compound - conversion	Pythagoras & Trig - hypotenuse - adjacent - tangent - ratio Proportion - unitary - inverse - proportion - ratio - exchange	Volume - volume - prism - surface area - dimensions - cross sections - plan - elevation Probability - Combined - expectation - dependent - outcome - even - frequency

			- equivalent - numerator - denominator improper				
Assessment	Summative assessment	Each unit of work within this half term is assessed using a formal assessment.	Each unit of work within this half term is assessed using a formal assessment.	Each unit of work within this half term is assessed using a formal assessment.	Each unit of work within this half term is assessed using a formal assessment.	Each unit of work within this half term is assessed using a formal assessment.	Each unit of work within this half term is assessed using a formal assessment.