Year 5—Autumn Term—NC Objectives

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week14
<u>Number – Place Value</u> Read, write, order and compare numbers to at least 1000000 and determine the value of each digit. Count forwards or backwards in steps of powers of 10 for any given number up to 1000000. Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 Solve number problems and practical problems that involve all of the above. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.		<u>Geometry- Properties of Shapes and Angles</u> Identify 3D shapes, including cubes and other cuboids, from 2D representations. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees (o) Identify: angles at a point and one whole turn (total 360o), angles at a point on a straight line and ½ a turn (total 180o) other multiples of 90o		<u>Number – Place Value</u> Read, write, order and compare numbers to at least 1000000 and determine the value of each digit. Count forwards or backwards in steps of powers of 10 for any given number up to 1000000. Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 Solve number problems and practical problems that involve all of the above. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	<u>Number- Addition and Subtraction</u> Add and subtract numbers mentally with increasingly large numbers. Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	<u>Geometry- Properties of Shapes and Angles</u> Identify 3D shapes, including cubes and other cuboids, from 2D representations. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees (o) Identify: angles at a point and one whole turn (total 360o), angles at a point on a straight line and ½ a turn (total 180o) other multiples of 90o	<u>Perimeter and Area</u> Measure and calculate the perimeter of composite rectilinear shapes in cm and m. Calculate and compare the area of rectangles (including squares), and including using standard units, cm2, m2 estimate the area of irregular shapes.	<u>Number- Addition and Subtraction</u> Add and subtract numbers mentally with increasingly large numbers. Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	<u>Statistics</u> Solve comparison, sum and difference problems using information presented in a line graph. Complete, read and interpret information in tables including timetables.	<u>Number – multiplication and division</u> Multiply and divide numbers mentally drawing upon known facts. Multiply and divide whole numbers by 10, 100 and 1000. Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3) Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. Establish whether a number up to 100 is prime and recall prime numbers up to 19		<u>Statistics</u> Solve comparison, sum and difference problems using information presented in a line graph. Complete, read and interpret information in tables including timetables.	<u>Perimeter and Area</u> Measure and calculate the perimeter of composite rectilinear shapes in cm and m. Calculate and compare the area of rectangles (including squares), and including using standard units, cm2, m2 estimate the area of irregular shapes.

Year 5—Autumn Term—Small Steps

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week14
Number – Place Value Number to 10,000 Round to the nearest 10, 100 and 1,000 Number to 100,000 Compare and order numbers to 100,000 Round numbers within 100,000 Counting in 10s, 100s, 1,000s, 10,000s and 100,000s Roman numerals to 1,000		Geometry- Properties of Shapes and Angles Measuring angles in degrees Measuring with a protractor (acute) Measuring with a protractor (obtuse) Drawing lines and angles accurately Regular and irregular polygons Reasoning about 3D shapes		Number – Place Value Compare and order numbers to a million Round numbers to a million Negative numbers	Number- Addition and Subtraction Add whole numbers with more than 4-digits (column method) Subtract whole numbers with more than 4 -digits (column method) Round to estimate and approximate	Geometry- Properties of Shapes and Angles Calculating angles on a straight line Calculating angles around a point Calculating lengths and angles in shapes	Perimeter and Area Measure perimeter Calculate perimeter Find unknown lengths	Number- Addition and Subtraction Inverse operations (addition and subtraction) Multi-step addition and subtraction problems	Statistics Read and interpret line graphs Draw line graphs Read and interpret tables	Number – multiplication and division Multiples Factors Common factors Prime numbers Square numbers Cube numbers Inverse operations (Multiplication and Division) Multiply by 10, 100 and 1,000 Divide by 10, 100 and 1,000 Multiply and divide by multiples of 10, 100 and 1,000		Statistics Use line graphs to solve problems Two way tables Timetables	Perimeter and Area Area of rectangles Area of compound shapes Estimate and approximate area

Year 5—Spring Term—NC Objectives

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<u>Number – Multiplication and Division</u> Multiply and divide numbers mentally drawing upon known facts. Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers. Divide numbers up to 4 digits by a one digit number using the formal written method of short division and interpret remainders appropriately for the context. Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.			<u>Number: Fractions</u> Compare and order fractions whose denominators are multiples of the same number. Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example 25 + 45 = 65 = 1 15] Add and subtract fractions with the same denominator and denominators that are multiples of the same number. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. Read and write decimal numbers as fractions [for example 0.71 = 71100] Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.			<u>Measurement- converting units</u> Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and ml] Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Solve problems involving converting between units of time.	<u>Geometry- position and direction</u> Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	<u>Number: Fractions</u> Compare and order fractions whose denominators are multiples of the same number. Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example 25 + 45 = 65 = 1 15] Add and subtract fractions with the same denominator and denominators that are multiples of the same number. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. Read and write decimal numbers as fractions [for example 0.71 = 71100] Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.			CONSOLIDATION

Year 5—Spring Term—Small Steps

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<u>Number – Multiplication and Division</u> Multiply 4-digits by 1-digit Multiply 2-digits (area model) Multiply 2-digits by 2-digits Multiply 3-digits by 2-digits Multiply 4-digits by 2-digits Divide 4-digits by 1-digit Divide with remainders			<u>Number: Fractions</u> Equivalent fractions Improper fractions to mixed numbers Mixed numbers to improper fractions Number sequences Compare and order fractions less than 1 Compare and order fractions greater than 1			<u>Measurement-converting units</u> Kilograms and kilometres Milligrams and millilitres Converting units of time	<u>Geometry-position and direction</u> Position in the first quadrant Reflection Reflection with coordinates Translation Translation with coordinates	<u>Number: Fractions</u> Add and subtract fractions Add fractions within 1 Add 3 or more fractions Add fractions Add mixed numbers Subtract fractions Subtract mixed numbers Subtract – breaking the whole			CONSOLIDATION

Year 5—Summer Term—NC Objectives

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<u>Number: Decimals and Percentages</u> Read, write, order and compare numbers with up to three decimal places. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Round decimals with two decimal places to the nearest whole number and to one decimal place. Solve problems involving number up to three decimal places. Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal. Solve problems which require knowing percentage and decimal equivalents of 12, 14, 15, 25, 45 and those fractions with a denominator of a multiple of 10 or 25.		<u>Measurement- converting units</u> Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and ml] Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Solve problems involving converting between units of time.	<u>Problem Solving and Efficient Methods</u> Activities that challenge children's reasoning, investigative and problem solving skills. To include problems involving number, money, shape, position and direction, measure, statistics and fractions.	<u>Number: Decimals</u> Solve problems involving number up to three decimal places. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.				<u>Measures Volume</u> Estimate volume [for example using 1cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] Use all four operations to solve problems involving measure.	<u>Problem Solving and Efficient Methods</u> Activities that challenge children's reasoning, investigative and problem solving skills. To include problems involving number, money, shape, position and direction, measure, statistics and fractions.		CONSOLIDATION/REVISION

Year 5—Summer Term—Small Steps

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<u>Number: Decimals and Percentages</u> Decimals up to 2 d.p. Decimals as fractions (1) Decimals as fractions (2) Understand thousandths Thousands as decimals Rounding decimals Order and compare decimals Understand percentages Percentages as fractions and decimals Equivalent F.D.P		<u>Measurement- converting units</u> Metric units Imperial units Timetables	<u>Problem Solving and Efficient Methods</u> Activities that challenge children's reasoning, investigative and problem solving skills. To include problems involving number, money, shape, position and direction, measure, statistics and fractions.	<u>Number: Decimals</u> Adding decimals within 1 Subtracting decimals within 1 Complements to 1 Adding decimals – crossing the whole Adding decimals with the same number of decimal places Subtracting decimals with the same number of decimal places Adding decimals with a different number of decimal places Subtracting decimals with a different number of decimal places Adding and subtracting wholes and decimals Decimal sequences Multiplying decimals by 10, 100 and 1,000 Dividing decimals by 10, 100 and 1,000				<u>Measures Volume</u> What is volume? Compare volume Estimate volume Estimate capacity	<u>Problem Solving and Efficient Methods</u> Activities that challenge children's reasoning, investigative and problem solving skills. To include problems involving number, money, shape, position and direction, measure, statistics and fractions.		CONSOLIDATION/REVISION