Jarrow School Key Stage 3 Maths Curriculum

In Key Stage 3 Maths, we use a blend of formative and summative assessment strategies to monitor pupils' progress and support their learning. Every two units, pupils complete an assessment that includes 10 marks focused on retrieval of prior knowledge and 20 marks from each of the units being tested. Feedback is provided in the next lesson, where teachers model high-quality responses and guide pupils through each question. Pupils then complete targeted shadow questions to address any misconceptions and strengthen their understanding.

Students follow a staged learning pathway, and as they progress, they can access content from the next stage when appropriate. This overview provides a guide to the curriculum content taught, ensuring that all pupils build their understanding securely and make continual progress.

Year 7

Stage 1	Stage 2	Stage 3
Unit 1 – Place Value	Unit 1 – Place Value	Unit 1 – Place Value
• Read and write numbers to 10,000,000 • Place value: integers, fractions and decimals • Powers of 10 • Multiply integers and decimals by 10, 100, 1000 • Convert metric units • Compare and order numbers	• Place value: integers, fractions and decimals • Powers of 10 • Multiply integers and decimals by 10, 100, 1000 • Convert metric units • Compare and order numbers • Problem solving with place value	• Place value: integers, fractions and decimals • Powers of 10 • Multiply integers and decimals by 10, 100, 1000 • Convert metric units • Compare and order numbers • Problem solving with place value
Unit 2 – Properties of Numbers	Unit 2 – Properties of Numbers	Unit 2 – Properties of Numbers
• Times tables • Divisibility tests • Factors, multiples and primes • Square & cube numbers and roots • Power notation • Lowest Common Multiple (LCM) • Highest Common Factor (HCF) •	• Divisibility tests • Square & cube numbers and roots • Power notation • Factors, multiples and primes • LCM & HCF • Prime factor decomposition • Index notation	• Divisibility tests • Square & cube numbers and roots • Power notation • Factors, multiples and primes • LCM & HCF • Prime factor decomposition • Index notation • Venn Diagrams
Unit 3 – Arithmetic procedures	Unit 3 – Arithmetic procedures	Unit 3 – Arithmetic procedures
• Arithmetic with integers and decimals • Arithmetic with negative numbers • Commutative & associative laws • Distributive law	• Arithmetic with integers, decimals and negatives • Commutative, associative & distributive laws	• Arithmetic with integers, decimals and negatives • Commutative, associative & distributive laws

• Order of operations (BIDMAS) – integers • Using a calculator efficiently	• Order of operations – integers, decimals, powers, roots • Using a calculator efficiently	• Order of operations – integers, decimals, powers, roots • Using a calculator efficiently
Unit 4 – Expressions & equations	Unit 4 – Expressions & equations	Unit 4 – Expressions & equations
• Use simple formulae • Find unknown values • Algebraic notation • Simplify expressions & collect like terms • Expand single brackets • Factorise single brackets • Substitution	• Algebraic notation & terminology (expressions, equations, formulae, identities) • Simplify expressions including powers • Expand and simplify single brackets • Factorise single brackets • Substitution, including into formulae	• Algebraic notation & terminology (expressions, equations, formulae, identities) • Simplify expressions including powers • Expand and simplify single brackets • Factorise single brackets • Substitution, including into formulae
Unit 5 – Plotting Coordinates	Unit 5 – Plotting Coordinates	Unit 5 – Plotting Coordinates
• Plotting coordinates in all four quadrants • Coordinate geometry involving shapes • Plotting and identifying horizontal and vertical lines • Function tables • Plotting lines from coordinates	• Plotting coordinates in all four quadrants • Coordinate geometry involving shapes • Plotting and identifying horizontal and vertical lines • Function tables • Plotting lines from coordinates	• Plotting coordinates in all four quadrants • Coordinate geometry involving shapes • Plotting and identifying horizontal and vertical lines • Function tables • Plotting lines from coordinates
Unit 6 – Perimeter and Area	Unit 6 – Perimeter and Area	Unit 6 – Perimeter and Area
• Count squares to find perimeter and area • Calculate perimeter of polygons and missing lengths from perimeter • Perimeter of composite shapes • Area and missing sides of rectilinear and composite shapes • Area of triangles using formula	• Calculate perimeter of polygons and missing lengths • Perimeter of composite shapes • Area and missing sides of rectilinear and composite shapes • Area of triangles using formula • Area of a trapezium using formula	• Calculate perimeter of polygons and missing lengths from perimeter • Perimeter of composite shapes • Area and missing sides of rectilinear and composite shapes • Area of triangles using formula Area of a trapezium using formula
Unit 7 – Fractions and Decimals	Unit 7 – Fractions and Decimals	Unit 7 – Fractions and Decimals
• Fraction notation • Simplifying & equivalent fractions • Improper fractions and mixed numbers	• Simplifying & equivalent fractions • Improper fractions and mixed numbers	• Simplifying & equivalent fractions • Improper fractions and mixed numbers

• Converting fractions and terminating decimals • Ordering fractions by converting	• Converting fractions to terminating and recurring decimals • Ordering positive fractions and decimals	• Converting fractions to terminating and recurring decimals Ordering positive and negative fractions and decimals
Unit 8 – Fraction Arithmetic	Unit 8 – Fraction Arithmetic	Unit 8 – Fraction Arithmetic
• Adding & subtracting fractions • Multiplying fractions by integers • Multiplying fractions	• Adding & subtracting fractions • Multiplying and dividing fractions by integers • Multiplying and dividing fractions	• Adding & subtracting fractions • Multiplying and dividing fractions by integers • Multiplying and dividing fractions • Mixed operations with fractions - BIDMAS
Unit 9 – Fractions and ratio		
• Fractions of a quantity • Express as a fraction • Expressing ratio as fractions • Simplifying & equivalent ratio • Sharing into a ratio	• Fractions of a quantity • Express as a fraction • Expressing ratio as fractions • Simplifying & equivalent ratio • Sharing into a ratio • Ratio one part given	• Fractions of a quantity • Express as a fraction • Expressing ratio as fractions • Simplifying & equivalent ratio • Sharing into a ratio • Ratio one part given – difference given
Unit 10 - Transformations	Unit 10 - Transformations	Unit 10 - Transformations
• Translations • Reflections • Rotations • Enlargements	• Translations • Reflections • Rotations • Enlargements	• Translations • Reflections • Rotations • Enlargements

Year 8

Stage 1	Stage 2	Stage 3
Unit 1 – Estimation and rounding	Unit 1 – Estimation and rounding	Unit 1 – Estimation and rounding
• Rounding – integers and decimal places • Rounding significant figures • Estimation • Upper & lower bounds • Error intervals	• Rounding – integers and decimal places • Rounding significant figures • Estimation • Over and under estimating • Upper & lower bounds • Error intervals	• Rounding – integers and decimal places • Rounding significant figures • Estimation • Over and under estimating • Upper & lower bounds Error intervals
Unit 2 – Sequences	Unit 2 – Sequences	Unit 2 – Sequences
• Generating sequences • Sequences and diagrams • Identifying types of sequences	• Generating sequences • Sequences and diagrams • Identifying types of sequences	• Generating sequences • Sequences and diagrams • Identifying types of sequences

• Finding the nth term of an arithmetic sequence	• Finding the nth term of an arithmetic sequence	• Finding the nth term of an arithmetic sequence
Unit 3 – Graphs (Equations)	Unit 3 – Graphs (Equations)	Unit 3 – Graphs (Equations)
• Coordinates • Vertical and horizontal lines • Table of values • Midpoint from coordinates • Gradient from straight line graphs • The y - intercept point • Equation of a line • Finding the equation of the line y = mx + c	• Coordinates • Vertical and horizontal lines • Table of values • Midpoint from coordinates • Gradient from straight line graphs • The y - intercept point • Equation of a line • Finding the equation of the line y = mx + c	• Coordinates • Vertical and horizontal lines • Table of values • Midpoint from coordinates • Gradient from straight line graphs • The y - intercept point • Equation of a line • Finding the equation of the line y = mx + c
Unit 4 – Linear equations	Unit 4 – Linear equations	Unit 4 – Linear equations
• Types of equations • Solving one and two step linear equations • Solving linear equations - brackets • Creating and solving equations	• Types of equations • Solving one and two step linear equations • Solving linear equations - brackets • Creating and solving equations	• Types of equations • Solving one and two step linear equations • Solving linear equations - brackets • Creating and solving equations
Unit 5 – Percentages	Unit 5 – Percentages	Unit 5 – Percentages
• Percentages of an amount with and without a calculator • Converting percentages to decimals • Percentage increase and decrease • Expressing one number as a percentage of another • Simple Interest	• Percentages of an amount with and without a calculator • Converting percentages to decimals • Percentage increase and decrease • Expressing one number as a percentage of another • Finding the original amount from percentage increase or decrease • Simple Interest	• Percentages of an amount with and without a calculator • Converting percentages to decimals • Percentage increase and decrease • Expressing one number as a percentage of another • Finding the original amount from percentage increase or decrease • Simple Interest
Unit 6 – Data (Graphs)	Unit 6 – Data (Graphs)	Unit 6 – Data (Graphs)
• Draw and interpret a range of charts and graphs inclusive of pictograms, bar charts, line/ time series graphs, scatter graphs • Scatter graphs - correlations and lines of best fit	• Draw and interpret a range of charts and graphs inclusive of pictograms, bar charts, line/ time series graphs, scatter graphs • Scatter graphs - correlations and lines of best fit	• Draw and interpret a range of charts and graphs inclusive of pictograms, bar charts, line/ time series graphs, scatter graphs • Scatter graphs - correlations and lines of best fit

Unit 7 – Statistics (Averages)	Uni 7 – Statistics (Averages)	Unit 7 –Statistics (Averages)
• Averages and range from lists • Averages and range from a bar chart • Averages and range from a from a table	• Averages and range from lists • Reverse mean • Averages and range from a bar chart • Averages and range from a from a table • Estimated mean	• Averages and range from lists • Reverse mean • Averages and range from a bar chart • Averages and range from a from a table • Estimated mean
Unit 8 – Area and volume	**Unit 8 – Area and volume**	**Unit 8 – Area and volume**
• Perimeter ands area 2D Shapes including composite shapes • Circumference and area of circles • Surface area of cuboids and prisms • Surface area of prisms • Volume of prisms • Volume of cylinders	• Perimeter ands area 2D Shapes including composite shapes, and composite shapes involving circles • Circumference and area of circles • Surface area of cuboids and prisms • Surface area of prisms • Volume of prisms • Volume of cylinders	• Perimeter ands area 2D Shapes including composite shapes, and composite shapes involving circles • Circumference and area of circles • Surface area of cuboids and prisms • Surface area of prisms • Volume of prisms • Volume of cylinders
Unit 9 – Polygons	**Unit 9 – Polygons**	**Unit 9 – Polygons**
• Angle notation • Angles on a straight line and around a point • Angles on parallel lines - • Angles in triangles and quadrilaterals • Interior and exterior angles in polygons	• Angle notation • Angles on a straight line and around a point • Angles on parallel lines - • Angles in triangles and quadrilaterals Interior and exterior angles in polygons	• Angle notation • Angles on a straight line and around a point • Angles on parallel lines - • Angles in triangles and quadrilaterals Interior and exterior angles in polygons
Unit 10 – Constructions	**Unit 10 – Constructions**	**Unit 10 – Constructions**
• Constructing 2D shapes • Bisecting angle and lines	• Constructing 2D shapes Bisecting angle and lines	• Constructing 2D shapes Bisecting angle and lines

Year 9

Stage 1	Stage 2	Stage 3
Unit 1 – Number Skills	**Unit 1 – Number Skills**	**Unit 1 – Number Skills**
• Place value integers and decimals • Multiplying Integers and decimals by multiples f 10 • Comparing numbers • Ordering decimals	• Using a calculator • Money calculations • BIDMAS • Frequency Trees • Calculating with time • Multiplying and dividing decimals • HCF and LCM	• Using a calculator • Money calculations • BIDMAS • Frequency Trees • Calculating with time • Multiplying and dividing decimals • HCF and LCM

• Rounding to decimal places and significant figures • Arithmetic with negative numbers • Factors, multiples, prime numbers • Squares, cubes and powers and roots • Satisfying Inequalities • Square and cube roots • Using a calculator • Money calculations • BIDMAS • Frequency Trees • Time Calculations	• Prime Factorisation - index form • HCF and LCM from Prime Factorisation including Venn diagrams • Estimation - multi step calculations	• Prime Factorisation - index form • HCF and LCM from Prime Factorisation including Venn diagrams • Estimation - multi step calculations • Converting standard • Calculating using Standard form
Unit 2 – Fractions, decimals and percentages	Unit 2 – Fractions, decimals and percentages	Unit 2 – Fractions, decimals and percentages
• Converting decimals, fractions and percentages • Ordering fractions, decimals and percentages • Equivalent and simplifying fractions • Simplify fractions • Mixed numbers and improper fractions • Fractions of an amount • Percentages of an amount with and without a calculator	• Mixed number and improper fractions • Fraction of an amount • Order fractions • Arithmetic with fractions and mixed numbers • Percentage of an amount with and without a calculator	• Arithmetic with fractions and mixed numbers • Reciprocals • Percentage increase and decrease • Percentage change • Reverse percentages • Compound interest
Unit 3 – Algebra	Unit 3 – Algebra	Unit 3 – Algebra
• Collect like terms • Multiply and divide algebraic terms • Function machines – input and out puts diagrams • Expression function machines • Solving one step equations • Term to term rule • Algebraic language • Substitution • Inequality diagrams • Solve one step linear inequalities	• Write an expression inc. function machines • Algebraic language • Substitution • Inequality diagram • Solve linear inequality - one step • Solving two step equations • Expand and simplify single brackets • Expand double brackets • Factorise single brackets • Factorise quadratics • Index laws	• Substitution • Solve linear equations • Solve with unknown on both sides • Solve inequalities inc. diagram • Form and solve equations • Change the subject • Simultaneous equations • Expand double brackets – including coefficients • Factorise single brackets

		• Factorise quadratics with a coefficient • Solve quadratics by factorising • Index laws Finding and using the nth term of a linear sequence • Fibonacci, geometric sequences and quadratic sequences • Index laws
Unit 4 – Graphs and functions	Unit 4 – Graphs and functions	Unit 4 – Graphs and functions
• Coordinates in four quadrants • Coordinates and shapes • Equations of vertical and horizontal lines	• Equations of vertical and horizontal lines • Function tables/ table of values • Drawing straight line graphs • Drawing straight Line graphs • Midpoint of a line from diagrams and coordinates • Drawing quadratic graphs	• Draw linear and quadratics graphs • Coordinate problems • Midpoint of a line • Gradient • Equation of a line • Solve simultaneous equations graphically
Unit 5 – Ratio and proportion	Unit 5 – Ratio and proportion	Unit 5 – Ratio and proportion
• Write, simplifying and equivalent ratio • Ratio as a fraction and/or percentage • Share into a ratio, ratio one part and difference given Scale – converting units and drawing • Direct proportion • Best buys • Conversion graphs	• Write a ratio as a fraction and/or percentage • Share into a ratio, ratio one part and difference given Scale – converting units and drawing • Direct and inverse proportion • Best buys • Conversion graphs • Compound Measures	• Write a ratio as a fraction and/or percentage • Share into a ratio, ratio one part and difference given • Problem solving with ratio • Scale – converting units and drawing • Direct and inverse proportion • Best buys • Conversion graphs • Compound Measures
Unit 6 – Area, perimeter, volume	Unit 6 – Perimeter and Area	Unit 6 – Perimeter and Area
• Measuring lines and angles • Convert units simple 2D shapes and composite shapes • Area of simple 2D shapes • Parts of a circle	• Measuring lines and angles • Convert units simple 2D shapes and composite shapes • Area of simple 2D shapes • Parts of a circle	• Circumference and area circles • Surface area cubes cuboids and triangular prisms • Volume cubes, cuboids and triangular prisms

• Circumference and area circles	• Circumference and area circles • Surface area cubes cuboids and triangular prisms • Volume cubes, cuboids and triangular prisms	• Converting units of area and volume • Arc length • Perimeter and area of sectors
Unit 7 – Angles and shape properties	Unit 7 – Angles and shape properties	Unit 7 – Angles and shape properties
• Angles on a line and around a point • Angles in triangles • Faces, edges and vertices • Line and rotational symmetry • Congruency • Plans and elevations • Line and angle bisectors • Construct triangles	• Angles on a line and around a point • Angles in triangles • Faces, edges and vertices • Line and rotational symmetry • Congruency • Plans and elevations • Line and angle bisectors • Construct triangles • Transformations • Pythagoras Theorem	• Angles on Parallel Lines • Bearings and Loci • Interior and exterior angles in polygons • Congruency • Plans and elevations • Line and angle bisectors • Construct triangles • Transformations • Pythagoras Theorem • Trigonometry • Column vectors
Unit 8 - Probability		
• Probability of an event • Probability scale • Probability sums to 1 • Listing outcomes	• Probability of an event • Probability scale • Probability sums to 1 Listing outcomes	• Sample space and Venn diagrams • Relative frequency • Tree diagrams