

Key Stage 3 – Year 7 Group B , Year 8 Group A

Subject: Mathematics

The mathematics department aim to develop the full potential of every student in the subject. It is our aim to ensure that every pupil experiences success and enjoyment in the subject, whether it be equipping them with sufficient mathematical skills for everyday life or developing problem solving and reasoning skills to take them beyond GCSE.

The scheme of learning is divided into units of study consisting of interlinking skills and topics that build on prior learning. Throughout the year students will complete multi-choice quizzes, homework, 'common homework tasks' and assessments. The common homework tasks will be completed by all students following this scheme of learning. The assessments provide opportunities for students to demonstrate their ability to recall information, methods of calculation and skills studied in previous units of work, and apply their problem solving skills to a variety of contextual problems.

		I will learn to	How I will be assessed
Autumn Term	Unit 1	<ul style="list-style-type: none"> Y7 only: Introduction to calculator skills lesson; include negative, square, square root and bracket buttons. Add and subtract negative numbers and work with them in 'real-life' context Multiply and divide negative numbers and work with them in 'real-life' context; include division by factors when dividing by 2+ digit integers Substitute positive and negative values into expressions/formula and complete a table of values; recap BIDMAS Simplify expressions by collecting like terms Form and solve one and two step equations; unknown on one side / no brackets Interpret, write and solve simple algebraic expressions 	Multi-choice Quiz Common Homework Topic Assessment
	Unit 2	<ul style="list-style-type: none"> Find equivalent fractions, including improper fractions and mixed numbers Simplify fractions, including improper fractions and mixed numbers Add and subtract proper fractions where both denominators need to change and/or working with integers Multiply and divide proper fractions; include working with integers Express one quantity as a fraction of another; include working with 'real-life' context questions Use fractions to compare two quantities Calculate a fraction of an amount; include working with 'real-life' context questions 	Multi-choice Quiz Common Homework Autumn Assessment (Units 1 & 2)
Spring Term	Unit 3	<ul style="list-style-type: none"> Order positive and negative decimal values; answer 'real-life' questions in context Add, subtract, multiply and divide integers and decimals using formal written methods; answer 'real-life' questions in context Solve financial mathematics problems that use bank statements; explicitly address working with credit and debit amounts Use a calculator to calculate results (incl. fraction button, square, square root); answer 'real-life' questions in context Round numbers to a given number of decimal places Convert between equivalent fractions, decimals and percentages (including fifths and hundredths) Express one quantity as a percentage of another Compare two quantities using percentages Find a percentages of an amount (up to multiples of 5%) 	Multi-choice Quiz Common Homework Topic Assessment

Summer Term	Unit 4	<ul style="list-style-type: none"> Classify 2D and 3D shapes; know the language of points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, symmetry, polygon and regular/irregular polygon. Estimate, measure and draw angles using a protractor. Know and use the angle properties in special triangles and quadrilaterals Know and use the sum of angles in a quadrilateral Find the area and perimeter of rectilinear shapes Convert between metric units and apply to perimeter and area problems Derive and use the formula to calculate the area of triangles and parallelograms Recognise and draw the net of a cube/cuboid Calculate the volume and surface area of cubes and cuboids Construct and interpret plans of 3D shapes; including drawing diagrams from written instructions Understand and use isometric drawings 	<p>Multi-choice Quiz</p> <p>Common Homework</p> <p>Spring Assessment (Units 1 - 4)</p>
	Unit 5	<ul style="list-style-type: none"> Identify and work with factors, multiples and primes. Identify between which two numbers a square root lies. Recognise and work with cube numbers and their associated cube roots Use knowledge of the order of operations (BIDMAS) to evaluate calculations; including division, brackets and powers >2 Describe and generate sequences described in words/diagrams Simplify a ratio; include 3 part ratios e.g. 1:3:2 Relate ratio to fractions Divide an amount into a given ratio Solve problems involving direct proportion; including recipes and other 'real-life' context questions 	<p>Multi-choice Quiz</p> <p>Common Homework</p> <p>Topic Assessment</p>
	Unit 6	<ul style="list-style-type: none"> Calculate the mean, median, mode and range of a small set of data; including explicitly knowing that the median, mode and mean are averages and the range is a measure of spread of the data. Data should be presented in different formats to develop understanding and interpretation; ordered and un-ordered lists, negative and decimal numbers, large and small values, tables and charts. Record a probability on a 0-1 probability scale; include context questions of something not happening Describe probabilities using associated terminology e.g. unlikely, evens, certain etc; link to fractions, decimals and percentages Find simple probabilities using fractions/decimals and percentages; include dice and cards examples. Understand that the probabilities of all possible outcomes sum to 1; include context questions to find the probability of something not happening 	<p>Multi-choice Quiz</p> <p>Common Homework</p> <p>End of Year Assessment -all units</p>

How you can support your child's progress in mathematics:

- Encourage independence in repeated practice of unfamiliar topics using vle.mathswatch.co.uk/vle
- Practise mental maths skills such as addition, subtraction, multiplication and division regularly.
- Provide real life opportunities to challenge your child's mathematical knowledge and skills. Examples could include; calculating change from a bill, estimating the cost of a restaurant bill, working out the best buy when shopping, working out the cost of a home improvement or the amount of supplies for a home improvement.