**Year 7**

All Year 7 students study Mathematics from the English National Curriculum throughout Key Stage 3. By the end of Year 9 most students should be working at level 5 to 6, with the highest level attainable being level 8. Levels are determined through regular formal and informal assessment. In Year 7 the students have been taught in streamed sets, with tasks being differentiated according to their own needs, understanding and progress. Most students are working at level 4 with those who are above average showing understanding at level 5. All students are expected to have their own scientific calculator as well as equipment for construction, such as a ruler, protractor and compass.

**Year 8**

All Year 8 students study Mathematics from the English National Curriculum throughout Key Stage 3. By the end of Year 9 most students should be working at level 5 to 6, with the highest level attainable being level 8. Levels are determined through regular formal and informal assessment. In Year 8 the students have been taught in streamed sets, with set 1 being more mathematically able. In each set tasks are differentiated according to the needs, understanding and progress of each student. Most students are working at level 5 with those who are above average showing understanding at level 6. All students are expected to have their own scientific calculator as well as equipment for construction, such as a ruler, protractor and compass.

**Year 9**

All Year 9 students study Mathematics from the English National Curriculum throughout Key Stage 3. By the end of Year 9 most students should be working at level 5 to 6, with the highest level attainable being level 8. Levels are determined through regular formal and informal assessment. In Year 9 the students have been taught in streamed sets, with set 1 being more mathematically able. In each set tasks are differentiated according to the needs, understanding and progress of each student. Most students are working at level 6 with those who are above average showing understanding at level 7. All students are to have their own scientific calculator as well as equipment for construction, such as a ruler, protractor and

compass.

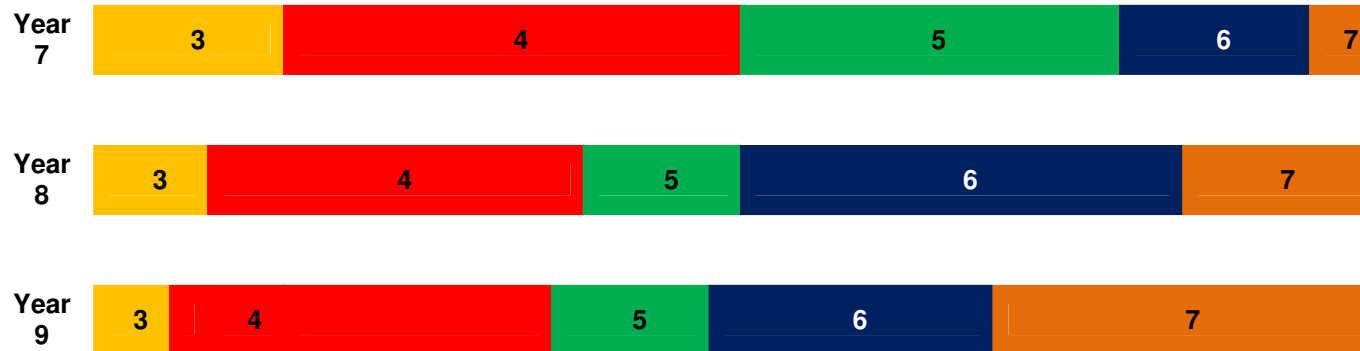
### Marking and Assessment Process

The Mathematics Department is committed to the principle of 'Assessment for Learning' as well as acknowledging the need for assessment of learning for the purposes of grading and reporting. Assessment, which is explicitly designed to promote learning, is the single most powerful tool we have for both raising standards and empowering lifelong learners.

Students' involvement in the assessment process is vital. We encourage Students to discuss and demonstrate their solutions, insisting that correct, precise, orderly mathematics is used at all times, both spoken and written.

Formal assessments are given after two topics. They are similar in format to the SATs used at the end of each Key Stage. The level of the test the students sit is decided by their teacher, from knowing their progress and where they are in class. These assessments along with informal and formal formative assessment such as homework tasks, investigations and in class tasks help determine the level each student is working at.

An approximate guide to the distribution of each level attained by students in the UK for Mathematics



<b>Level</b>	<b>Number</b>	<b>Algebra</b>	<b>Shape and Space</b>	<b>Data Handling</b>
<b>3</b>	Understand place value of numbers up to 1000 Make approximations Use decimals Use negative numbers for money and temperature To add and subtract three digit numbers To be able to use the 2,3,4,5 and 10 multiplication tables Solve whole number problems with multiplication and division Use simple fractions		Classify 3D and 2D shapes Use metric units for length, capacity and mass	Use simple tables and lists Construct bar charts and pictograms
<b>4</b>	Multiply and divide whole numbers by 10 or 100 Know multiplication up to $10 \times 10$ Add and subtract decimals up to two decimal places Be able to check answer to make sure it is reasonable To recognize approximate proportion Recognize number patterns: multiples, factors, squares	Use simple word formulae Use coordinates in first quadrant Appreciate the use of letters to represent unknowns	Make 3D models Reflect shapes in mirror line Choose appropriate units for measuring and reading scales Find perimeter of simple shapes Find area of simple shapes by counting squares	Collect data and make a tally chart and frequency table Understand mode and range Group data into class intervals Construct and interpret frequency diagrams Construct and interpret simple line graphs
<b>5</b>	Multiply and divide whole numbers and decimals by 10, 100 and 1000 Add and subtract negative numbers Add, subtract, multiply and divide decimals to 2 decimal places Simplify a fraction Solve problems using ratio and proportion Calculate percentage of amounts Multiply and divide a three digit number and a two digit number no calculator Check solutions- inverse or estimate	Construct simple formulae using one or two operations Use coordinates in all four quadrants Development of algebraic rules to include index notation, multiplying out single brackets	Construct shapes- by knowing how to measure and draw angles Use language associated with angles Know there is 180 degrees in a triangle Symmetries of 2D shapes Rough conversion between metric and imperial units Formulae for area of rectangle	Use mean for discrete data Compare data using mean, median, mode and range Interpret graphs including pie charts Understand probability scale from 0 to 1 Finding probabilities
<b>6</b>	Use percentages for solving problems involving comparison Evaluate one number as a fraction or percent of another	Find the nth term of a sequence (linear) Construct and solve linear equations Plot straight line graphs	Use the properties of quadrilaterals Solve problems using angle and symmetry properties of	Collect and record continuous data Construct and interpret frequency diagrams Construct pie charts Interpret scatter diagrams

To be able to convert between fraction, decimal, percent and ratio Add and subtract fractions without common denominators	Use trial and improvement methods	polygons using angle properties Find area and circumference of a circle Enlarge shapes by a positive whole number scale factor Areas of rectangular figures Volumes of cuboids	List all outcomes using diagram tables involving two experiments Construct tree diagrams Know that the total probability of mutually exclusive events is 1
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### Guidelines to the National Curriculum Levels in Mathematics

Level	Number	Algebra	Shape and Space	Data Handling
<b>7</b>	Round to 1 significant figure Understand the effect of multiply and divide a number between 0 and 1 Solve multiplication and division problems with numbers of any size Understand proportional changes	Find the nth term of a sequence (quadratic) Expand and simplify brackets in form $(x + n)(x + n)$ Solve simultaneous linear equations both graphically and algebraically Solve simple inequalities	Use Pythagoras' theorem Calculate lengths, area and volume in shapes including prisms Enlarge by a fractional scale factor Find the locus of an object Find the upper and lower bound of a measurement Use compound measures such as speed	Specify and test hypothesis Determine modal class and estimate range, mean and median for grouped data Able to construct and interpret a frequency polygon Draw line of best fit on scatter diagram Understand relative frequency as an estimate of probability
<b>8</b>	Solve problems involving powers, roots and numbers in standard form. Use fractions or percentages to solve problems involving repeated proportional changes	Evaluate algebraic formulae, using fractions, decimals and negatives Calculate one variable given another in formulae such as $V = r^2h$ Change the subject of formulae Finding common factors Solve inequalities with two variables Draw linear, quadratic, cubic and reciprocal functions Factorize expressions	Understand similar shapes and congruent shapes Basic trigonometry Distinguish formulae for area, volume and perimeter	Construct cumulative frequency diagrams Find inter-quartile range and estimate median Find probability of a compound event