

## **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																		
A G E	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	<b>Number &amp; place value:</b> Count to 100, write 1-20.	<b>Length &amp; height:</b> Compare and measure.	<b>Properties of 2D shapes:</b> Rectangles, circles, triangles.	<b>Addition:</b> In signs, 1/2 digits to 20, problems.	<b>Mass &amp; weight:</b> Compare and measure.	<b>Properties of 3D shapes:</b> Cuboids, pyramids, spheres.	<b>Subtraction:</b> Signs, one/two digit to 20, problems.	<b>Capacity &amp; volume:</b> Compare and measure.	<b>Comparing 2D and 3D shapes:</b> Different ones, everyday objects.	<b>Multiplication:</b> One-step problems.	<b>Time:</b> Half past and hour, sequence.	<b>Position:</b> Language (top, middle, bottom etc).	<b>Division:</b> One-step problems.	<b>Date:</b> Sequence, language – days, weeks etc.	<b>Direction:</b> Language (left, right etc).	<b>Fractions:</b> Halves and quarters.	<b>Money:</b> Value coins up to 10p.	<b>Movement:</b> Quarter, half and 3 quarter turn.
2	<b>Number &amp; place value:</b> Count in 2, 3, 5, 10 to 100. Order, compare, estimate.	<b>Length, height &amp; statistics:</b> Compare, measure, estimate, units, interpret.	<b>Properties of 2D shapes:</b> Sides and line of symmetry.	<b>Addition:</b> Concrete, written, addition number 5, three-digit number.	<b>Mass, weight &amp; statistics:</b> Compare, measure, estimate, units, construct.	<b>Properties of 3D shapes:</b> Edges, vertices and faces.	<b>Subtraction:</b> Concrete, written, subtraction number 5, three-digit number.	<b>Capacity &amp; volume:</b> Concrete & Statistics: Compare, measure, estimate, units, ask.	<b>Comparing 2D and 3D shapes:</b> 2D shapes on 3D shapes, sort.	<b>Multiplication:</b> 2, 5 and 10, odd/even, multiplication.	<b>Time &amp; Statistics:</b> Minutes, hours, 5 past, quarter past, Answer questions.	<b>Position:</b> Patterns and sequences.	<b>Division:</b> 2, 5 and 10, odd/even, symbols.	<b>Date &amp; Statistics:</b> Compare, sequence interval of time, totals.	<b>Direction:</b> Clockwise, anti-clockwise.	<b>Fractions:</b> 1/4, 2/4, 3/4, 4/4, 5/4, 6/4, 7/4, 8/4, 9/4, 10/4, 11/4, 12/4, 13/4, 14/4, 15/4, 16/4, 17/4, 18/4, 19/4, 20/4, 21/4, 22/4, 23/4, 24/4, 25/4, 26/4, 27/4, 28/4, 29/4, 30/4, 31/4, 32/4, 33/4, 34/4, 35/4, 36/4, 37/4, 38/4, 39/4, 40/4, 41/4, 42/4, 43/4, 44/4, 45/4, 46/4, 47/4, 48/4, 49/4, 50/4, 51/4, 52/4, 53/4, 54/4, 55/4, 56/4, 57/4, 58/4, 59/4, 60/4, 61/4, 62/4, 63/4, 64/4, 65/4, 66/4, 67/4, 68/4, 69/4, 70/4, 71/4, 72/4, 73/4, 74/4, 75/4, 76/4, 77/4, 78/4, 79/4, 80/4, 81/4, 82/4, 83/4, 84/4, 85/4, 86/4, 87/4, 88/4, 89/4, 90/4, 91/4, 92/4, 93/4, 94/4, 95/4, 96/4, 97/4, 98/4, 99/4, 100/4, 101/4, 102/4, 103/4, 104/4, 105/4, 106/4, 107/4, 108/4, 109/4, 110/4, 111/4, 112/4, 113/4, 114/4, 115/4, 116/4, 117/4, 118/4, 119/4, 120/4, 121/4, 122/4, 123/4, 124/4, 125/4, 126/4, 127/4, 128/4, 129/4, 130/4, 131/4, 132/4, 133/4, 134/4, 135/4, 136/4, 137/4, 138/4, 139/4, 140/4, 141/4, 142/4, 143/4, 144/4, 145/4, 146/4, 147/4, 148/4, 149/4, 150/4, 151/4, 152/4, 153/4, 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Maths Key Stage 2 Standard																		
A G E	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 L Number & place value: Number s up to 10,000, 000, Millio ns and whole number s, use negativ e numbe r s, prob lem solve	Length, height/ht Convert units of measur e to 3 decimal places, KM Statistic s: Interpre t pie charts	Propert ies of 2D shapes: Draw 2D shapes given dimensi ons and angles, area method and why, estimat e	Algebra L Mass & Weig ht Additio n: Mental calculati ons, multi step problems, operati ons order, method and why, estimat e	Propert ies of 3D shapes: Recogni se, describ e and build 3D shapes – nets, volume	Algebra L Subtra ction: Mental calculati ons, multi step problems, operati ons order, method and why, estimat e	Capacit y & volume: Statistic s: Convert units of measur e to 3 decimal places, construct pie charts	Compar ing 2D and 3D shapes: Compar e and classif y shapes, illustrat e parts of a circle, find angles	Alge bra/ Multi plicatio n: Factor s: Convert units of meas ures, multip les, prim e numbe rs, 4 digit s by 2 digit s const ruct line long multi plicatio n estimate	Time (Stat) Statistics: Convert units of meas ures, multip les, prim e numbe rs, 4 digit s by 2 digit s const ruct line long multi plicatio n estimate	Positio n: Describe positio n as full coordin ate grid (four quadr ants) Transla tion	Algebra L Division: Divide 4 digits by 2 digits written method e interpre ting fraction s, decimal s and remain ders, estimat e.	Ratio/Pr oportio n: Relative sizes of two quantiti es, calculat e percent ages, scale factor	Directio n: Draw simple shapes, reflect in the axes (4 quadr ants)	Fraction s: Simple factors to simplify, compar e and order, add/sub tract/m ultiply y/divid e, decimal - fraction	Money/ Statistic s: Mental strategi es, 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																		
A G E	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: decimal s, order, prime numbers, factors, use inverse to check	FREQUENCY OF OUTCOMES & SUM= 1: Probability scale 0-1	PROPERTIES OF 2D & 3D SHAPE S: Draw, Faces, edges, vertices, symmetry, parallel lines.	INTERPRETATION: Understanding algebraic notation	MEAN, MODE & MEAN: Describe grouped data	RATIO: Dividing quantities into parts	FRACTIONS, DECIMALS & PERCENTAGE S: standard units, rounding decimal s, parts of 100.	SETS: present data in tables	CALCULATING AREA & PERIMETER OF SHAPES: 2D shapes	EXPRESION: Number: Under standing proportions	TABLES, CHARTS & DIAGRAMS: Group data in tables, charts.	PROPORTION: under standing proportions	ROUNDING, ESTIMATING AND CALCULATING: Place value ordering and comparing.	CALCULATE PROBABILITIES: Single events construct on grid	ANGLES AND COORDINATES: angle properties, coordinates and polygons	EQUATION: Understanding formulae	GRAPHS: Identify relationships in data	RATES OF CHANGE: Percent age change

Maths Key Stage 3 Standard																		
A G E	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: decimal s, order, prime numbers, factors, use inverse to check, powers.	FREQUENCY OF OUTCOMES & SUM= 1: Record, describe equal and unequal.	PROPERTIES OF 2D & 3D SHAPE S: Draw, Faces, edges, vertices, symmetry, parallel lines., rotation, reflections unequal.	RATIO: understanding multiple quantities as ratios	INTERPRETATION: Create a graph and interpret grouped data	MEAN, MODE & MEDIAN: Describe and interpret grouped data	FRACTIONS, DECIMALS & PERCENTAGE S: standard units, rounding decimal s, comparing.	SETS: present data in grids.	CALCULATING PERIMETER OF SHAPES: 3D shapes	EXPRESION: Number: Simplifying algebraic expressions	TABLES, CHARTS & DIAGRAMS: Group data in line and bar charts	PROPORTION: Demonstrating proportions	ROUNDING, ESTIMATING AND CALCULATING: Rounding integers and decimal s.	CALCULATE PROBABILITIES: Dual events	ANGLES AND COORDINATES: similarity and congruence polygons and perimeter	EQUATION: Using formulae	GRAPHS: Describe relationships in data	RATES OF CHANGE: Percent age increase and decrease

Maths Key Stage 3 Standard																		
A G E	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: decimal s, order, prime numbers, factors, use inverse to check, powers, root s, brackets. BIDMAS	FREQUENCY OF OUTCOMES & SUM= 1: Record, describe analysis, all equal sum of 1.	PROPERTIES OF 2D & 3D SHAPE S: Draw, symmetry, parallel/perpendicular lines., rotation, reflections, translations	RATIO: notation to simplest form	INTERPRETATION: Substituting algebraic notation	MEAN, MODE & MEDIAN: Describe, interpret and compare grouped data	FRACTIONS, DECIMALS & PERCENTAGE S: standard units, rounding decimal s, comparing, converting.	SETS: present data in Venn diagrams	CALCULATING VOLUME OF SHAPES: 3D Shapes	EXPRESION: Number: 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 earning, 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**

