Blue Coat
Church of England Academy

Year: 9	Subject: Mathematics

Overview

At Blue Coat Academy, the Mathematics department aims to promote a love of learning for the subject with applications to real-life to allow pupils to see its importance. Enrichment activities are used over the course of the year to reinforce this alongside a key focus on reasoning and problem-solving.
Pupils are set according to KS2 and Year 8 data. The content for Year 9 builds on work covered in Year 7 and Year 8, going into greater detail to deepen pupil understanding of key areas. Pupils are assessed each half-term on content covered to check their understanding and to embed exam style questions over the academic year. At the end of the year, pupils complete a non-calculator GCSE paper to prepare them for KS4. All pupils have access to the MathsWatch VLE site to assist with independent learning, homework and revision.

Content Covered

9s/Ma1 and 9t/Ma1	9s/Ma2 and 9t/Ma2	9s/Ma3 and 9t/Ma3
Calculating	Calculating	Counting and comparing
Visualising and constructing	Numbers and the number system	Numbers and the number system
Algebraic proficiency: tinkering	Visualising and constructing	Calculating
Pattern sniffing	Understanding risk I	Checking, approximating and estimating
Solving equations and inequalities I	Algebraic proficiency: tinkering	Visualising and constructing
Calculating space	Exploring fractions, decimals and percentages	Investigating properties of shapes
Algebraic proficiency: visualising	Proportional reasoning	Algebraic proficiency: tinkering
Solving equations and inequalities II	Pattern sniffing	Exploring fractions, decimals and percentages
Understanding risk	Investigating angles	Measuring space
Presentation of data	Calculating fractions, decimals and percentages	Pattern sniffing
Proportional reasoning	Solving equations and inequalities	Proportional reasoning
Conjecturing	Calculating space	Investigating angles
	Algebraic proficiency: visualising	Calculating fractions, decimals and percentages
	Understanding risk II	Solving equations and inequalities
	Presentation of data	Calculating space
	Measuring data	Mathematical movement
		Presentation of data
		Measuring data

Key Assessment Areas

9s/Ma1 and 9t/Ma1	9s/Ma2 and 9t/Ma2	9s/Ma3 and 9t/Ma3
Calculate with roots and integer indices	Apply the four operations with negative numbers	Add, subtract, multiply and divide with fractions and mixed numbers
Manipulate algebraic expressions by expanding the product of two binomials	Convert numbers into standard form and vice versa	Use positive integer powers and associated real roots
Manipulate algebraic expressions by factorising a quadratic expression of the form $x^2 + bx + c$	Apply the multiplication, division and power laws of indices	Apply the four operations with decimal numbers
Understand and use the gradient of a straight line to solve problems	Convert between terminating decimals and fractions	Write a quantity as a fraction or percentage of another
Solve two linear simultaneous equations algebraically and graphically	Find a relevant multiplier when solving problems involving proportion	Use multiplicative reasoning to interpret percentage change
Plot and interpret graphs of quadratic functions	Solve problems involving percentage change, including original value problems	Check calculations using approximation, estimation or inverse operations
Change freely between compound units	Factorise an expression by taking out common factors	Simplify and manipulate expressions by collecting like terms
Use ruler and compass methods to construct the perpendicular bisector of a line segment and to bisect an angle	Change the subject of a formula when two steps are required	Simplify and manipulate expressions by multiplying a single term over a bracket
Solve problems involving similar shapes	Find and use the nth term for a linear sequence	Substitute numbers into formulae
Calculate exactly with multiples of π	Solve linear equations with unknowns on both sides	Solve linear equations in one unknown
Apply Pythagoras' theorem in two dimensions	Plot and interpret graphs of linear functions	Understand and use lines parallel to the axes, $y = x$ and $y = -x$
Use geometrical reasoning to construct simple proofs	Apply the formulae for circumference and area of a circle	Calculate surface area of cubes and cuboids
Use tree diagrams to list outcomes	Calculate theoretical probabilities for single events	Understand and use geometric notation for labelling angles, lengths, equal lengths and parallel lines