

Ox Close Federation

Maths Medium Term Planning

Year 4



Autumn					
Topic	Suggested teaching weeks	White Rose Small Steps	Link to National Curriculum and NRich Problem Solving	Link to Ready to Progress documents	Vocabulary
Number Place Value	4 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 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	Pupils should be taught to <ul style="list-style-type: none"> • count in multiples of 6, 7, 9, 25 and 1000 • find 1000 more or less than a given number • count backwards through zero to include negative numbers • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • identify, represent and estimate numbers using different representations • round any number to the nearest 10, 100 or 1000 • 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 zero and place value. <p><u>Ordering Journeys **</u> <u>Four-digit Targets *</u></p>	4NPV–1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. 4NPV–2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and nonstandard partitioning. 4NPV–3 Reason about the location of any fourdigit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.	Tenths, hundredths, decimal, decimal places, round to, round to the nearest, thousand more/less, negative integers, count through zero, Roman numerals I-C

		<p>Step 16 Round to the nearest 1,000</p> <p>Step 17 Round to the nearest 10, 100 or 1,000</p>			
<p>Number</p> <p>Addition and subtraction</p>	3 weeks	<p>Step 1 Add and subtract 1s, 10s, 100s and 1,000s</p> <p>Step 2 Add up to two 4-digit numbers – no exchange</p> <p>Step 3 Add two 4-digit numbers – one exchange</p> <p>Step 4 Add two 4-digit numbers – more than one exchange</p> <p>Step 5 Subtract two 4-digit numbers – no exchange</p> <p>Step 6 Subtract two 4-digit numbers – one exchange</p> <p>Step 7 Subtract two 4-digit numbers – more than one exchange</p> <p>Step 8 Efficient subtraction</p> <p>Step 9 Estimate answers</p> <p>Step 10 Checking strategies</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • 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. <p>Fifteen Cards *</p>	<p>4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)</p>	<p>Column addition, column subtraction, operations, exchanging</p>
<p>Geometry</p> <p>Area</p>	1 week	<p>Step 1 What is area?</p> <p>Step 2 Count squares</p> <p>Step 3 Make shapes</p> <p>Step 4 Compare areas</p>	<p>find the area of rectilinear shapes by counting squares</p>		<p>Convert, perimeter, analogue, digital, exterior, area, rectilinear shape</p>
<p>Number</p> <p>Multiplication and division</p> <p>A</p>	3 weeks	<p>Step 1 Multiples of 3</p> <p>Step 2 Multiply and divide by 6</p> <p>Step 3 6 times-table and division facts</p> <p>Step 4 Multiply and divide by 9</p> <p>Step 5 9 times-table and division facts</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • 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 three numbers • recognise and use factor pairs and commutativity in mental calculations 	<p>4MD–1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.</p> <p>4MD–2 Manipulate multiplication and division equations, and understand and apply the</p>	<p>Multiplication facts up to 12×12 Division facts</p> <p>Inverse, derive, commutative, inverse.</p>

		<p>Step 6 The 3, 6 and 9 times-tables</p> <p>Step 7 Multiply and divide by 7</p> <p>Step 8 7 times-table and division facts</p> <p>Step 9 11 times-table and division facts</p> <p>Step 10 12 times-table and division facts</p> <p>Step 11 Multiply by 1 and 0</p> <p>Step 12 Divide a number by 1 and itself</p> <p>Step 13 Multiply three numbers</p>	<ul style="list-style-type: none"> • 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 one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. <p><u>A Square of Numbers (I) *</u></p> <p><u>Shape Times Shape *</u></p>	<p>commutative property of multiplication.</p> <p>4MD–3 Understand and apply the distributive property of multiplication.</p> <p>4NF–1 Recall multiplication and division facts up to , and recognise products in multiplication tables as multiples of the corresponding number</p> <p>4NF–2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context.</p>	
Consolidation	1 week				

Spring					
Topic	Suggested teaching weeks	White Rose Small Steps	Link to National Curriculum and NRICH Problem Solving	Link to Ready to Progress documents	Vocabulary
Number Multiplication and division B	3 weeks	Step 1 Factor pairs Step 2 Use factor pairs Step 3 Multiply by 10 Step 4 Multiply by 100 Step 5 Divide by 10 Step 6 Divide by 100 Step 7 Related facts – multiplication and division Step 8 Informal written methods for multiplication Step 9 Multiply a 2-digit number by a 1-digit number Step 10 Multiply a 3-digit number by a 1-digit number Step 11 Divide a 2-digit number by a 1-digit number (1) Step 12 Divide a 2-digit number by a 1-digit number (2) Step 13 Divide a 3-digit number by a 1-digit number Step 14 Correspondence problems Step 15 Efficient multiplication	Pupils should be taught to: <ul style="list-style-type: none"> 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 three numbers recognise and use factor pairs and commutativity in mental calculations 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 one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. <p><u>Four Go (G) **</u></p>	4MD–1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. 4MD–2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. 4MD–3 Understand and apply the distributive property of multiplication.	Multiplication facts up to 12×12 Division facts Inverse, derive, commutative, inverse.
Measure Length and perimeter	weeks	Step 1 Measure in kilometres and metres Step 2 Equivalent lengths (kilometres and metres) Step 3 Perimeter on a grid Step 4 Perimeter of a rectangle Step 5 Perimeter of rectilinear shapes Step 6 Find missing lengths in rectilinear shapes Step 7	Convert between different units of measure [for example, kilometre to metre; hour to minute] <ul style="list-style-type: none"> measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares 		Coordinates, translation – left, right, quadrant, xaxis, y-axis Quadrilateral, triangles, right angle, acute, obtuse, isosceles, equilateral, scalene, rightangled, angle, dodecagon, Polygon, kite

		Calculate perimeter of rectilinear shapes Step 8 Perimeter of regular polygons Step 9 Perimeter of polygons	<ul style="list-style-type: none"> estimate, compare and calculate different measures, including money in pounds and pence 		
Number Fractions	4 weeks	Step 1 Understand the whole Step 2 Count beyond 1 Step 3 Partition a mixed number Step 4 Number lines with mixed numbers Step 5 Compare and order mixed numbers Step 6 Understand improper fractions Step 7 Convert mixed numbers to improper fractions Step 8 Convert improper fractions to mixed numbers	recognise and show, using diagrams, families of common equivalent fractions <ul style="list-style-type: none"> count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. 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 add and subtract fractions with the same denominator recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to $4\frac{1}{2}$, $2\frac{1}{4}$, $4\frac{3}{4}$ 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 Fractional Wall *	4F–1 Reason about the location of mixed numbers in the linear number system. 4F–2 Convert mixed numbers to improper fractions and vice versa. 4F–3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers	Equivalent decimals and fractions
Number Decimals A	3 weeks	Step 1 Tenths as fractions Step 2 Tenths as decimals Step 3 Tenths on a place value chart Step 4 Tenths on a number line Step 5 Divide a 1-digit number by 10 Step 6 Divide a 2-digit number by 10	round decimals with one decimal place to the nearest whole number <ul style="list-style-type: none"> 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. 		Equivalent decimals and fractions Relationship between

		Step 7 Hundredths as fractions Step 8 Hundredths as decimals Step 9 Hundredths on a place value chart Step 10 Divide a 1- or 2-digit number by 100			
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Summer

Topic	Suggested teaching weeks	White Rose Small Steps	Link to National Curriculum and NRICH Problem Solving	Link to Ready to Progress documents	Vocabulary
Number Decimals B	2 weeks	Step 1 Make a whole with tenths Step 2 Make a whole with hundredths Step 3 Partition decimals Step 4 Flexibly partition decimals Step 5 Compare decimals Step 6 Order decimals Step 7 Round to the nearest whole number Step 8 Halves and quarters as decimals	<ul style="list-style-type: none"> ▪ recognise and write decimal equivalents of any number of tenths or hundredths ▪ recognise and write decimal equivalents to 4 1 , 2 1 , 4 3 ▪ 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 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. Round the Dice Decimals 1 *		Equivalent decimals and fractions Relationship between
Measurement Money	2 weeks	Step 1 Write money using decimals Step 2 Convert between pounds and pence Step 3 Compare amounts of money Step 4 Estimate with money Step 5 Calculate with money Step 6 Solve problems with money	<ul style="list-style-type: none"> ▪ estimate, compare and calculate different measures, including money in pounds and pence 		Pounds, pence, change, total
Measurement Time	2 weeks	Step 1 Years, months, weeks and days Step 2 Hours, minutes and seconds Step 3 Convert between analogue and digital times Step 4 Convert to the 24-hour clock Step 5 Convert from the 24-hour clock S	<ul style="list-style-type: none"> ▪ 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. 		Analogue digital
Consolidation	1 week				

<p>Geometry Shape</p>	<p>2 weeks</p>	<p>Step 1 Understand angles as turns Step 2 Identify angles Step 3 Compare and order angles Step 4 Triangles Step 5 Quadrilaterals Step 6 Polygons Step 7 Lines of symmetry Step 8 Complete a symmetric figure</p>	<ul style="list-style-type: none"> • 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 two right angles by size • 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. <p><u>Coordinate Challenge *</u></p>	<p>4G–1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.</p> <p>4G–2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.</p> <p>4G–3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry</p>	<p>Coordinates, translation – left, right, quadrant, x-axis, y-axis Quadrilateral, triangles, right angle, acute, obtuse, isosceles, equilateral, scalene, rightangled, angle, dodecagon, Polygon, kite</p>
<p>Statistics</p>	<p>1 week</p>	<p>Step 1 Interpret charts Step 2 Comparison, sum and difference Step 3 Interpret line graphs Step 4 Draw line graphs</p>	<ul style="list-style-type: none"> • 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, pictograms, tables and other graphs. <p><u>How Big Are Classes 5, 6 and 7? *</u></p>		<p>Continuous data, discrete, comparison, table, difference, time graphs Ascending, descending</p>

<p>Geometry Position and direction</p>	<p>2 weeks</p>	<p>Step 1 Describe position using coordinates Step 2 Plot coordinates Step 3 Draw 2-D shapes on a grid Step 4 Translate on a grid Step 5 Describe translation on a grid</p>	<ul style="list-style-type: none"> • 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. 		<p>Coordinates, first quadrant, translations, polygon</p>
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