

Mathematics

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The Maths department offer skills in line with the national curriculum under five categories namely: algebra, calculating, geometry and measures, number systems, and statistics and probability. Teaching is engaging which enables pupils to acquire key mathematical skills that builds on their prior knowledge and addresses any gaps in understanding. The Maths curriculum is supplemented by access to TT Rock stars’ software to ensure regular opportunities for consolidation, revision and memory connections to be made. Students in Key Stage 4 work towards gaining Mathematics qualifications including entry level, functional skills and GCSE, so that students can aim to gain a qualification that is achievable and tailored to them.

Syllabus materials KS4:

[AQA | Subjects | Mathematics | Functional Skills](#)

[AQA | Mathematics | GCSE | Mathematics](#)

Careers in Maths:

1438_My Learning My Future_Mathematics_FINAL.pdf (careersandenterprise.co.uk)

Schemes of work:

*Although there is a clear structure to the maths curriculum, additional time may be needed to review content from previous years.

**Year 7 curriculum subject to change by Nurture

	Autumn One	Autumn Two	Spring One	Spring Two	Summer One	Summer Two
Year 7	Number 1-calculating and place value <ul style="list-style-type: none"> Place value Rounding 4 operations Key vocabulary <ul style="list-style-type: none"> Digit/ones Tens Hundred Thousands Placeholder Partitioning Nearest Multiplication 	Handling data 1-Statistical Measure <ul style="list-style-type: none"> Interpret/draw pictographs, bar charts Use a tally chart Key vocabulary <ul style="list-style-type: none"> Tally Chart Pictogram Bar chart Frequency Algebra 1- equations <ul style="list-style-type: none"> Missing numbers in simple calculations 	Number 4 – Properties of number <ul style="list-style-type: none"> Multiples Key vocabulary <ul style="list-style-type: none"> Times table Multiple Algebra 2- Functions, coordinates and graphs <ul style="list-style-type: none"> Coordinates Key Vocabulary <ul style="list-style-type: none"> Axes Coordinate 	Geometry and measure 3 – constructions <ul style="list-style-type: none"> 2D shapes Key Vocabulary <ul style="list-style-type: none"> Shape Circle Semi-circle Triangle Square Rectangle Pentagon Hexagon Octagon Heptagon 	Number 5- Calculating and place value <ul style="list-style-type: none"> Number lines Key vocabulary <ul style="list-style-type: none"> Greater than Less than Equal to Negative 	Geometry and Measure 4- transformations <ul style="list-style-type: none"> Reflection Key vocabulary <ul style="list-style-type: none"> Mirror line Reflect Reflection Line of symmetry Handling data 4 interpreting and representing data <ul style="list-style-type: none"> Interpret data

	<ul style="list-style-type: none"> • Division • Addition • Subtraction <p>Number 2- Fractions, Decimals Percentages</p> <ul style="list-style-type: none"> • Reading decimal scales • Mixed numbers • Introduction to fractions <p>Key Vocabulary</p> <ul style="list-style-type: none"> • Mixed number • Decimal • Decimal point • Fraction 	<p>Key vocabulary</p> <ul style="list-style-type: none"> • Unknown number <p>Geometry and Measure 1-Mensuration</p> <ul style="list-style-type: none"> • Calendars • Time • Money <p>Key vocabulary</p> <ul style="list-style-type: none"> • Months • Days • Weeks • Hours • minutes • Seconds • 12 hour clock • 24 hour clock • Analogue • Digital • Yeas (inc leap) • Pound • Pence 	<p>Geometry and Measure 2- geometrical reasoning</p> <ul style="list-style-type: none"> • Angles (different types) <p>Key vocabulary</p> <ul style="list-style-type: none"> • Angle • Degrees • Acute • Right angle • Obtuse • straight • Reflex 	<ul style="list-style-type: none"> • Parallelogram • Rhombus <p>Algebra 3-sequences</p> <ul style="list-style-type: none"> • Function machines (1 step) • Continuing a sequence <p>Key vocabulary</p> <ul style="list-style-type: none"> • Sequence • Position • Difference • Input • Output • Inverse 	<p>Key vocabulary</p> <ul style="list-style-type: none"> • Questionnaire • Data • Information <p>Geometry and Measure 5-menstartion 2</p> <ul style="list-style-type: none"> • Measuring • Perimeter and area <p>Key Vocabulary</p> <ul style="list-style-type: none"> • Centimetre • Millimetre • Perimeter • Area • Square centimetre • Length • Width 	
Year 8	<p>Number 1- Calculating and place value</p> <ul style="list-style-type: none"> • Written methods of multiplication and division • Multiplication/division by 10, 100, 1000 • Rounding <p>Key vocabulary</p> <ul style="list-style-type: none"> • Column method • Grid method • Long multiplication • Long/Short division • Approximate • Decimal <p>Number 2-Fractions, decimals and percentages</p> <ul style="list-style-type: none"> • Add/subtract decimals 	<p>Handling data 1-Stastical Measure</p> <ul style="list-style-type: none"> • Data collection • Two way tables <p>Key vocabulary</p> <ul style="list-style-type: none"> • Survey • Frequency • Two way table <p>Algebra 1- equations</p> <ul style="list-style-type: none"> • Simplifying expressions • Like terms <p>Key vocabulary</p> <ul style="list-style-type: none"> • Like terms • Simplify <p>Geometry and Measure 1-Mensuration</p> <ul style="list-style-type: none"> • Perimeter and area • Measuring and drawing angles 	<p>Number 4 – Properties of number</p> <ul style="list-style-type: none"> • Multiples • Factors <p>Key vocabulary</p> <ul style="list-style-type: none"> • Factor • Divisible <p>Algebra 2- Functions, coordinates and graphs</p> <ul style="list-style-type: none"> • Coordinates- 4 quadrants <p>Key Vocabulary</p> <ul style="list-style-type: none"> • X axis • Y axis • Quadrant • Negative 	<p>Handling Data 2- interpreting and representing data</p> <ul style="list-style-type: none"> • Mode, median and range <p>Key Vocabulary</p> <ul style="list-style-type: none"> • Median • Mode • Range • Data • Order • Modal <p>Geometry and measure 3 – constructions</p> <ul style="list-style-type: none"> • 3d shapes-faces, vertices, edges <p>Key Vocabulary</p> <ul style="list-style-type: none"> • 3D • Sphere • Cylinder 	<p>Number 5- Calculating and place value</p> <ul style="list-style-type: none"> • Estimating • Negative numbers • Add/subtract with negative numbers • Multiplication/division negative numbers <p>Key vocabulary</p> <ul style="list-style-type: none"> • Positive • Negative • Temperature • Approximation • Product <p>Handling data 3 –probability</p> <ul style="list-style-type: none"> • Probability scale • Experimental probability 	<p>Geometry and Measure 4-transformations</p> <ul style="list-style-type: none"> • Rotation <p>Key vocabulary</p> <ul style="list-style-type: none"> • Order of rotational symmetry • Rotation • Centre of rotation <p>Handling data 4 interpreting and representing data</p> <ul style="list-style-type: none"> • Pie charts • Line graph <p>Key vocabulary</p> <ul style="list-style-type: none"> • Line graph • Pie chart • Sector

	<ul style="list-style-type: none"> Equivalent fractions Simplifying Introduction to percentages <p>Key Vocabulary</p> <ul style="list-style-type: none"> Denominator Numerator Equivalent fractions Fraction wall <p>Number 3- Ratio and proportion</p> <ul style="list-style-type: none"> Ratio calculations/comparing <p>Key vocabulary</p> <ul style="list-style-type: none"> Ratio Sharing 	<p>Key vocabulary</p> <ul style="list-style-type: none"> Protractor 	<p>Geometry and Measure 2- geometrical reasoning</p> <ul style="list-style-type: none"> Properties of triangles/quadrilaterals Angles rules-missing angles <p>Key vocabulary</p> <ul style="list-style-type: none"> Angles around a point Angles on a straight line Quadrilateral Scalene triangle Isosceles triangle Equilateral triangle 	<ul style="list-style-type: none"> Cube Cuboid Cone Pyramid Prism Faces Vertices Edges <p>Algebra 3-sequences</p> <ul style="list-style-type: none"> Function machines (2 step) Missing terms Term to term rule <p>Key vocabulary</p> <ul style="list-style-type: none"> Rule Term Term to term 	<p>Key vocabulary</p> <ul style="list-style-type: none"> Outcome Chance Likely/unlikely Fair Probability scale Event 	<p>Geometry and Measure 5- menstartion 2</p> <ul style="list-style-type: none"> Working with circles <p>Key vocabulary</p> <ul style="list-style-type: none"> Arc Diameter Sector Circumference Radius Centre
Year 9	<p>Number 1- Calculating and place value</p> <ul style="list-style-type: none"> Rounding (sf) BIDMAS <p>Key vocabulary</p> <ul style="list-style-type: none"> BIDMAS Order of operations Significant Figure <p>Number 2-Fractions, decimals and percentages</p> <ul style="list-style-type: none"> Add/subtract fractions Write percentage as a decimal Improper fractions and mixed numbers Fraction/percentage of a Quantity <p>Key Vocabulary</p> <ul style="list-style-type: none"> Quantity 	<p>Handling data 1-Stastical Measure</p> <ul style="list-style-type: none"> Grouped frequency Continuous data Perimeter and area (formula) <p>Key vocabulary</p> <ul style="list-style-type: none"> Formula Modal Grouped frequency table Continuous data <p>Algebra 1- equations</p> <ul style="list-style-type: none"> Expanding brackets <p>Key vocabulary</p> <ul style="list-style-type: none"> Brackets Expand Multiply out <p>Geometry and Measure 1-Mensuration</p> <ul style="list-style-type: none"> Perimeter and area of compound shapes 	<p>Number 4 – Properties of number</p> <ul style="list-style-type: none"> Square/cube numbers Primes LCM HCF <p>Key vocabulary</p> <ul style="list-style-type: none"> Square/cube number Square/cube root Lowest common multiple Highest common factor Prime number <p>Algebra 2- Functions, coordinates and graphs</p> <ul style="list-style-type: none"> Distance speed graphs <p>Key vocabulary</p> <ul style="list-style-type: none"> Distance Speed Time 	<p>Handling Data 2- interpreting and representing data</p> <ul style="list-style-type: none"> Mean Scatter graphs and correlation Venn diagrams <p>Key vocabulary</p> <ul style="list-style-type: none"> Mean Assumed mean Average Correlation- positive, negative Scatter graph Venn <p>Geometry and measure 3 – constructions</p> <ul style="list-style-type: none"> Nets <p>Key vocabulary</p> <ul style="list-style-type: none"> Construct net 	<p>Number 5- Calculating and place value</p> <ul style="list-style-type: none"> Significant figures Appropriate measures and units Add/subtract with negative numbers (double negative) <p>Key vocabulary</p> <ul style="list-style-type: none"> Significant figure Double negative <p>Handling data 3 –probability</p> <ul style="list-style-type: none"> Theoretical and experimental probability <p>Key vocabulary</p> <ul style="list-style-type: none"> Experimental Theoretical Trial Combined event 	<p>Geometry and Measure 4- transformations</p> <ul style="list-style-type: none"> Enlargement Tessellating shapes <p>Key vocabulary</p> <ul style="list-style-type: none"> Tessellation Scale Enlargement Enlarge Centre of enlargement <p>Handling data 4 interpreting and representing data</p> <ul style="list-style-type: none"> Linear graphs <p>Geometry and Measure 5- menstartion 2</p> <ul style="list-style-type: none"> Volume- cubes/cuboids Circles- area and circumference <p>Key vocabulary</p> <ul style="list-style-type: none"> Capacity

	<ul style="list-style-type: none"> Improper fraction <p>Number 3- Ratio and proportion</p> <ul style="list-style-type: none"> Direct proportion <p>Key vocabulary</p> <ul style="list-style-type: none"> Direct proportion Proportional 	<p>Key vocabulary</p> <ul style="list-style-type: none"> Compound shape 	<ul style="list-style-type: none"> Average speed <p>Geometry and Measure 2- geometrical reasoning</p> <ul style="list-style-type: none"> Angles rules <p>Key vocabulary</p> <ul style="list-style-type: none"> Calculate Opposite angles Alternate angles Corresponding angles 	<p>Algebra 3-sequences</p> <ul style="list-style-type: none"> Triangular numbers Square numbers Nth term <p>Key vocabulary</p> <ul style="list-style-type: none"> Triangular numbers Square numbers nth term 		<ul style="list-style-type: none"> Volume litre
Year 10	<p>Number 1- Calculating and place value</p> <ul style="list-style-type: none"> BIDMAS (negative numbers) Rounding errors <p>Key vocabulary</p> <ul style="list-style-type: none"> BIDMAS (recap yr9) Suitable degree of accuracy <p>Number 2-Fractions, decimals and percentages</p> <ul style="list-style-type: none"> Percentage increase/decrease Multiply/divide decimals Convert between fractions/decimals and percentages <p>Key vocabulary</p> <ul style="list-style-type: none"> Decrease Increase Reduction Convert Multiplier 	<p>Handling data 1-Statistical Measure</p> <ul style="list-style-type: none"> Cumulative frequency <p>Key vocabulary</p> <ul style="list-style-type: none"> Grouped frequency table Frequency Discrete <p>Algebra 1- equations</p> <ul style="list-style-type: none"> Solving Expressions <p>Key vocabulary</p> <ul style="list-style-type: none"> Expression Substitute <p>Geometry and Measure 1-Mensuration</p> <ul style="list-style-type: none"> Area-triangles parallelogram, trapezium, kite, rhombus <p>Key vocabulary</p> <ul style="list-style-type: none"> Base Perpendicular height 	<p>Number 4 – Properties of number</p> <ul style="list-style-type: none"> Powers/roots <p>Key vocabulary</p> <ul style="list-style-type: none"> Power Roots <p>Algebra 2- Functions, coordinates and graphs</p> <ul style="list-style-type: none"> Linear graphs Coordinates and midpoints <p>Key vocabulary</p> <ul style="list-style-type: none"> Linear equation <p>Geometry and Measure 2- geometrical reasoning</p> <ul style="list-style-type: none"> Parallel/perpendicular lines <p>Key vocabulary</p> <ul style="list-style-type: none"> Parallel Perpendicular Intersect 	<p>Handling Data 2- interpreting and representing data</p> <ul style="list-style-type: none"> Creating scatter graphs Two way Tables Stem and leaf diagrams <p>Key vocabulary</p> <ul style="list-style-type: none"> Two way tables (recap yr8) Stem/leaf diagram <p>Geometry and measure 3 – constructions</p> <ul style="list-style-type: none"> Scale diagrams <p>Key vocabulary</p> <ul style="list-style-type: none"> Scale Scale diagram <p>Algebra 3-sequences</p> <ul style="list-style-type: none"> Nth term (with algebra) Fibonacci sequence <p>Key vocabulary</p> <ul style="list-style-type: none"> Algebraic rule Fibonacci 	<p>Number 5- Calculating and place value</p> <ul style="list-style-type: none"> Standard form <p>Key vocabulary</p> <ul style="list-style-type: none"> Standard Form <p>Handling data 3 –probability</p> <ul style="list-style-type: none"> Probability-tree diagrams Combined events <p>Key vocabulary</p> <ul style="list-style-type: none"> Combined event 	<p>Geometry and Measure 4- transformations</p> <ul style="list-style-type: none"> Transformation <p>Key vocabulary</p> <ul style="list-style-type: none"> Translate Translation <p>Handling data 4 interpreting and representing data</p> <ul style="list-style-type: none"> Pie charts (scaling method) To compare two sets of data from statistical tables and diagrams <p>Key vocabulary</p> <ul style="list-style-type: none"> Scaling Frequency Total frequency Comparison <p>Geometry and Measure 5- menstartion 2</p> <ul style="list-style-type: none"> Volumes- prisms, cylinders <p>Key vocabulary</p> <ul style="list-style-type: none"> Volume Prism

	<p>Number 3- Ratio and proportion</p> <ul style="list-style-type: none"> • Graphs and direct proportion <p>Key vocabulary</p> <ul style="list-style-type: none"> • Formula 					<ul style="list-style-type: none"> • Cross section
Year 11	<p>Number</p> <ul style="list-style-type: none"> • Multiply divide fractions • Powers of 10 • Inverse proportion <p>Key vocabulary</p> <ul style="list-style-type: none"> • Power of 10 • Direct and Inverse proportion <p>Handling Data</p> <ul style="list-style-type: none"> • Sets and Venn diagrams <p>Algebra</p> <ul style="list-style-type: none"> • Straight line graphs • Quadratic equation graphs • Factorising <p>Key vocabulary</p> <ul style="list-style-type: none"> • Constant • Gradient • Quadratic • Factorise 	<p>Geometry</p> <ul style="list-style-type: none"> • Pythagoras Theorem • Trigonometric • Loci • Interior/external angles polygons <p>Key vocabulary</p> <ul style="list-style-type: none"> • Pythagoras • Hypotenuse • Interior angle • Exterior angle • Polygon, • Nonagon • Decagon • Tangent <p>Ratio and Proportion</p> <ul style="list-style-type: none"> • Interest <p>Key vocabulary</p> <ul style="list-style-type: none"> • Deposit • Interest • Lender 	Revision			