



Blue Coat Church of England Academy

Year: 8

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 7 data. The content for Year 8 builds on work covered in Year 7, 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. All pupils have access to the MathsWatch VLE site to assist with independent learning, homework and revision.

Content Covered

8s/Ma1 and 8t/Ma1	8s/Ma2 and 8t/Ma2	8s/Ma3 and 8t/Ma3
Calculating	Counting and comparing	Calculating
Numbers and the number system	Numbers and the number system	Numbers and the number system
Visualising and constructing	Calculating	Calculating: division
Understanding risk I	Checking, approximating and estimating	Checking, approximating and estimating
Algebraic proficiency: tinkering	Visualising and constructing	Visualising and constructing
Exploring fractions, decimals and percentages	Investigating properties of shapes	Investigating properties of shapes
Proportional reasoning	Algebraic proficiency: tinkering	Algebraic proficiency: using formulae
Pattern sniffing	Exploring fractions, decimals and percentages	Exploring fractions, decimals and percentages
Investigating angles	Measuring space	Proportional reasoning
Calculating fractions, decimals and percentages	Pattern sniffing	Pattern sniffing
Solving equations and inequalities	Proportional reasoning	Measuring space
Calculating space	Investigating angles	Investigating angles
Algebraic proficiency: visualising	Calculating fractions, decimals and percentages	Calculating fractions, decimals and percentages
Understanding risk II	Solving equations and inequalities	Solving equations and inequalities
Presentation of data	Calculating space	Calculating space
Measuring data	Mathematical movement	Mathematical movement
	Presentation of data	Presentation of data
	Measuring data	Measuring data

Key Assessment Areas

8s/Ma1 and 8t/Ma1	8s/Ma2 and 8t/Ma2	8s/Ma3 and 8t/Ma3
<ul style="list-style-type: none"> ▪ Apply the four operations with negative numbers ▪ Convert numbers into standard form and vice versa ▪ Apply the multiplication, division and power laws of indices ▪ Convert between terminating decimals and fractions ▪ Find a relevant multiplier when solving problems involving proportion ▪ Solve problems involving percentage change, including original value problems ▪ Factorise an expression by taking out common factors ▪ Change the subject of a formula when two steps are required ▪ Find and use the nth term for a linear sequence ▪ Solve linear equations with unknowns on both sides ▪ Plot and interpret graphs of linear functions ▪ Apply the formulae for circumference and area of a circle ▪ Calculate theoretical probabilities for single events 	<ul style="list-style-type: none"> ▪ Add, subtract, multiply and divide with fractions and mixed numbers ▪ Use positive integer powers and associated real roots ▪ Apply the four operations with decimal numbers ▪ Write a quantity as a fraction or percentage of another ▪ Use multiplicative reasoning to interpret percentage change ▪ Check calculations using approximation, estimation or inverse operations ▪ Simplify and manipulate expressions by collecting like terms ▪ Simplify and manipulate expressions by multiplying a single term over a bracket ▪ Substitute numbers into formulae ▪ Solve linear equations in one unknown ▪ Understand and use lines parallel to the axes, $y = x$ and $y = -x$ ▪ Calculate surface area of cubes and cuboids ▪ Understand and use geometric notation for labelling angles, lengths, equal lengths and parallel lines 	<ul style="list-style-type: none"> ▪ Multiply and divide numbers with up to three decimal places by 10, 100, and 1000 ▪ Use long division to divide numbers up to four digits by a two-digit number ▪ Use simple formulae expressed in words ▪ Generate and describe linear number sequences ▪ Use simple ratio to compare quantities ▪ Write a fraction in its lowest terms by cancelling common factors ▪ Add and subtract fractions and mixed numbers with different denominators ▪ Multiply pairs of fractions in simple cases ▪ Find percentages of quantities ▪ Solve missing angle problems involving triangles, quadrilaterals, angles at a point and angles on a straight line ▪ Calculate the volume of cubes and cuboids ▪ Use coordinates in all four quadrants ▪ Calculate and interpret the mean as an average of a set of discrete data