Maths Intent

At Wargrave House School, we understand the importance of championing life skills, financial awareness, enterprise, culture of capital and careers through our Mathematics curriculum. We do this through a variety of means to ensure our learners develop their mathematical conceptual knowledge and understanding; recognise different modes of financial currencies & transactions; understand the value of money when spending and saving money; demonstrate confidence when using money in different community based situations and locations; use financial skills to participate and organise enterprise and charity activities and develop their deeper understanding of how their financial skills will support their independent living options and choices both now and in the future. As such, we have structured our Mathematics curriculum to align with the statutory components in the recommended sequence, however, we have broken these concepts, knowledge and skills into meaningful, appropriately sequenced and achievable steps in order to capture all progress in each stage through every granular step. This allows our teachers to identify, address and improve gaps in knowledge and narrow the gap between different cohorts. We have also ensured that learners can access the same level of enrichment and skills building through our Pre-Key Stage 2 curriculum which is structured in the same way. At KS4 level, all learners access either NCFE Essential Maths skills in everyday situations in stage appropriate way (E1-L3) or, where learners are able to, Pearson GCSE Maths.

Implementation
KS1-3
Baselining

All learners are baselined using the SENT **(Sandwell Early Numeracy Test)** testing on entry and twice a year every year to guarantee that learners are on the correct the pathways.

All learners across KS1-KS3 access 3 lessons of Mathematics a week with each strand being taught separately – Number, Shape & Measure to ensure equal and equitable coverage of all concepts, knowledge and skills.

KS3Curriculum I

At Wargrave House School, we have structured our curriculum to align with the National curriculum whilst also breaking each topic into granual steps to support understanding and application of skills. Our one-year learning spiral ensures that learners have a chance to consolidate understanding and develop their in-depth understanding.

Our learners working at KS1 level cover the following topics:

Maths Key Stage 1 Standard																			
AGE	AUTUMN 1			AUTUMN 2			SPRING 1			SPRING 2			SUMMER 1			SUMMER 2		
	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY
1	Number & place value: Count to 100, write 1-20.	Length & height: Compare and measure.	Properties of 2D shapes: Rectangles, circles, triangles.	Addition: signs, 1/2 digits to 20, problems.	Mass & weight: Compare and measure.	Properties of 3D shapes: Cuboids, pyramids, spheres.	Subtraction: Signs, one/two digit to 20, problems.	Capacity & volume: Compare and measure.	Comparing 2D and 3D shapes: Differences, everyday objects.	Multiplication: One – step problems.	Time: Half past and hour, sequence.	Position: Language (top, middle bottom etc).	Division: One-step problems.	Date: Sequence, language – days, weeks etc.	Direction: Language (left, right etc).	Fractions: Halves and quarters.	Money: Value coins up to 10p.	Movement: Quarter, half and 3 quarter turn.
2	Number & place value: Count in 2, 3, 5, 10 to 100. Order, compare, estimate.	Length, height & statistics: Compare, measure, estimate, units, interpret.	Properties of 2D shapes: Sides and line of symmetry.	Addition: Concrete, written, 2 digit numbers, three 1 digit numbers.	Mass, weight & Statistics: Compare, measure, estimate, units, construct.	Properties of 3D shapes: edges vertices and faces.	Subtraction: Concrete, written, 2 digit numbers, three 1 digit numbers.	Capacity, volume & Statistics: Compare, measure, estimate, units, ask.	Comparing 2D and 3D shapes: 2D shapes on 3D shapes, sort.	Multiplication: 2,5 and 10, odd/even, symbols, =	Time: & Stats Minutes, hours, 5 past, quarter past, Answer questions.	Position: Patterns and sequences.	Division: 2,5 and 10, odd/even, symbols.	Date & Statistics: Compare, sequence intervals of time, totals.	Direction: Clockwise, anti-clockwise	Fractions: 1/3, ¼, 2/4, ¾, Write fractions 1/3.	Money & Statistics: Combinations of coins, £ and p, change, compare.	Movement: Rotation, right angles

Our learners working at KS2 level cover the following topics:

Maths Key Stage 2 Standard																			
AGE	AUTUMN 1			AUTUMN 2			SPRING 1			SPRING 2			SUMMER 1			SUMMER 2		
	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY
3	Number & place value: Count in 4, 8, 50 and 100. Compare and order up to 1000.	Length, height& Statistics: Measure, compare, add and subtract, units.	Properties of 2D shapes: Draw 2D shapes, measure perimeter of 2D shapes.	Addition: One, tens and hundredths. Written, mental, check and problems.	Mass & weight & Statistics: Measure, compare, add and subtract, units.	Properties of 3D shapes: Make 3D shapes using modelling materials.	Subtraction: One, tens and hundredths. Written, mental, check and problems.	Capacity & volume Statistics: Measure, compare, add and subtract, units.	Comparing 2D and 3D shapes: Recognise 2D and 3D shapes in different orientations.	Multiplication: 3, 4 and 8. 2 digit and 1 digit problems.	Time /Statistics: Tell time Roman, 12/ 24 hour, estimate, record and compare.	Position: Horizontal, vertical, perpendicular and parallel lines	Division: 3, 4 and 8. 2 digit and 1 digit mental and written problems.	Date / Statistics: Seconds in a minute, days in month, etc compare duration of events.	Direction: Angles as a property of shape or a description of a turn.	Fractions: Count fractions in tenths, order fractions, turn objects in fractions, add.	Money/ Statistics: Add and subtract amounts of money, use £ and p in practical contexts.	Movement: Right angles, two make a half-turn, and four a complete turn
4	Number & place value: Count in 6, 7, 9 25 and 1000. Compare and order numbers. Round 10, 100, 1000.	Length, height& Statistics: Convert measurements, measure perimeter, area.	Properties of 2D shapes: Lines of symmetry, complete a symmetric figure.	Addition: 4 digit column method. Estimate use inverse. Two step problems.	Mass & weight, Statistics: Convert estimate, compare calculate. Interpret, solve problems.	Properties of 3D shapes: Compare and classify shapes.	Subtraction: 4 digit column method. Estimate use inverse. Two step problem.	Capacity & volume Statistics: Convert estimate, compare calculate. Interpret, solve problems.	Comparing 2D and 3D shapes: Compare and classify shapes.	Multiplication: 12x table, Multiply 0, 1, 2 and 3 digits.	Time /Statistics: Convert estimate, compare calculate. Interpret, solve problems.	Position: Positions on a 2-D grid as coordinates. Plot points and draw sides to complete a polygon.	Division: 12x table, Divide by 0, 1 2 and 3 digits.	Date / Statistics: Convert estimate, compare calculate. Interpret, solve problems.	Direction: Compare and order angles. Acute and obtuse angles.	Fractions: Round decimals, add and minus fractions. Write equivalents.	Money/ Statistics: Column addition, change and difference	Movement: Describe movements as translations left/right up/down.
5	Number & place value: Numbers up to 1,000,000, rounding and Roman Numerals	Length, height& Statistics: Convert metrics, use equivalent measures. Calculate area and volume., tables.	Properties of 2D shapes: Compare regular and irregular polygons	Addition: Sums with 4 digits, rounding to check, multi-step problems.	Mass &, weight, Statistics: Convert metrics, use equivalent measures. Problem solve use inverse to check. Sum and difference	Properties of 3D shapes: Identify 3D shapes form 2D representations.	Subtraction: Calculations with 4 digits, rounding to check, multi-step problems.	Capacity & volume Statistics: Convert metrics, use equivalent measures. Problem solve use inverse to check. Line graph	Comparing 2D and 3D shapes: Know acute and obtuse, right angles measure	Multiplication: Multiples, factors. Prime numbers up to 100. Multiply 4 digits by 2 digits. Decimals, square numbers	Time /Statistics: Convert metrics, use equivalent measures. Problem solve use inverse to check. Timetables	Position: Identify, describe and represent translations	Division: Multiples and factors. Prime numbers up to 100. Divide 4 digits by up to 2 digits. Decimals, square numbers.	Date / Statistics: Convert metrics, use equivalent measures. Problem solve use inverse to check. Read dates.	Direction: Identify describe and represent reflections	Fractions: Order, equivalent, add and subtract, write as decimals, percentages round numbers.	Money/ Statistics: Column addition /subtraction. Decimal place. Compare prices.	Movement: Identify angles at a point.

Maths Key Stage 2 Standard																		
AGE	AUTUMN 1			AUTUMN 2			SPRING 1			SPRING 2			SUMMER 1			SUMMER 2		
	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY	NUMBER	MEASURE	GEOMETRY
6	Algebra / Number & place value: Numbers up to 10,000,000, round whole numbers, use negative numbers, problem solve	Length, height& Convert units of measure to 3 decimal places, Miles-KM Statistics: interpret pie charts	Properties of 2D shapes: Draw 2D shapes given dimensions and angles, area	Algebra / Addition: mental calculations, multi step problems, operations order, method and why. estimate	Mass & Weight Statistics: Convert units of measure to 3 decimal places, Interpret line graphs	Properties of 3D shapes: Recognise, describe and build 3D shapes – nets, volume	Algebra /Subtraction: mental calculations, multi step problems, operations order, method and why, estimate.	Capacity & volume Statistics: Convert units of measure to 3 decimal places, construct pie charts	Comparing 2D and 3D shapes: Compare and classify shapes, illustrate parts of a circle, find angles	Algebra/ Multiplication: factors, multiples, prime, 4 digits by 2 digits long multiplication, estimate.	Time /Statistics: Convert units of measure to 3 decimal places, construct line graphs	Position: Describe position as full coordinate grid (four quadrants) Translation	Algebra / Division: divide 4 digits by 2 digits written method, divide interpreting fractions, decimals and remainders, estimate.	Ratio/Proportion: Relative sizes of two quantities, calculate percentages, scale factor	Direction: Draw simple shapes, reflect in the axes. (4 quadrant)	Fractions: factors to simply, compare and order, add/subtract/multiply/divide, decimal - fraction	Money/ Statistics: Mental strategies, decimal places	Movement: recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

Our learners working at KS3 level cover the following topics:

Maths Key Stage 3 Standard																		
AGE	AUTUMN 1			AUTUMN 2			SPRING 1			SPRING 2			SUMMER 1			SUMMER 2		
	NUMBER	PROBABILITY	GEOMETRY & MEASURES	ALGEBRA	STATISTICS	RATIO, PROPORTION AND RATES OF CHANGE	NUMBER	PROBABILITY	GEOMETRY & MEASURES	ALGEBRA	STATISTICS	RATIO, PROPORTION AND RATES OF CHANGE	NUMBER	PROBABILITY	GEOMETRY & MEASURES	ALGEBRA	STATISTICS	RATIO, PROPORTION AND RATES OF CHANGE
7	INTEGERS & FOUR OPERATIONS: decimals, order, prime numbers, factors, use inverse to check	FREQUENCY OF OUTCOMES & SUM=1: Probability scale 0-1	PROPERTIES OF 2D & 3D SHAPES: Draw, Faces, edges, vertices, symmetry, parallel lines.	INTERPRETATION: Understanding algebraic notation	MEAN, MODE & MEDIAN: Describe grouped data	RATIO: Dividing quantities into parts	FRACTIONS, DECIMALS & PERCENTAGES: standard units, rounding decimals, parts of 100.	SETS: present data in tables.	CALCULATING AREA & PERIMETER OF SHAPES: 2D shapes	EXPRESSION: Understanding algebraic expressions	TABLES, CHARTS & DIAGRAMS :Group data in tables, charts.	PROPORTION: understanding proportions	ROUNDING, ESTIMATING AND CALCULATING: Place value ordering and comparing.	CALCULATE PROBABILITIES: Single events construction grid	ANGLES AND COORDINATES: angle properties, coordinates and polygons	EQUATION: Understanding formulae	GRAPHS: Identify relationships in data	RATES OF CHANGE: Percentage change

Maths Key Stage 3 Standard																		
AGE	AUTUMN 1			AUTUMN 2			SPRING 1			SPRING 2			SUMMER 1			SUMMER 2		
	NUMBER	PROBABILITY	GEOMETRY & MEASURES	ALGEBRA	STATISTICS	RATIO, PROPORTION AND RATES OF CHANGE	NUMBER	PROBABILITY	GEOMETRY & MEASURES	ALGEBRA	STATISTICS	RATIO, PROPORTION AND RATES OF CHANGE	NUMBER	PROBABILITY	GEOMETRY & MEASURES	ALGEBRA	STATISTICS	RATIO, PROPORTION AND RATES OF CHANGE
8	INTEGERS & FOUR OPERATIONS: decimals, order, prime numbers, factors, use inverse to check, powers.	FREQUENCY OF OUTCOMES & SUM=1: Record, describe equal and unequal..	PPROPERTIES OF 2D & 3D SHAPES: Draw, Faces, edges, vertices, symmetry, parallel lines., rotation, reflections unequal.	RATIO: understanding multiplicative quantities as ratios	INTERPRETATION: Creating algebraic notation	MEAN, MODE & MEDIAN: Describe and interpret grouped data	FRACTIONS, DECIMALS & PERCENTAGES: standard units, rounding decimals, comparing.	SETS: present data in grids.	CALCULATING PERIMETER OF SHAPES: 3D shapes	EXPRESSION: Simplifying algebraic expressions	TABLES, CHARTS & DIAGRAMS: Group data in line and bar charts	PROPORTION: Demonstrating proportions	ROUNDING, ESTIMATING AND CALCULATING: Rounding integers and decimals.	CALCULATE PROBABILITIES: Dual events	ANGLES AND COORDINATES: similarity and congruence polygons and perimeter	EQUATION: Using formulae	GRAPHS: Describe relationships in data	RATES OF CHANGE: Percentage increase and decrease

Maths Key Stage 3 Standard																		
AGE	AUTUMN 1			AUTUMN 2			SPRING 1			SPRING 2			SUMMER 1			SUMMER 2		
	NUMBER	PROBABILITY	GEOMETRY & MEASURES	ALGEBRA	STATISTICS	RATIO, PROPORTION AND RATES OF CHANGE	NUMBER	PROBABILITY	GEOMETRY & MEASURES	ALGEBRA	STATISTICS	RATIO, PROPORTION AND RATES OF CHANGE	NUMBER	PROBABILITY	GEOMETRY & MEASURES	ALGEBRA	STATISTICS	RATIO, PROPORTION AND RATES OF CHANGE
9	INTEGERS & FOUR OPERATIONS: decimals, order, prime numbers, factors, use inverse to check, powers, root, brackets. BIDMAS	FREQUENCY OF OUTCOMES & SUM=1: Record, describe analyse, all equal sum of 1.	PPROPERTIES OF 2D & 3D SHAPES: Draw, symmetry, parallel /perpendicular lines., rotation, reflections, translations	RATIO: notation to simplest form	INTERPRETATION: Substituting algebraic notation	MEAN, MODE, RANGE & MEDIAN; Describe, interpret & compare grouped data	FRACTIONS, DECIMALS & PERCENTAGES: standard units, rounding decimals, comparing, converting.	SETS: present data in Venn diagrams	CALCULATING VOLUME OF SHAPES: 3D Shapes	EXPRESSION: Manipulating algebraic expressions	TABLES, CHARTS & DIAGRAMS: Group data in pie charts & pictograms	PROPORTION: Solving proportion problems	ROUNDING, ESTIMATING AND CALCULATING: Estimating calculations by rounding	CALCULATE PROBABILITIES: Multiple events.	ANGLES AND COORDINATES: ; Pythagoras theorem polygons , perimeter and area.	EQUATION: Rearranging formulae	GRAPHS: Represent data in a	RATES OF CHANGE: Use graphs to show increase or decrease proportion scatter graph.

KS4 Curriculum

In KS4, learners focus on one area at a time in-line with the unit of work they are completing for accredited learning course at the appropriate level.

NCFE E1-L2

E1

Unit 01 Working with numbers up to 20 (T/650/1814)
Unit 02 Calculating with numbers up to 20 (Y/650/1815)
Unit 03 Understanding monetary values and reading measures of time (H/650/1819)
Unit 04 Describing and comparing size and dimension (R/650/1822)
Unit 05 Describing and comparing weight and capacity (Y/650/1824)
Unit 06 Identifying and recognising common 2D and 3D shapes (A/650/1825)
Unit 07 Using simple positional vocabulary (J/650/1829)
Unit 08 Extracting information from simple lists (Y/650/1833)
Unit 09 Sorting information (F/650/1836)
Unit 10 Representing information in simple charts and diagrams (R/650/1840)

E2

Unit 01 Working with numbers up to 200 (F/650/1872)
Unit 02 Calculating with single and 2-digit numbers (K/650/1875)
Unit 03 Estimating and approximating by rounding to the nearest 10 (M/650/1877)
Unit 04 Recognise simple fractions of whole number and shapes (D/650/1880)
Unit 05 Using money and decimals (F/650/1881)
Unit 06 Using length, weight and capacity (H/650/1882)
Unit 07 Reading and comparing positive temperatures and using simple scales (J/650/1883)
Unit 08 Reading and recording time (K/650/1884)
Unit 09 Recognising and naming 2D and 3D shapes and using positional vocabulary (L/650/1885)
Unit 10 Extracting, sorting and comparing information (M/650/1886)
Unit 11 Collecting and representing information (R/650/1887)

E3

Unit 01 Working with numbers up to 1000 (T/650/1888)
Unit 02 Calculating addition and subtraction (Y/650/1889)
Unit 03 Calculating multiplication and division (F/650/1890)
Unit 04 Introduction to working with fractions (H/650/1891)
Unit 05 Introduction to working with decimals (J/650/1892)
Unit 06 Calculating with money (K/650/1893)
Unit 07 Understanding and using time and temperature (L/650/1894)
Unit 08 Measuring length, weight and capacity (M/650/1895)
Unit 09 Understanding properties of 2D and 3D shapes and using positional vocabulary (R/650/1896)
Unit 10 Extracting and interpreting information (T/650/1897)
Unit 11 Recording and presenting information (Y/650/1898)

L1

Unit 01 Working with whole numbers up to 1 million (R/650/1813)
Unit 02 Working with fractions (D/650/1826)
Unit 03 Working with decimals (H/650/1828)
Unit 04 Working with percentages (M/650/1830)
Unit 05 Introduction to converting decimals, fractions and percentages (R/650/1831)
Unit 06 Working with measurement (T/650/1832)
Unit 07 Working with 2D and 3D shapes and angles (D/650/1835)
Unit 08 Working with money to calculate interest and discounts (H/650/1837)
Unit 09 Introduction to working with statistics (J/650/1838)
Unit 10 Introduction to working with probability (K/650/1839)

L2

Unit 01 Working with positive and negative whole numbers (T/650/1850)
Unit 02 Developing working with fractions (Y/650/1851)
Unit 03 Developing working with decimals (A/650/1852)
Unit 04 Developing working with percentages (D/650/1853)
Unit 05 Converting decimals, fractions and percentages (F/650/1854)
Unit 06 Working with conversions of units of measurement (H/650/1855)
Unit 07 Working with 2D and 3D shapes and space (J/650/1856)
Unit 08 Working with statistics (K/650/1857)
Unit 09 Working with probability (L/650/1858)

Enrichment

At Wargrave House School, we understand the importance of promoting both a functional and in depth understanding of the type, value, distribution and usage of money. As such, financial education is prominent and interwoven into the delivery of mathematics and the wider school community, enriching our capital of culture.

All Mathematic learning overviews include links to explore financial education within the national curriculum topics, with references to websites and resources to support its delivery. Additionally, we hold annual enterprise activities which have a strong emphasis on budgeting, expenditure and profits.

To further support the concept of workplace financial awareness, we have developed our own on-site shop and bank, linked to our own currency called Wargrave Wonga.

Learners can earn tokens linked to their demonstration of skills throughout the week. At the end of each week, as a class, the learners pool their tokens and exchange them for Wargrave Wonga.

When the learners visit the bank and shop, they can decide if they want to save their wonga or spend it in the shop.

Our shop and bank are run by our learners. The learners can apply for different work positions and interview for the posts at the bank and shop and, if successful, receive training to carry out their role. They also complete a timesheet in every week to ensure that they get paid in our own currency, Wargrave Wonga. This encourages a healthy understanding of earing, saving and spending money.

Community learning

To develop our cultural capital further, we provide a variety of neurodiverse friendly opportunities for our learners to visit and explore shops, venues and places of interest within the local and wider community. This provides different environments for our learners to use money in different contexts, as well as develop their social skills.

Preparation for life

To develop our learners' functional understanding of money in different life-based scenarios, we have developed our own bespoke preparation for life framework. This supports the development of specific targets outlined in a learners' EHCP to prepare them for adulthood. This may include the following:

- How to manage money
- Becoming a critical consumer
- Managing risks and emotions associated with money
- Understanding the important role money plays in our lives

They all have 34-41 assessment criteria.

Capital of culture

We have recently been awarded the young enterprise financial awareness award for the second time and have been asked to share our great practices across the UK. As such. We are always looking for opportunities to develop our learners' financial awareness. The recent establishment of the school shop and bank linked to our celebration systems in class have increased learner understanding of earning, saving and spending money as well as promoting our school values of respect, resilience, creativity and aspiration. In addition to this, learners practice their enterprise skills in enterprise week and through various curriculum-based activity which involve budgeting and handling money.

Complimentary courses
Btec pre-vocational studies

All learners in KS4, engage in a Btec pre-vocational studies course at E1-L2 level. Whichever level of course is being accessed, all learners participate in an enterprise module, which requires learners to develop and demonstrate budgeting skills. The units include the following:

E1 - Exploring an enterprise activity
E2 - Handling money transactions
E3 - Financial awareness
L1 - Recording Income and Expenditure