Maths Long Term Overview – Year 4

Curriculum Rationale

Our maths curriculum has been designed to support a mastery approach to teaching and learning whilst effectively meeting the National Curriculum aims and objectives. This curriculum aims to provide children with time to apply their skills, explore concepts thoroughly and to demonstrate a deeper understanding of mathematical concepts. This curriculum aims to support pupils and teachers in developing a greater confidence within mathematics and strives to provide children with the opportunities to become mathematicians.

A mathematician is somebody who: makes connections, shows fluency, can provide a reason for what they are doing, is creative, checks their work in a variety of ways, is resilient, explains, evaluates, models, invents, applies their learning to a range of contexts, is curious, has confidence, uses mistakes to improve, is resourceful and efficient.

At Whitemoor, we aim to provide a knowledge-rich curriculum, allowing time for pupils to develop a deeper understanding and make connections between new and prior learning. Therefore, our lessons are created with care and are constantly adapted over time (using input from staff, up-to-date research and observations of pupils) to meet the needs of our pupils and allow them to continue making progress over time. Lessons are designed to provide a variety of representations, which is vital to introduce and explore concepts effectively. All lessons will contain: recall of prior learning, a range of representations, fluency, problem solving and reasoning opportunities.

Key Documents

NCETM Calculations Guidance
NCETM Maths Guidance for KS1 and KS2
NCETM 5 Big Ideas for Mastery
NCETM Ready-to-progress criteria
White Rose Schemes of Learning
Maths steps to success and vocabulary

Maths Long Term Overview – Year 4

<table>
<tr><th colspan="13">Yearly Overview</th></tr>
<tr><th></th><th>Week 1</th><th>Week 2</th><th>Week 3</th><th>Week 4</th><th>Week 5</th><th>Week 6</th><th>Week 7</th><th>Week 8</th><th>Week 9</th><th>Week 10</th><th>Week 11</th><th>Week 12</th></tr>
<tr><td>Autumn</td><td colspan="4">Place Value</td><td colspan="3">Addition and Subtraction</td><td>Area</td><td colspan="3">Multiplication and Division A</td><td>Consolidation</td></tr>
<tr><td>Spring</td><td colspan="3">Multiplication and Division B</td><td colspan="2">Length and Perimeter</td><td colspan="4">Fractions</td><td colspan="3">Decimals</td></tr>
<tr><td>Summer</td><td colspan="3">Decimals</td><td colspan="3">Money</td><td colspan="2">Time</td><td>Consolidation</td><td colspan="2">Shape</td><td>Statistics</td><td>Position and Direction</td></tr>
</table>

Maths Long Term Overview – Year 4

Autumn Term Coverage and National Curriculum Objectives (13 weeks and 4 days)			
Week 1 – Week 4	**Week 5 – Week 7**	**Week 8**	**Week 9 – Week 11**
Place Value NCETM Resources: Recall: Autumn Block 1 Flashback 4 National Curriculum Objectives: Count in multiples of 6, 7, 9, 25 and 1,000. Find 1,000 more or less than a given number. Count backwards through 0 to include negative numbers. Recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s). Order and compare numbers beyond 1,000.	Addition and Subtraction NCETM Resources: Recall: Autumn Block 2 Flashback 4 National Curriculum Objectives: Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Area NCETM Resources: Recall: Autumn Block 3 Flashback 4 National Curriculum Objectives: Find the area of rectilinear shapes by counting squares.	Multiplication and Division NCETM Resources: Recall: Autumn Block 4 Flashback 4 National Curriculum Objectives: Recall multiplication and division facts for multiplication tables up to 12 × 12. Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers. Recognise and use factor pairs and commutativity in mental calculations.

Maths Long Term Overview – Year 4

Identify, represent and estimate numbers using different representations. *Round any number to the nearest 10, 100 or 1,000.* *Solve number and practical problems that involve all of the above and with increasingly large positive numbers.* *Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value.*			*Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.* *Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.*

Autumn Small Steps			
Place Value (4 weeks)	**Addition and Subtraction (3 weeks)**	**Area (1 week)**	**Multiplication and Division (3 weeks)**
Step 1: Represent numbers to 1,000 *Step 2: Partition numbers to 1,000* *Step 3: Number line to 1,000* *Step 4: Thousands*	*Step 1: Add and subtract 1s, 10s, 100s and 1,000s* *Step 2: Add up to two four-digit numbers (no exchange)*	*Step 1: What is area?* *Step 2: Count squares* *Step 3: Make shapes* *Step 4: Compare areas*	*Step 1: Multiples of 3* *Step 2: Multiply and divide by 6* *Step 3: 6 times-table and division facts*

Maths Long Term Overview – Year 4

Step 5: Represent numbers to 10,000 Step 6: Partition numbers to 10,000 Step 7: Flexible partitioning of numbers to 10,000 Step 8: Find 1, 10, 100, 1,000 more or less Step 9: Number line to 10,000 Step 10: Estimate on a number line to 10,000 Step 11: Compare numbers to 10,000 Step 12: Order numbers to 10,000 Step 13: Roman numerals Step 14: Round to the nearest 10 Step 15: Round to the nearest 100 Step 16: Round to the nearest 1,000 Step 17: Round to the nearest 10, 100 or 1,000	Step 3: Add two four-digit numbers (one exchange) Step 4: Add two four-digit numbers (more than one exchange) Step 5: Subtract two four-digit numbers (no exchange) Step 6: Subtract two four-digit numbers (one exchange) Step 7: Subtract two four-digit numbers (more than one exchange) Step 8: Efficient subtraction Step 9: Estimate answers Step 10: Checking strategies		Step 4: Multiply and divide by 9 Step 5: 9 times-table and division facts Step 6: The 3, 6 and 9 times-table Step 7: Multiply and divide by 7 Step 8: 7 times-table and division facts Step 9: 11 times-table and division facts Step 10: 12 times-table and division facts Step 11: Multiply by 1 and 0 Step 12: Divide a number by 1 and itself Step 13: Multiply 3 numbers

Maths Long Term Overview – Year 4

Spring Term Coverage and National Curriculum Objectives (11 weeks 2 days)			
Week 1 – Week 3	**Week 4 – Week 5**	**Week 6 – Week 9**	**Week 10 – Week 12**
Multiplication and Division NCETM Resources: Recall: Spring Block 1 Flashback 4 National Curriculum Objectives: Recall multiplication and division facts for multiplication tables up to 12 × 12. Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers. Recognise and use factor pairs and commutativity in mental calculations.	Length and Perimeter NCETM Resources: Recall: Spring Block 2 Flashback 4 National Curriculum Objectives: Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.	Fractions NCETM Resources: Recall: Spring Block 3 Flashback 4 National Curriculum Objectives: Recognise and show, using diagrams, families of common equivalent fractions. Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10. Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.	Decimals NCETM Resources: Recall: Spring Block 4 Flashback 4 National Curriculum Objectives: Recognise and write decimal equivalents of any number of tenths or hundreds. Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. Round decimals with 1 decimal place to the nearest whole number

Maths Long Term Overview – Year 4

Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. *Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.*		*Add and subtract fractions with the same denominator.*	*Compare numbers with the same number of decimal places up to 2 decimal places.* *Solve simple measure and money problems involving fractions and decimals to 2 decimal places.*

Spring Small Steps			
Multiplication and Division (3 weeks)	***Length and Perimeter (2 weeks)***	***Fractions (4 weeks)***	***Decimals (3 weeks)***
Updated when new steps are released (November 2022)	*Updated when new steps are released (November 2022)*	*Updated when new steps are released (November 2022)*	*Updated when new steps are released (November 2022)*

Maths Long Term Overview – Year 4

Summer Term Coverage and National Curriculum Objectives (13 weeks 4 days)					
Week 1 – Week 2	**Week 3 – Week 4**	**Week 5 – Week 6**	**Week 8 – Week 9**	**Week 10**	**Week 11 – Week 12**
Decimals NCETM Resources: Recall: Summer Block 1 Flashback 4 National Curriculum Objectives: Recognise and write decimal equivalents of any number of tenths or hundreds. Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits	Money NCETM Resources: Recall: Summer Block 2 Flashback 4 National Curriculum Objectives: Solve simple measure and money problems involving fractions and decimals to 2 decimal places. Estimate, compare and calculate different measures, including money in pounds and pence.	Time NCETM Resources: Recall: Summer Block 3 Flashback 4 National Curriculum Objectives: Read, write and convert time between analogue and digital 12- and 24-hour clocks. Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days.	Shape NCETM Resources: Recall: Summer Block 4 Flashback 4 National Curriculum Objectives: Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Identify acute and obtuse angles and compare and order angles up to 2 right angles by size.	Statistics NCETM Resources: Recall: Summer Block 5 Flashback 4 National Curriculum Objectives: Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts,	Position and Direction NCETM Resources: Recall: Summer Block 6 Flashback 4 National Curriculum Objectives: Describe positions on a 2-D grid as coordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left/right and up/down. Plot specified points and draw sides to

Maths Long Term Overview – Year 4

in the answer as ones, tenths and hundredths. *Round decimals with 1 decimal place to the nearest whole number* *Compare numbers with the same number of decimal places up to 2 decimal places.* *Solve simple measure and money problems involving fractions and decimals to 2 decimal places.*			*Identify lines of symmetry in 2-D shapes presented in different orientations.* *Complete a simple symmetric figure with respect to a specific line of symmetry.*	*pictograms, tables and other graphs.*	*complete a given polygon.*

Summer Small Steps					
Decimals (2 weeks)	**Money (2 weeks)**	**Time (2 weeks)**	**Shape (2 weeks)**	**Statistics (1 week)**	**Position and Direction (2 weeks)**
Updated when new steps are released (March 2023)	*Updated when new steps are released (March 2023)*	*Updated when new steps are released (March 2023)*	*Updated when new steps are released (March 2023)*	*Updated when new steps are released (March 2023)*	*Updated when new steps are released (March 2023)*