

Autumn 1: Pendarren

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 million					
		<ul style="list-style-type: none"> read, write, order and compare numbers up to 10,000,000 and determine the value of each digit 	<ul style="list-style-type: none"> Numbers to 10,000 Numbers to 100,000 Numbers to a million Numbers to 10 million Compare and order any number 	Base-10, place value counters, part-whole model, empty number line	<p>Do, then explain Find out the populations in five countries. Order the populations starting with the largest. Explain how you ordered the countries and their populations.</p> <p>Do, then explain Show the value of the digit 6 in these numbers? 6787555 95467754 Explain how you know.</p> <p>Make up an example Create seven digit numbers where the digit sum is six and the tens of thousands digit is two. Eg 4020000 What is the largest/smallest number?</p>	MyMiniMaths
3		<ul style="list-style-type: none"> round any whole number to a required degree of accuracy use negative numbers in context, and calculate intervals across 0 solve number and practical problems that involve all of the above 	<ul style="list-style-type: none"> Round numbers to 10, 100 and 1000 Round any number Negative numbers 	Base-10, place value counters, part-whole model, empty number line	<p>True or false? When I count backwards in 50s from 10 I will say -200</p> <p>What do you notice? Give an example of a six digit number which rounds to the same number when rounded to the nearest 10000 and 100000.</p> <p>Odd one out 4832 6400 8934 10000 14999 Your answer must involve rounding!</p>	MyMiniMaths

4	Number Calculation: Addition and subtraction				
	<ul style="list-style-type: none"> • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • solve problems involving addition, subtraction, • perform mental calculations, including with mixed operations and large numbers • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. 	<ul style="list-style-type: none"> • Add more than 4 digit numbers • Subtract more than 4 digit numbers • Add and subtract integers • Solve problems involving addition and subtraction 	Place value grid, place value counters, column layout, empty number line, bar model	Hard and easy questions Which questions are easy / hard? $213323 - 70 =$ $512893 + 37 =$ $8193.54 - 5.9 =$ Explain why you think the hard questions are hard? Convince me Three four digit numbers total 12435. What could they be? Convince me. NRICH Always, Sometimes or Never? Number	MyMiniMaths
5	Number Calculation: Multiplication and division				
	<ul style="list-style-type: none"> • multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context • perform mental calculations, including with mixed operations and large numbers • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. 	<ul style="list-style-type: none"> • Multiply up to a 4-digit number by a 2-digit number • Short division • Division using factors 	Base-10, Numicon	I know... so... $32 \times 13 = 416$ $32 \times 15 =$ $42 \times 12 = 504$ $45 \times 12 =$ $26 \times 24 = 624$ $36 \times 24 =$ Prove it Which numbers cannot be the answer to 314×61 ? 19154 18214 18926 Explain how you know Approximate For each question, the answer has how many digits? $576 \div 6 =$ ___ digit(s) $5880 \div 7 =$ ___ digit(s) $2076 \div 3 =$ ___ digit(s) $920 \div 8 =$ ___ digit(s) NRICH Dicey Operations	MyMiniMaths
6	<ul style="list-style-type: none"> • divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division • solve problems involving addition, subtraction, multiplication and division 	<ul style="list-style-type: none"> • Long division • Solve problems involving addition, subtraction, multiplication and division 	Base-10, Numicon	Practical 'The 4, 5 and 6 keys on my calculator are broken!' How can I use my calculator to work out: $1350 \div 15 =$ $624 \div 16 =$	MyMiniMaths

	<ul style="list-style-type: none"> perform mental calculations, including with mixed operations and large numbers 			Finding possibilities I divide a 4 digit number by 24. The ones digit of the answer is 3. What could my 4-digit number be? Have you found all the possibilities? How do you know?	
7	<ul style="list-style-type: none"> identify common factors, common multiples and prime numbers 	<ul style="list-style-type: none"> Common factors Common multiples Primes to 100 Square and cubed numbers 	Cuisenaire, 100 square, base-10	Always, sometimes, never? Is it always, sometimes or never true that when you square an even number, the result is divisible by 4? Is it always, sometimes or never true that multiples of 7 are 1 more or 1 less than prime numbers? NRICH Mystery Matrix NRICH Factor Lines NRICH Factor-Multiple Chains NRICH Two Primes Make One Square	MyMiniMaths
8	<ul style="list-style-type: none"> use knowledge of the order of operations to carry out calculations for the four operations 	<ul style="list-style-type: none"> Order of operations Mental calculations Reason from known facts 	-	Missing symbols Write the missing signs (+ - x ÷) in this number sentence: $6 \ 12.3 = 61.9 \ 11.9$ What else do you know? If you know this: $86.7 + 13.3 = 100$ what other facts do you know? Which is correct? Which of these number sentences is correct? $3 + 6 \times 2 = 15$ $6 \times 5 - 7 \times 4 = 92$ $8 \times 20 \div 4 \times 3 = 37$ NRICH Four Goodness Sake	MyMiniMaths