Highgate Primary Maths Curriculum 2024

Number
Measurement
Geometry
Statistics
Algebra
Ratio and Proportion

Year 4

Autumn 1: Masks and Minotaurs

Week	Unit	National Curriculum objectives Possible lesson objectives	White Rose Maths (WRM) 'small steps'	Models and images representing number Key vocabulary	Reasoning (in addition to WRM questions)	Fluency
1	**Warm-Up Week** **Times table revision**					
2	**Number** **Place value to 10 000**					
		• identify, represent and estimate numbers using different representations • count in multiples of 1000 • solve number and practical problems WAP representing numbers to 1000 in different ways WAP partitioning numbers to 1000 WAP placing numbers on a number line to 1000 WALT count in thousands WALT understand thousands as a number of 100s	• Represent numbers to 1000 • Partition numbers to 1000 • Number line to 1000 • Thousands	Base-10, place value counters, part-whole model, number line, measuring scales (e.g. jug, ruler), ten frame, number track *thousand*	**Do, then explain** Show the value of the digit 7 in these numbers? 701 107 170 Explain how you know. **NRICH Representing Numbers** (or following week)	Counting in 10s and 100s Number facts: eight times table and division
3		• recognise the place value of each digit in a four-digit number • identify, represent and estimate numbers using different representations • solve number and practical problems WALT represent numbers to 10 000 WALT partition 4-digit numbers WALT use a Gattegno chart WALT partition 4-digit numbers in different ways WALT find 1, 10, 100 or a 1000 more or less than any number	• Represent numbers to 10 000 • Partition numbers to 10 000 • Flexible partitioning of numbers to 10 000 • Find 1, 10, 100 or 1000 more or less	Base-10, place value grid, place value counters, counters, part-whole model **Introduce** Gattegno chart part-whole model, empty numberline *thousand*	**Do, then explain** Show the value of the digit 4 in these numbers? 3041 4321 5497 Explain how you know. **Make up an example** Create four digit numbers where the digit sum is 4 and the tens digit is 1. What is the largest / smallest number you can make? **What comes next?** 6706+ 1000= 7706 7706 + 1000 = 8706 8706 + 1000 = 9706 **NRICH The Deca Tree**	Finding 10, 100 or 1000 more or less Number facts: six times table

4	• order and compare numbers beyond 1000 • solve number and practical problems • read Roman numerals to 100 and know that over time the numeral system changed to include the concept of zero and place value WALT place 4-digit numbers on a number line WALT to use a number line to help estimate WALT compare numbers up to 10 000 WALT order numbers up to 10 000 WALT read and write Roman numerals to 100	• Number line to 10 000 • Estimate on a number line to 10 000 • Compare numbers to 10 000 • Order numbers to 10 000 • Roman numerals	Number line, base-10, place value counters, place value grid, counters *Thousand, roman numerals to 100*	**What's the same, what's different…** … between the Roman system and our own? **NRICH What Distance?** **NRICH Ordering Journeys** **NRICH The Thousands Game** **NRICH Four-digit Targets** **NRICH Nice or Nasty**	Revision of 2, 5 and 10 times tables Number facts: six times table division
5	• round any number to the nearest 1000 • count in multiples of 25 • count backwards through zero to include negative numbers • solve number and practical problems WAP using Roman numerals to 100 WALT round numbers to the nearest 10 WALT round numbers to the nearest 100 WALT round numbers to the nearest 1000 WAP rounding numbers to powers of 10	• Round to the nearest 10 • Round to the nearest 100 • Round to the nearest 1000 • Round to the nearest 10, 100 or 1000	Number line, place value grid, place value counters, base-10, counters *Thousand, roman numerals to 100, round, rounding*	**Possible answers** A number rounded to the nearest ten is 540. What is the smallest possible number it could be? What about a number that rounded to the nearest 100 is 600? **What do you notice?** Round 1963 to the nearest 100. Round it to the nearest 1000. What do you notice? Can you suggest other numbers like this? **NRICH Reasoned Rounding**	Revision of 3 and 4 times tables Number facts: nine times table
6	**Number** **Calculation: Addition and subtraction (1)**				
	• add numbers with up to 4 digits using the formal written method of columnar addition where appropriate • solve addition two-step problems in contexts, deciding which operations and methods to use and why WALT add or subtract 1s, 10s, 100s or 1000s to / from any number WAP using column addition to add 3-digit numbers WALT use column layout to add 4-digit numbers, without exchanging WALT use column layout to add 4-digit numbers, with one exchange WALT use column layout to add 4-digit numbers, with more than one exchange	• Add and subtract 1s, 10s, 100s and 1000s • Add up to two 4-digit numbers – no exchange • Add two 4-digit numbers – one exchange • Add two 4-digit numbers – more than one exchange	Place value counters, part-whole model, base-10, number line, place value grid, column layout, bar model	**Hard and easy questions** Which questions are easy / hard? 13323 - 70 = 12893 + 300 = 19354 - 500 = 19954 + 100 = Explain why you think so **What's the same, what's different…** … between adding or subtracting ones and adding or subtracting thousands?	Counting in 25s Number facts: nine times table division

7	• subtract numbers with up to 4 digits using the formal written method of columnar subtraction where appropriate • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why WAP using column subtraction with 3-digit numbers WALT use column layout to subtract 4-digit numbers, without exchanging WALT use column layout to subtract 4-digit numbers, with one exchange WALT use column layout to subtract 4-digit numbers, with more than one exchange	• Subtract two 4-digit numbers – no exchange • Subtract two 4-digit numbers – one exchange • Subtract two 4-digit numbers – more than one exchange	Place value grid, place value counters, column layout, bar model, base-10	**Missing digits** (or following week) Completed column calculations with missing digits **What's next** 333 666 999 … Can you solve this in your head? Can you make a similar puzzle? **Challenge** What's the hardest 4-digit subtraction calculation you can think of? Why is it so hard?	Revision of 8 times table Number facts: seven times table
8	• 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 WALT choose between methods for subtraction WALT estimate answers before calculating WAL ways of checking our answers WAP solving addition and subtraction problems with more than one step	• Efficient subtraction • Estimate answers • Checking strategies	Column layout, bar model, number line, cubes, part-whole model	**Convince me** $\boxed{}$ - 666 = 8$\boxed{}$5 What is the largest possible number that could be in in the rectangular box? What is the smallest? Convince me! **Making an estimate** Which of these number sentences have the answer that is between 550 and 600? 1174 - 611 3330 – 2779 9326 – 8777 **Comparison** Which method(s) for calculating addition and subtraction do you prefer using – and why?	Counting on to find a difference Number facts: seven times table division

Autumn 2: Sound and Vision

Week	Unit / National Curriculum objectives Possible lesson objectives	White Rose Maths (WRM) 'small steps'	Models and images representing number Key vocabulary	Reasoning (in addition to WRM questions)	Fluency
1	**Measurement** **Area**				
	• find the area of rectilinear shapes by counting squares WALT understand the concept of area WALT find the area of a shape by counting squares WALT create rectilinear shapes of a given area WALT reason about the area of different shapes	• What is area? • Counting squares • Making shapes • Comparing area	Grid *Area, rectilinear, dimensions*	**Always, sometimes, never** If you double the area of a rectangle, you double the length of one pair of sides. **NRICH Torn Shapes** **NRICH Twice as Big?**	Bonds to 100 and 1000 Number facts: revise 2, 5 and 10 times tables and division
2	**Number** **Calculation: Multiplication and division (1)**				
	• recall multiplication and division facts for multiplication tables up to 12 × 12 WAP recalling multiples of 3 WALT multiply and divide by 6 WAL the 6 times table WAL six times table division facts WAP the 6 times table and division facts	• Multiples of 3 • Multiply and divide by 6 • 6 times table and division facts	Number track, 100 square, Numicon, bar model, array	**Always, Sometimes, Never** Multiples of 3 are odd. Answer, then explain <u>why</u> this happens. **Always, sometimes, never?** Is it always, sometimes or never true that an even number that is divisible by 3 is also divisible by 6? **NRICH Four Go**	Telling the time and calculating duration Number facts: 11 times table and division
3	• recall multiplication and division facts for multiplication tables up to 12 × 12 WALT multiply and divide by 9 WAL the 9 times table WAL nine times table division facts WAP the 9 times table and division facts WAP the 3, 6 and 9 times tables and division facts	• Multiply and divide by 9 • 9 times table and division facts • The 3, 6 and 9 times tables	Array, number line, bar model, number track, Numicon, 100 square	**Always, sometimes, never?** Is it always, sometimes or never true that an even number that is divisible by 9 is also divisible by 6? **Continue the pattern** 3 x 1 = 3 3 x 2 = 6 3 x 3 = 9 …… 6 x 1 = 6 6 x 2 = 12 ………. …… 9 x 1 = 9 ………… ………. ……. ………… ………… ……….. ……. Explain what patterns you can see. Why do they occur? **Use a fact** 63 ÷ 9 = 7 Use this fact to work out 126 ÷ 9 = 252 ÷ 7 =	Mental addition and subtraction Number facts: revise 3 and 6 times table and division

4	• recall multiplication and division facts for multiplication tables up to 12 × 12 WALT multiply and divide by 7 WAL the 7 times table WAL 7 times table division facts WAP the 7 times table and division facts WAP 6, 7, 8 and 9 times tables and division facts	• Multiply and divide by 7 • 7 times table and division facts	Array, number track, Numicon, 100 square	**Justify your answer** Is the 7 times table an easy one or a hard one? Justify your answer. **Always, sometimes, never** A number with 7 digits in it is a multiple of 7 **NRICH Zios and Zepts** **NRICH Multiples Grid**	Mental multiplication and division Number facts: revise 9 times table and division
5	• 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 WAL the 11 times table division facts WAL the 12 times table and division facts WALT understand multiplying by 1 and by 0 WALT divide a number by 1 and by itself WALT multiply three numbers together	• 11 times table and division facts • 12 times table and division facts • Multiply by 1 and 0 • Divide by 1 and itself • Multiply 3 numbers	Base-10, place value counters, bar model, array	**Prove It** Can you divide by 0? What happens if you try? Prove it! **NRICH Times Tables Shifts** **NRICH Table Patterns Go Wild!** **NRICH Multiplication Square Jigsaw**	Time telling Number facts: revise 7 times table and division
6 and 7	**Warm-down week** **Consolidation of material covered earlier in the term**				Number bonds to 100 Number facts: revise 2, 3, 4, 5 and 10 times tables and division

Spring 1: Londinium

Week	Unit	National Curriculum objectives Possible lesson objectives	White Rose Maths (WRM) 'small steps'	Models and images representing number Key vocabulary	Reasoning (in addition to WRM questions)	Fluency
1	**Number** **Calculation: Multiplication and division (B)**					
		• recognise and use factor pairs and commutativity in mental calculations • Recall multiplication and division facts for multiplication tables up to 12 × 12 • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 (Y5) WALT find and use factor pairs WALT multiply by 10 WALT multiply by 100	• Factor pairs • Use factor pairs • Multiply by 10 • Multiply by 100	Base-10, counters, cubes, bar model, array **Introduce** Factor bug, grid model (*via arrays)* *Factor, factor pairs*	**Making links** How can you use factor pairs to solve this calculation? 13 x 12 (13 x 3 x 4, 13 x 3 x 2 x 2, 13 x 2 x 6) **NRICH Multiply Multiples 1 (and 2 and 3)**	Mental calculation – 4 operations Number facts: check 6 times table and division
2		• Recall multiplication and division facts for multiplication tables up to 12 × 12 • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 (Y5) • Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects • Recognise and use factor pairs and commutativity in mental calculations WALT divide by 10 WALT divide by 100 WALT use a place value chart to multiply and divide by 10 and 100 WALT choose and use efficient methods to multiply	• Divide by 10 • Divide by 100 • Related facts – multiplication and division • Informal written method for multiplication	Numicon, counters, bar model, dienes, cubes, array	**NRICH Let Us Divide!** **Working backwards** I've made the number 200 by multiplying or dividing by 10 or 100. What number(s) could I have started with?	Bonds and subtraction facts to 10, 100 and 1000 Number facts: revise 9 times table and division
3		• multiply two-digit and three-digit numbers by a one-digit number using formal written layout • 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	• Multiply 2 digits by 1 digit *(WRM revision)* • Multiply 3 digits by 1 digit • Divide 2 digits by 1 digit	Empty numberline, base-10, part-whole model, place value counters, place value chart, column layout, bar model	**How close can you get?** X 7 Using the digits 3, 4 and 6 in the calculation above how close can you get to 4500? What is the largest product? What is the smallest product? **Size of an answer**	Written methods for addition

	WAP using the column method to multiply 2-digit numbers WALT use the short multiplication method WALT use the column method to multiply 3-digit numbers WP using partitioning to divide		*remainder*	Will the answer to the following calculations be greater or less than 300? 152 x 2= 78 x 3 = 87 x 3 = 4 x 74 = Can you answer these without written calculations? **NRICH Light the Lights Again**	and subtraction Number facts: revise 7 times table and division
4	• 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 • 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 • Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects WALT divide by sharing into equal groups WAP division as repeated subtraction WALT divide with remainders WALT divide 3-digit numbers WALT solve problems involving correspondence	• Divide 2 digits by 1 digit • Divide 3 digits by 1 digit • Correspondence problems • Efficient multiplication	Place value chart, place value counters, part-whole model, empty numberline *remainder*	**Do, then Explain** If 20 children have 40 hands between them, how many hands would 200 children have between them? What about 2000 children? Explain your answers **Odd One Out** Which calculation is the odd one out? Explain your answer. 84 ÷ 4 172 ÷ 4 84 ÷ 6 172 ÷ 6 **NRICH Remainders (especially Challenge q.)** **NRICH The Remainders Game**	Number facts: 12 times table
	Length and Perimeter				
5	• convert between different units of measure • measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres WALT measure in kilometres and metres WALT use kilometres as a unit of length WALT find the perimeter of shapes on a 1 cm grid WALT calculate the perimeter of a rectangle	• Measure in kilometres and metres • Equivalent lengths (kilometres and metres) • Perimeter on a grid • Perimeter of a rectangle	Ruler, scale, part-whole mode, bar model, column layout, empty numberline	**The answer is ….** 225 metres What is the question? **Practical** Use pieces of A4 paper to measure a much greater length (e.g. height or width of a room.) **Testing conditions**	Bonds to 100 and 1000 Number facts: revise 2, 5 and 10 times tables and division

				If the width of a rectangle is 3 metres less than the length and the perimeter is between 20 and 30 metres, what could the dimensions of the rectangle be? Convince me. **Always, Sometimes, Never** I calculate the perimeter of a rectangle. If I double the length of one pair of opposite sides, I've doubled the perimeter. **Always, sometimes, never** If you double the area of a rectangle, you double the perimeter.	
6	• measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres WALT understand and measure perimeter WALT calculate the perimeter of a rectilinear shape WALT find the perimeter of regular polygons WALT reason about perimeter	• Perimeter of rectilinear shapes • Find missing lengths in rectilinear shapes • Calculate the perimeter of rectilinear shapes • Perimeter of regular polygons • Perimeter of polygon	Ruler *rectilinear*	**Working backwards** Rectangles (inc. squares) and/or other rectilinear figures with perimeter given but not all side lengths. What are the missing lengths?	Mental addition and subtraction Number facts: revise 4 and 8 times tables and division

Spring 2: Flight

Week	Unit	National Curriculum objectives Possible lesson objectives	White Rose Maths (WRM) 'small steps'	Models and images representing number Key vocabulary	Reasoning (in addition to WRM questions)	Fluency
	Number Fractions (1)					
1		• Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators (Y3) • **Note**: Other than 'understand the whole,' these small steps are not taken from the Year 4 National Curriculum. It is included to take into account the non-statutory DfE Ready to Progress guidance WALT understand the whole WALT count beyond 1 WALT partition a mixed number WALT record mixed numbers on a number line	• Understand the whole • Count beyond 1 • Partition a mixed number • Number lines with mixed numbers	Grid, array, 10-frame, part-whole model, counting stick, place value counters *Mixed numbers, proper fractions, improper fractions*	If I split a shape into 4 parts, I have split the shape into quarters. **Is that always, sometimes, never true?** Tommy counts in 3/7s starting at 0 Witney counts forwards in 4/7s starting at 3 Dexter counts in 2/7s starting at 5. What number will all three children say? **NRICH Fractional Triangles**	Number facts: 4 and 6 times table
2		• **Note**: These small steps are not taken from the Year 4 National Curriculum. It is included to take into account the non-statutory DfE Ready to Progress guidance WALT compare and order mixed numbers WALT understand improper fractions WALT convert mixed numbers to improper fractions WALT convert improper fractions to mixed numbers	• Compare and order mixed numbers • Understand improper fractions • Convert mixed numbers to improper fractions • Convert improper fractions to mixed numbers	Grid, array, 10-frame, part-whole model, counting stick, place value counters *Mixed numbers, proper fractions, improper fractions*	Use the digit cards to make as many imporper fractions as you can: 2, 3, 4, 5, 6, 7, 8 Which of the improper fractions are greater than 1 and less than 2? Which of the improper fractions are greater than 2 and less than 3?	Number facts: 12 times table and division
3		• Recognise and show, using diagrams, families of common equivalent fractions • • Add and subtract fractions with the same denominator WALT find equivalent fractions on a number line WALT find equivalent fractions families WALT add 2 or more fractions WALT add fractions and mixed numbers	• Equivalent fractions on a number line • Equivalent fraction families • Add 2 or more fractions • Add fractions and mixed numbers	Bar model, numberline, part-whole model, grid *Mixed numbers, proper fractions, improper fractions*	Give an example of a fraction that is more than a half but less than a whole. Now another example that no one else will think of. Explain how you know the fraction is more than a half but less than a whole. (draw an image) Find as many different ways to complete this calculation $\frac{\square}{\square}+\frac{\square}{\square}=\frac{11}{9}$ **NRICH Fractional Wall**	Number facts: revise 7 and 9 times tables and division

<table>
<tr>
<td>4</td>
<td>• Add and subtract fractions with the same denominator

WAP adding fractions below 1
WALT add fractions which total more than 1
WAP subtracting from fractions which are smaller than 1
WALT subtract from fractions which are greater than 1
WALT subtract fractions from whole numbers</td>
<td>• Subtract 2 fractions
• Subtract from whole amounts
• Subtract from mixed numbers</td>
<td>Bar model, numberline, part-whole model, grid</td>
<td>What do you notice?
5/5 – 1/5 = 4/5
4/5 – 1/5 = 3/5
Continue the pattern
Can you make up a similar pattern for addition?
The answer is…
3/5
What is the question?
Always, sometimes, never
Subtracting a fraction from a whole number leaves an amount which has a whole number part and a fraction part.</td>
<td>Number facts: revise 11 and 12 times tables and division</td>
</tr>
<tr>
<td>5</td>
<td colspan="5">Number
Decimals (1)</td>
</tr>
<tr>
<td></td>
<td>• Recognise and write decimal equivalents of any number of tenths or hundredths
• Compare numbers with the same number of decimal places up to 2 decimal places
• Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing 1-digit numbers or quantities by 10 (Y3)

WAL about the equivalence of tenths and hundredths
WALT partition fractions into tenths and hundredths
WALT use a place value grid to show decimal tenths
WALT count in decimal tenths</td>
<td>• Tenths as fractions
• Tenths as decimals
• Tenths on a place value grid
• Tenths on a number line</td>
<td>100 square, base-10, part-whole model, ten frame, bar model, number line, place value grid, counters, place value counters

hundredth(s), decimal equivalents, decimal places</td>
<td>Spot the mistake
Sixty tenths, seventy tenths, eighty tenths, ninety tenths, twenty tenths
… and correct it.
Complete the pattern
by filling in the blank cells in this table:
<table>
<tr><td>$\frac{1}{10}$</td><td>$\frac{2}{10}$</td><td>$\frac{3}{10}$</td><td></td></tr>
<tr><td>$\frac{10}{100}$</td><td>$\frac{20}{100}$</td><td></td><td>$\frac{40}{100}$</td></tr>
<tr><td>0.1</td><td></td><td>0.3</td><td></td></tr>
</table>
Do, then explain
Add and label markings in tenths to this numberline:
3.6____________________5.6
Explain your thinking.</td>
<td>Number facts: revise 3, 6, 9 x tables</td>
</tr>
<tr>
<td>6</td>
<td>• Find the effect of dividing a 1- or 2-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
• Recognise and write decimal equivalents of any number of tenths or hundredths
• Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10
• Compare numbers with the same number of decimal places up to 2 decimal places</td>
<td>• Divide one-digit by 10
• Divide two-digits by 10
• Hundredths as fractions
• Hundredths as decimals
• Hundredths on a place value grid
• Divide 1 or 2-digits by 100</td>
<td>Ten frame, place value grid, counters, place value counters, number line, base-10, part-whole model, place value grid
Introduce: Gattegno chart, rekenrek

hundredth(s), decimal equivalents, decimal places</td>
<td>What comes next?
83/100, 82/100, 81/100, ___ ___
31/100, 41/100, 51/100, ___ ___
Always, sometimes, never
To divide by 10 you just cross out a zero.
Undoing
I divide a number by 100 and the answer is 0.3. What number did I start with?
What do you notice?
Divide a number by 100. Then multiply the result by 10.
What do you notice? Can you explain why this happens?
Odd one out
230 ÷10 = 23</td>
<td>Number facts: revise 2, 4 and 8 times tables and division</td>
</tr>
</table>

	WALT use a place value grid to divide numbers with a decimal answer WALT divide two-digit numbers using a place value grid WALT use a number line to connect tenths and hundredths WALT express hundredths as decimal fractions WALT partition decimal hundredths in different ways WALT divide 1-digit numbers by 100 WALT divide numbers with more than 1-digit by 100			230 ÷ 100 = 2.3 23 ÷10 = 2.3 Which is the odd one out, and why? Is there another way you could have answered?	

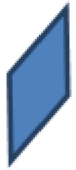
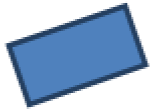
Summer 1: Away from Home

Week	Unit	National Curriculum objectives Possible lesson objectives	White Rose Maths (WRM) 'small steps'	Models and images representing number Key vocabulary	Reasoning (in addition to WRM questions)	Fluency
1	**Number** **Decimals (2)**					
		• recognise and write decimal equivalents of any number of tenths or hundredths • solve simple measure and money problems involving fractions and decimals to two decimal places. WAP making 10 and 100 [two lessons, if time] WALT add tenths or hundredths to make a whole WAL the value of each digit in a decimal number	• Make a whole with tenths • Make a whole with hundredths • Partition decimals • Flexibly partition decimals	Ten frame, 100 square, base-10, rekenrek, part-whole model, place value grid, counters, bead string (in 10s)	**No title!** What needs to be added to 3.23 to give 3.53? What needs to be added to 3.16 to give 3.2? **Do, then explain** Use bonds to 100 to work out: 4.7 + ? = 10 10 – 7.5 = ? Then explain how the bonds helped.	Times Tables practice
2		• recognise and show, using diagrams, families of common equivalent fractions • recognise and write decimal equivalents to ¼, ½ and ¾ • round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places • solve simple measure and money problems involving fractions and decimals to two decimal places. WALT compare decimal numbers WALT order decimal numbers WALT round decimal numbers to the nearest whole number WALT round decimal numbers to the nearest tenth WALT express ¼, ½ and ¾ as decimal fractions	• Compare decimals • Order decimals • Round decimals to the nearest whole number • Halves and quarters	Counters, place value chart, number line, rekenrek	**Missing symbol** Put the correct symbol < or > in each box 3.03 3.33 0.37 0.32 **Ordering** Put these numbers in the correct order, starting with the smallest. ¼ 0.75 5/10 Explain your thinking **Do, then explain** Circle each decimal which when rounded to the nearest whole number is 5. 5.3 5.7 5.2 5.8 Explain your reasoning **Top tips** Explain how to round numbers to one decimal place? **Another and another** Write a decimal number (to one decimal place) which lies between a half and three quarters? … and another, … and another (?) **NRICH Round the Dice Decimals 1**	Times Tables practice

3	**Measurement** **Money**				
	• solve simple measure and money problems involving fractions and decimals to two decimal places. • estimate, compare and calculate different measures, including money in pounds and pence WALT partition amounts of money into pounds and pence WALT record money using decimal notation WALT order amounts of money WALT estimate amounts of money, and understand why this is important WALT convert between pounds and pence	• Write money using decimals • Convert between pounds and pence • Compare amounts of money • Estimate with money	Coins and notes, part-whole model, number line	**Position the symbols** Place the correct symbols between the measurements > or < £23.61 2326p 2623p Explain your thinking. **Working backwards (estimating)** I paid for 8 books from the book fair with a £50 note and got £5 change. Each book cost the same – roughly how much? **Prove it** 100,000 pence is a lot more than 100 pounds!	Times Tables practice
4	• solve simple measure and money problems involving fractions and decimals to two decimal places. • estimate, compare and calculate different measures, including money in pounds and pence WALT add amounts of money (using decimal notation) WALT subtract amounts of money (using decimal notation) WALT calculate how much change is due (using decimal notation) WALT solve simple money problems WALT solve more complex money problems	• Calculate with money • Solve problems with money	Coins and notes, part-whole model, bar model, number line	**Possibilities** Adult tickets cost £8 and Children's tickets cost £4. How many adult and children's tickets could I buy for £100 exactly? Can you find more than one way of doing this? **Spot the mistake** £20.00 - £10.00 = £10.00 £20.00 - £1.00 = £19.00 £20.00 - £0.10 = £9.90 £20.00 - £0.01 = £19.99 … and explain what I've done! **Always, sometimes, never** Pounds are worth more than pence.	Times Tables practice
5	**Measurement** **Time**				
	• 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 • • WALT convert between hours, minutes and seconds • WALT convert between longer time periods • WALT convert times shown on analogue and digital clocks	• Years, months, weeks and days • Hours, minutes and seconds • Convert between analogue and digital times • Convert to the 24 hour clock • Convert from the 24 hour clock.	*Convert, conversion, 24-hour clock*	**Always, sometimes, never** Twenty past is before twenty-one past. Twenty to is before twenty-one to. Explain your answers. **Odd one out** 3.33 p.m. 10 to 4 in the afternoon Home time Quarter to 3 Explain your reasons. Is there more than one way to answer?	Times Tables practice

	• WALT convert times shown on analogue and 24-hour digital clocks WALT calculate duration [not WRM]			**What do you notice?** 1:00pm = 13:00 2:00pm = 14:00 Continue the pattern. **Working backwards** Put these times of the day in order, starting with the earliest time. A: Quarter to four in the afternoon B: 07:56 C: six minutes to nine in the evening D: 14:36 **What's the same, what's different** …between these ways of writing the same time? 20 past 6 in the evening 6.20 p.m. 18:20	
6	***NB*** No sixth week to allow for additional times tables practice where needed.				

Summer 2: Active Planet

Week	Unit	National Curriculum objectives Possible lesson objectives	White Rose Maths (WRM) 'small steps'	Models and images representing number Key vocabulary	Reasoning (in addition to WRM questions)	Fluency
	NB you may have to pause at some point, or juggle things around a little to allow for MTC practice/testing					
1	**Geometry** **Shape**					
		• identify acute and obtuse angles and compare and order angles up to two right angles by size WAP making and identifying angles by turning WAP finding right angles WAL the difference between right, acute and obtuse angles WALT put angles into size order	• Understand angles as turns • Identify angles • Compare and order angles • Triangles	*Orientation, degrees, right angle, perpendicular, parallel, vertical, acute, obtuse, reflect, isosceles, equilateral, scalene, protractor, irregular, regular,*	**Convince me** Ayub says that he can draw a right angled triangle which has another angle which is obtuse. Is he right? Explain why. **Always, sometimes, never** A quadrilateral has one obtuse angle A quadrilateral has two obtuse angles A quadrilateral has three obtuse angles	Practising and / or taking MTC
2		• compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • identify acute and obtuse angles WAP describing polygons by their properties WALT classify triangles as equilateral, isosceles or scalene WALT draw equilateral, isosceles and scalene triangles WALT classify quadrilaterals by their properties WALT draw a range of quadrilaterals accurately	• Quadrilaterals • Polygons	*Quadrilateral, classify, polygon, pentagon, hexagon, heptagon, octagon, nonagon, decagon, polyhedron, polyhedral, parallelogram, rhombus, trapezium, protractor, irregular, regular,* *Orientation, degrees, right angle, perpendicular, parallel, vertical, acute, obtuse, reflect, isosceles, equilateral, scalene,* -	**What's the same, what's different?**  **…**about the diagonals of these 2-D shapes?  **Always, sometimes, never** The two diagonals of a rectangle meet at right angles. **NRICH Four Triangles Puzzle** **NRICH Cut it Out** **NRICH Nine-Pin Triangles** (interactive option) **NRICH Quad Match**	Practising and / or taking MTC
3		• 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	• Horizontal and vertical *(WRM revision)* • Lines of symmetry • Complete a symmetrical figure	*Symmetry, symmetrical, quadrilateral, classify, polygon, pentagon, hexagon, heptagon, octagon, nonagon, decagon, polyhedron,*	**Practical** Write your name in capital letters on squared paper. Using a horizontal line of symmetry, write a mirror image of it. **NRICH Stringy Quads** **NRICH Symmetry Challenge** **NRICH Reflector ! Rotcelfer**	MTC

	WAP identifying horizontal and vertical lines WALT accurately identify lines of symmetry by folding and drawing WALT complete symmetrical figures with horizontal or vertical mirror lines WALT complete symmetrical figures with a diagonal mirror line		*polyhedral, parallelogram, rhombus, trapezium, protractor, irregular, regular,* *Orientation, degrees, right angle, perpendicular, parallel, vertical, acute, obtuse, reflect, isosceles, equilateral, scalene,*		
	Statistics				
4	• interpret and present discrete data using appropriate graphical methods, including bar charts • solve comparison, sum and difference problems using information presented in bar charts, pictograms and tables WAP collecting and presenting data to answer a question WAP interpreting data presented in pictograms, bar charts and tables WALT use graphs and tables to answer questions involving comparison, sum and difference [could be 2 lessons if time]	• Interpret charts • Comparison, sum and difference **NB** Fewer lessons may be taught this week to allow time for the MTC	Tally chart, pictogram, bar chart, scale *Label, graph*	**What's the same, what's different** …between different ways of representing the same data? Which is 'best' and why? **NRICH Venn Diagrams** **NRICH How Big are Classes 5, 6 and 7?**	MTC
5	• interpret and present continuous data using appropriate graphical methods, including time graphs • solve comparison, sum and difference problems using information presented in [line] graphs WALT read a time graph showing continuous data WALT collect continuous data and present it in a time graph WALT interpret continuous data presented in a range of time graphs	• Introducing line graphs • Line graphs **NB** Fewer lessons may be taught this week to allow time for the MTC	Line graph, scale *Label, graph*	**True or False?** Make up your own 'Is this true or false?' statement about the data shown in a line graph. **Always, sometimes, never** A line graph is used to show continuous data. A bar chart is used to show discrete data. **NRICH Take Your Dog for a Walk** (interactive)	MTC
6 and	**Geometry** **Position and direction**				

7	• 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 complete a given polygon. WALT use coordinates to describe the position of a point WALT use coordinates to plot shapes on a grid WALT translate points and shapes on a gird WALT describe the translation of shapes and points on a grid WALT apply our knowledge of translation into different contexts *[mapping fun? – not WRM]*	• Describe position using coordinates • Plot coordinates • Draw 2-D shapes on a grid • Translate on a grid • Describe translation on a grid	Orientation, translate, translation, coordinates, quadrant, grid, plot, axis, axes, scale	**Working backwards** Here are the co-ordinates of corners of a rectangle which has width of 5. (7, 3) and (27, 3) What are the other two co-ordinates? **NRICH Coordinate Challenge** **NRICH Eight Hidden Squares** (hard!) **NRICH A Cartesian Puzzle**	MTC