Cansfield High School

Curriculum Plan for Mathematics 2019-2020

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7 1A	• Place value and number • Addition • Subtraction • Efficient addition and subtraction hand • Multiplication • Division • Multiplication and division efficiently without a calculator	• Factors, multiples and prime numbers • Rounding numbers • Estimation • Order of operations • Using a calculators • Using letters to represent numbers • Substitution of numbers for letters	• Idea of fractions • Improper fractions and mixed numbers • Equivalent fractions • Comparing fractions • Fractions of quantities • Decimal place values • Conversion between fractions and decimals • Multiplying and dividing fractions and decimals • Multiplying and dividing by 10, 100 and 1000	• Introducing percentages • Percentages of quantities • Idea of ratios • Relationship between ratios and fractions • Equivalent ratios and simplest form	• Introducing to angles • Types of angles • Unknown angles • Reflection symmetry of plane figures • Rotation symmetry of place figures • Perimeter of squares and rectangles	• Area of squares and rectangles • Perimeter and area of triangles • Collecting, classifying and tabulating data • Pictograms, vertical line graphs and bar charts • Grouped data
Year 7 1B	• Place value and rounding integers • Addition • Subtraction • Multiplication • Division • Squares, cubes, square roots and cube roots • Order of operations and using a calculator • Factors and multiples • Negatives numbers and the number line	• Addition and subtraction of integers • Multiplication and division and combined operations of integers • Letters to represent numbers • Substitution of numbers for letters • Writing algebraic expressions and formulae • Like terms and unlike terms • Addition and subtraction of linear expressions • Equations in one variable • Writing equations to solve problems	• Quantities as fractions • Equivalent fractions and comparing fractions • Addition and subtraction of fractions and mixed fractions • Multiplication of fractions • Division of fractions and mixed numbers • Rational numbers and using a calculator • Place values, ordering and rounding decimals numbers • Addition and subtraction of decimals	• Multiplication of decimals • Division of a decimal by a whole numbers • Mental calculation and conversion between units • Division of a decimal by a decimals • Rational numbers of real numbers • Meaning of percentages • Percentages of a quantity • Reducing and increasing a quantities by a percentage	• Points, lines and planes • Angles • Parallel lines and transversals • Triangles • Transformations • Symmetry	• Congruence • Perimeter and area of triangles • Circumference of a circle • Area of circles • Perimeter and area problems • Nets of cuboids, including cubes • Surface area of cuboids, including cubes • Volume of cuboids, including cubes • Collection of data • Organisation of data • Pictograms, vertical line charts and bar charts
Year 7 1C	• Place value and rounding integers • Addition • Subtraction • Multiplication • Division • Squares, cubes, square roots and cube roots	• Addition and subtraction of integers • Multiplication and division and combined operations of integers • Letters to represent numbers	• Quantities as fractions • Equivalent fractions and comparing fractions • Addition and subtraction of fractions and mixed fractions • Multiplication of fractions	• Multiplication of decimals • Division of a decimal by a whole numbers • Mental calculation and conversion between units • Division of a decimal by a decimals	• Points, lines and planes • Angles • Parallel lines and transversals • Triangles • Transformations • Symmetry	• Congruence • Perimeter and area of triangles • Circumference of a circle • Area of circles • Perimeter and area problems

	• Order of operations and using a calculator • Factors and multiples • Negatives numbers and the number line	• Substitution of numbers for letters • Writing algebraic expressions and formulae • Like terms and unlike terms • Addition and subtraction of linear expressions • Equations in one variable • Equations in one variable, with brackets • Writing equations to solve problems	• Division of fractions and mixed numbers • Rational numbers and using a calculator • Place values, ordering and rounding decimals numbers • Addition and subtraction of decimals	• Rational numbers of real numbers • Meaning of percentages • Percentages of a quantity • Reducing and increasing a quantities by a percentage		• Nets of cuboids, including cubes • Surface area of cuboids, including cubes • Volume of cuboids, including cubes • Collection of data • Organisation of data • Pictograms, vertical line charts and bar charts
Year 8 2A	• Place value • Integers • Number lines • Addition and subtraction of integers • Multiplication and division of integers • Combined operations of integers • Rounding to certain place values • Squares and square roots • Cubes and cube roots	• Conversion between improper fractions and mixed numbers • Comparing fractions • Addition and subtraction of fractions • Multiplication of fractions • Division of fractions • Combined operations on fractions • Place values of decimals • Conversion between fractions and decimals • Comparing fractions and decimals • Rounding decimals • Addition and subtractions of decimals • Multiplication of decimals • Division of decimals • Combined operations as decimals	• Applications of ratio • Ratio of three quantities • Length on maps • Additional: basic proportion • Percentages and quantities • Reverse percentages and value-added tax • Percentage change	• Introducing algebraic expressions • Writing algebraic expressions • Evaluating algebraic expressions and formulae • Analysing number patterns • Algebraic expressions and sequences • Equations in one variable • Inequalities in one variable	• Properties of angles • Parallel lines and angle properties • Conversion of square units • Area of parallelograms • Area of trapezia • Circumference and area of circles • Perimeter and are of composite plane figures	• Nets of prisms and cylinders • Surface area of prisms and cylinders • Volume of prisms and cylinders • Conversion of cubic units • Problems involving prisms and cylinders • Pie charts • Line graphs • Scatter graphs •
Year 8 2B	• Primes, prime factorisation and index notation • Highest common factor • Lowest common multiple • Square roots, cube roots and prime factorisation • Rounding numbers to decimal places • Rounding numbers to significant figures	• All kinds of ratio • Scales planes and maps • Ratio • Speed • Additional: proportion • Expressing a percentages as a fraction or a decimal • Simple percentage problems • Reverse percentages	• Use of letters in algebra • Evaluation of algebraic expressions and formulae • Algebraic expressions in the real world • Simplification of linear expressions • Proof • Solving linear equations in one variables	• Cartesian coordinate system • Idea of a function • Linear function and their graphs • Gradients of linear graphs • Number patterns and sequences • General term of a sequence	• Quadrilaterals • Polygons • Area of parallelograms • Area of trapezia • Perimeter and area composite plane figures	• View and nets of 3D shapes • Volume and total surface area of prism • Volume and total surface area of cylinders • Volume and surface area of composite solids • Line graphs • Pie charts

	• Estimation • integer ratios	• Percentage increase and decrease	• Equations involving brackets • Forming linear equations to solve problems • Simple inequalities			• Use and misuse of statistical graphs • Scatter graphs
Year 8 2C	• Primes, prime factorisation and index notation • Highest common factor • Lowest common multiple • Prime factorisation and ratio • Rounding numbers to decimal places • Rounding numbers to significant figures • Estimation • integer ratios	• All kinds of ratio • Scales planes and maps • Ratio • Speed • Additional: proportion • Simple interest and reverse percentages • Percentage increase and decrease • Repeated percentage change	• Use of letters in algebra • Evaluation of algebraic expressions and formulae • Algebraic expressions and formulae • Algebraic expressions in the real world • Simplification of linear expressions • Factorisation by using common factors • Proof • Solving linear equations in one variables • Equations involving brackets • Simple fractional equations • Forming linear equations to solve problems • Inequalities • Solving inequalities	• Cartesian coordinate system • Idea of a function • Linear function and their graphs • Gradients of linear graphs • Number patterns and sequences • General term of a sequence	• Quadrilaterals • Polygons • Area of parallelograms • Area of trapezia • Perimeter and area composite plane figures	• View and nets of 3D shapes • Volume and total surface area of prism • Volume and total surface area of cylinders • Volume and surface area of composite solids • Line graphs • Pie charts • Use and misuse of statistical graphs • Scatter graphs
Year 9 Level 1 /2 Qualifications	Level 1 Number and Measure			Level 1 Statistical Methods	Level 2 Algebra	
	• Integers • Decimals • Approximations • Fractions	• Percentages • Money • Time • Basic standard form	• Measures • Area and Perimeter • Volume • Tables and Charts • Basic constructions • Basic Pythagoras' Theorem	• Data • Displaying data • Calculating with data • Interpreting data • Probability	• Roles of symbols Algebraic manipulation Formulae • Linear equations • Graph sketching • Linear inequalities	• Number sequences Gradients of straight line graphs • Straight line graphs • Graphs for real life situations • Simple quadratic functions • Distance-time and speed-time graphs
Year 9 Foundation	• Number • Fractions, indices and standard form	• Algebra	• Graphs, tables and charts • Fractions	• Fractions, decimals and percentages • Solving equations	• Inequalities and sequences • Angles	• Angles • Probability • Introduction to Constructions • Introduction to Pythagoras' Theorem

Year 9 Higher	• Number including standard form • Algebra	• Interpreting and representing data • Fractions	• Ratio and proportion • Angles	• Pythagoras and trigonometry	• Graphs	• Area and volume • Averages
Year 10 Level 1 /2 Qualifications	Level 1 Number and Measure		Level 1 Statistical Methods	Level 2 Algebra		
	• Integers • Decimals • Approximations • Fractions • Percentages • Money • Time	• Measures • Area and Perimeter • Volume • Tables and Charts	• Data • Displaying data • Calculating with data • Interpreting data • Probability	• Roles of symbols Algebraic manipulation Formulae • Linear equations • Graph sketching • Linear inequalities	• Number sequences Gradients of straight line graphs • Straight line graphs • Graphs for real life situations	• Simple quadratic functions • Distance-time and speed-time graphs
Year 10 Foundation	• Perimeter, area and volume • Graphs	• Graphs • Transformations	• Ratio and proportion • Pythagoras	• Trigonometry • Probability	• Multiplicative reasoning • 3D shapes	• Constructions, loci and bearings
Year 10 Higher	• Transformations and constructions • Equations and inequalities	• Equations and inequalities • Probability	• Multiplicative reasoning • Similarity and congruence • More trigonometry	• Further statistics	• Equations and graphs	• Circle theorems
Year 11 Level 1 /2 Qualifications	Level 1 Number and Measure		Level 1 Statistical Methods	• Revision based on QLA weaknesses	• Revision based on QLA weaknesses	
	• Integers • Decimals • Approximations • Fractions • Percentages • Money • Time	• Measures • Area and Perimeter • Volume • Tables and Charts	• Data • Displaying data • Calculating with data • Interpreting data • Probability			
Year 11 Foundation	• Quadratic equations and graphs • Fractions, indices and standard form	• Congruence, similarity and vectors	• More Algebra	• Revision based on QLA weaknesses	• Revision based on QLA weaknesses	
Year 11 Higher	• More algebra	• Vectors and geometric proof	• Proportion and graphs	• Revision based on QLA weaknesses	• Revision based on QLA weaknesses	

More information about the curriculum can be found at:

Key Stage 3: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/239058/SECONDARY_national_curriculum_-_Mathematics.pdf

Key Stage 4: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/331882/KS4_maths_PoS_FINAL_170714.pdf