

# Big Picture – Year 9 Mathematics Department



Next  
Year

## Probability

Mutually exclusive and combined events, methods of representing, comparing and calculating theoretical probability, Venn Diagrams.

## Ratio and Proportion

Using, comparing and reasoning with ratio and proportion, understanding financial maths and budgeting.

UNIT  
8

## 3D Shapes (and Trigonometry)

Properties, plans and elevations, surface area and volume, (introducing trigonometry).

## Constructions (and Pythagoras)

Constructing triangle, bisectors, parallel line and loci, (introducing Pythagoras's Theorem).

UNIT  
7

## Sequences

Term-to-term, position-to-term and nth term rules of a linear sequences, recursive sequences, (and quadratic sequences).

## Powers and Roots

Squares, cubes and roots, indices (and surds), understanding and using standard form.

UNIT  
6

## Equations

Solving, balancing and forming equations with one unknown, equality and inequality, (simultaneous equations).

## Statistics

Planning and collecting data, statistical diagrams, scatter graphs and correlation, frequency, comparing and reporting data.

UNIT  
5

## Transformations and Scale

Rotational, reflection, translation and enlargement (similarity), maps and scale drawings.

## (Decimal) Calculations

Adding, subtracting, multiplying and dividing whole numbers or decimals, calculator methods.

UNIT  
4

## Graphs

Drawing and interpreting straight line and real-life graphs, gradient and the equation of a line, (quadratic graphs).

## Angles and 2D Shapes

Angle rules in triangles and quadrilaterals or other polygons (and circles), congruency.

## Expressions and Formulae

Expanding and factorising, substitution, understanding formulae, deriving or rearranging formulae and expressions.

## Fractions, Decimals and Percentages

Adding, subtracting, multiplying and dividing fractions, working with decimals, percentages of a quantity or percentage change and percentage problems.

UNIT  
3

UNIT  
2

## Measure, Perimeter and Area

Units and (compound) measures, area and perimeter of 2d shapes including circles.

## Whole Numbers and Decimals

Rounding and estimations, factors, multiples, primes and indices.

UNIT  
1

Year  
9