

Autumn 1					
Unit 1: Place value – 4-digit numbers (1) (9 textbook lessons)		Unit 2: Place value – 4-digit numbers (2) (9 textbook lessons)		Unit 3: Addition and subtraction (15 textbook lessons)	
Skills focus: -Recognise the place value of each digit in a 4-digit number -Read, write and represent four-digit numbers -Partition numbers into thousands, hundreds, tens and ones -Round numbers to the nearest 10 and 100 -Count in multiples of 1,000 -Estimate and locate numbers on a number line to 10,000 -Read Roman numerals to 100 Key vocabulary: place value, digit, numeral, thousands, hundreds, tens, ones, partition, represent, estimate, number line, rounding, nearest, greater than, less than, equal to, Roman numerals Sentence stems: The digit ___ has a value of ___ because... ___ is made up of ___ thousands, ___ hundreds, ___ tens and ___ ones. I rounded ___ to ___ because... The number is approximately ___ because... The Roman numeral ___ represents...		Skills focus: -Find 1,000 more or less than a number -Compare and order four-digit numbers -Order numbers to 10,000. Round to the nearest 1,000 -Solve problems involving rounding and place value -Count in 25s -Explore negative numbers in context and count forwards and backwards through zero Key vocabulary: thousands, hundreds, tens, ones, place value, compare, order, ascending, descending, greater than, less than, equal to, round, nearest, estimate, 1,000 more, 1,000 less, negative, positive, zero Sentence stems: ___ is greater than ___ because... 1,000 more than ___ is... I know ___ rounds to ___ because... ___ is further from zero than _____. When I cross zero...		Skills focus: -Develop efficient mental strategies for addition and subtraction -Add and subtract numbers with up to four digits using formal written methods -Use estimation to check answers -Solve one- and two-step problems -Use the inverse relationship between addition and subtraction -Select appropriate methods and explain reasoning. Key vocabulary: addition, subtraction, add, subtract, total, sum, difference, estimate, inverse, exchange, regroup, column, place value, calculation, efficient, operation, check Sentence stems: I exchanged ___ because... I aligned the columns because... My estimate is ___, so I know... The most efficient method is ___ because...	
Possible resources: Place value counters Dienes/Base 10 Place value charts 100 squares 1,000 squares Number lines Roman numeral cards		Possible misconceptions: -Reversing place value -Difficulty representing numbers containing zero -Rounding in the wrong direction -Confusing Roman numeral symbols		Possible resources: Place value counters Dienes Place value charts Number lines Part-whole models Bar models Column method grids	
Possible misconceptions: -Difficulty representing numbers containing zero -Rounding in the wrong direction -Confusing Roman numeral symbols		Possible resources: Place value counters Place value charts Number lines Thermometers Temperature cards Counters		Possible misconceptions: -Misaligning place-value columns -Forgetting to exchange -Exchanging the wrong amount -Subtracting the smaller digit from the larger digit regardless of place value	
Strengthening: -Revisit three-digit numbers first -Build every number practically with place value -Use place value charts consistently -Matching and sequencing for Roman numerals		Deepening: -Find numbers that meet several place-value conditions -Explain rounding -Identify numbers from clues -Estimate on unmarked number lines -Investigate patterns in Roman numerals		Strengthening: -Use concrete equipment -No exchanging initially -Use squared paper to align columns -Smaller steps -Smaller numbers initially	
Deepening: -Find numbers that meet several place-value conditions -Explain rounding -Identify numbers from clues -Estimate on unmarked number lines -Investigate patterns in Roman numerals		Strengthening: -Use concrete place value representations Compare numbers slowly looking at the place value chart one section at a time -Introduce negatives with familiar contexts		Deepening: -Explain why exchanging is necessary -Solve missing-digit calculations -Find more than one way to solve a problem -Identify and correct errors	
Ready to Progress Link: 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 four digit 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. 4NPV–4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts		Ready to Progress Link: 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–3 Reason about the location of any four digit 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. 4NPV–4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts		Ready to Progress Link: 4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)	

Autumn 2					
Unit 3: Addition and subtraction (additional times to complete)		Unit 4: Measure - perimeter (5 textbook lessons)		Unit 5: Multiplication and division (1) (11 textbook lessons)	
Skills focus: -Develop efficient mental strategies for addition and subtraction -Add and subtract numbers with up to four digits using formal written methods -Use estimation to check answers -Solve one- and two-step problems -Use the inverse relationship between addition and subtraction -Select appropriate methods and explain reasoning.		Skills focus: -Understand perimeter as the distance around a shape -Measure and calculate perimeter -Add lengths together to find perimeter -Find missing lengths when the perimeter is known -Solve practical problems involving perimeter Key vocabulary: perimeter, length, width, measure, centimetre, metre, millimetre, cm, m, mm, distance, total, side, shape, calculate, estimate Sentence stems: Perimeter means... I need to add ___ because... The perimeter is... I know this is correct because... The missing side must be ___ because...		Skills focus: -Develop fluency with multiplication and division facts up to 12×12 -Use known and derived facts to multiply and divide mentally -Work with the 6, 9, 7, 11 and 12 times tables -Multiply and divide by 0 and 1 -Multiply three numbers together -Use multiplication and division in problem-solving contexts Key vocabulary: multiply, multiplication, divide, division, factor, product, quotient, multiple, equal groups, inverse, times table, related fact, mental calculation, zero, one Sentence stems: I know ___ $\times$ ___ because... The related division fact is... I used the ___ times table to help me. I know multiplying by 0 gives ___ because... I know dividing by 1 gives ___ because...	
Possible resources: Place value counters Dienes Place value charts Number lines Part-whole models Bar models Column method grids		Possible resources: Rulers Metre sticks Tape measures String Trundle wheels Squared paper Geoboards Cubes 2D shapes		Possible resources: Times table grids Counters Arrays Numicon Cubes Bead strings Number lines Place value counters	
Possible misconceptions: -Misaligning columns -Forgetting to exchange -Exchanging the wrong amount -Subtracting the smaller digit from the larger digit regardless of place value -Failing to check an answer's reasonability		Possible misconceptions: -Confusing perimeter with area -Measuring only some sides -Forgetting to include every side - Assuming opposite sides are always equal without checking -Adding measurements in different units without converting		Possible misconceptions: -Confusing multiplication and division facts -Thinking multiplying by 0 leaves the number unchanged -Confusing factors and multiples -Relying on counting rather than known facts	
Strengthening: -Use concrete equipment -No exchanging initially -Use squared paper to align columns -Smaller steps -Smaller numbers initially		Strengthening: -Use string to physically trace the outside of the shapes -Count units around squared shapes before using rulers -Highlight every side -Use regular shapes first -Keep all measurements in the same unit		Strengthening: -Secure previously learnt multiplication facts first -Use arrays and equal groups -Link facts together -Practice one times table group at a time before mixing facts	
Deepening: -Compare methods -Explain why exchanging is necessary -Solve missing-digit calculations -Find multiple ways to solve a problem -Identify and explain errors		Deepening: -Find different shapes with the same perimeter -Find a missing side when the total perimeter is known -Explain why two shapes can have the same perimeter -Identify and correct perimeter errors		Deepening: -Derive unknown facts from known facts -Explain relationships between times tables -Identify patterns -Solve missing-number and multi-step problems	
Ready to Progress Link: 4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)		Ready to Progress Link: 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.		Ready to Progress Link: 4NF–1 Recall multiplication and division facts up to 12×12 , and recognise products in multiplication tables as multiples of the corresponding number 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.	

Spring 1					
Unit 6: Multiplication and division (2) (15 textbook lessons)		Unit 7: Measure - area (5 textbook lessons)		Unit 8: Fractions (1) (7 textbook lessons)	
Skills focus: -Solve problems involving multiplication, addition, subtraction and division -Use the distributive law to multiply two-digit numbers by one-digit numbers -Develop formal written multiplication methods for two- and three-digit numbers multiplied by one digit -Develop division methods for two- and three-digit numbers divided by one digit -Interpret remainders in context -Solve scaling and correspondence problems Key vocabulary: multiplication, multiply, division, divide, factor, product, quotient, multiple, remainder, inverse, distributive law, scaling, correspondence, equal groups, exchange, regroup Sentence stems: I partitioned ___ into ___ because... I exchanged ___ because... The remainder means... I chose division because...		Skills focus: -Understand area as the amount of surface covered -Find the area of rectilinear shapes by counting squares -Compare areas -Construct shapes with a given area -Estimate and calculate area using square units Key vocabulary: area, surface, square, square centimetre, square metre, cm ² , m ² , measure, estimate, compare, greater, smaller, equal, rectilinear Sentence stems: Area measures... I counted ___ squares, so the area is... The area is greater because... These shapes have the same area because... I know I need square units because...		Skills focus: -Understand tenths and hundredths -Recognise equivalent fractions -Simplify fractions -Recognise fractions greater than one -Convert between improper fractions and mixed numbers -Use fractions as numbers and representations -Begin applying fractions to quantities and division Key vocabulary: fraction, whole, part, numerator, denominator, equivalent, simplify, tenths, hundredths, improper fraction, mixed number, greater than one, unit fraction, non-unit fraction Sentence stems: These fractions are equivalent because... I simplified the fraction by... This fraction is greater than one because... I converted the improper fraction by... The denominator tells me...	
Possible resources: Place value counters Dienes/Base 10 Arrays Multiplication grids Place value charts Bar models Number lines		Possible misconceptions: -Misaligning columns -Forgetting to exchange -Losing place value when multiplying a 3-digit number -Confusing grouping and sharing -Using the wrong operation		Possible resources: Fraction strips/walls Fraction circles Bar models Number lines Counters 100 grids Place value charts	
Possible misconceptions: -Confusing area and perimeter -Counting part-squares incorrectly -Counting the boundary rather than the surface covered -Assuming that greater perimeter means greater area		Possible resources: Square tiles Multilink cubes Squared paper Geoboards Rulers 2D shapes Counters		Possible misconceptions: -Thinking a larger denominator = larger fraction -Confusing numerator and denominator -Thinking improper fractions are incorrect -Difficulty understanding fractions greater than one	
Strengthening: -Revisit multiplication facts -Use arrays and place value counters -Partition numbers before using the formal method -Use concrete grouping -Start with no exchanging		Deepening: -Explain why the distributive law works -Solve missing-number problems -Create problems -Investigate when a remainder should be rounded up, ignored or expressed as a fraction		Strengthening: -Cover shapes physically using square tiles -Count complete squares before introducing partials -Use clearly marked squared paper -Contrast area and perimeter using the same shape	
Deepening: -Find different shapes with the same area -Explain why shapes with different perimeters can have equal areas -Find missing dimensions from an area -Identify and correct errors		Strengthening: -Revisit Year 3 fractions and equivalent fractions -Use concrete fraction walls and bars -Build improper fractions physically before converting to mixed numbers		Deepening: -Find multiple equivalent forms -Explain why a fraction can be greater than one -Identify the simplest form of a fraction and justify it -Solve problems and explain the strategy used.	
Ready to Progress Link: 4NF–2 Solve division problems, with two-digit dividends and one digit divisors, that involve remainders, and interpret remainders appropriately according to the context. 4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100) 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.		Ready to Progress Link:		Ready to Progress Link: 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.	

Spring 2			
Unit 9: Fractions (2) (8 textbook lessons)		Unit 10: Decimals (1) (10 textbook lessons)	
Skills focus: -Add and subtract fractions with the same denominator -Develop understanding of adding and subtracting fractions through representations -Solve fraction problems -Find fractions of quantities -Apply fraction knowledge to increasingly complex problems Key vocabulary: fraction, numerator, denominator, equivalent, add, subtract, total, difference, whole, mixed number, quantity, calculate, simplify Sentence stems: The denominator stays the same because... I added the numerators because... The fraction of the quantity is... I know this is correct because... Another way to solve this would be...		Skills focus: -Understand tenths and hundredths as decimal numbers -Recognise the relationship between fractions and decimals -Count in hundredths. Recognise hundredths as dividing by 100 and tenths by 10 -Understand the effect of dividing one- and two-digit numbers by 10 and 100 -Identify the value of digits in decimal answers Key vocabulary: decimal, decimal point, tenths, hundredths, ones, fraction, equivalent, divide, dividing by 10, dividing by 100, place value, value, digit Sentence stems: ____ tenths is the same as... The digit ____ has a value of... I know ____ is equivalent to ____ because.. When I divide by 10... / When I divide by 100... The decimal is smaller because..."	
Possible resources: Fraction strips/walls Fraction circles Bar models Number lines Counters Part-whole models		Possible misconceptions: -Adding or subtracting denominators -Forgetting that the denominator represents the size of the parts -Finding a fraction of a quantity incorrectly -Failing to simplify where appropriate -Treating fractions as separate whole numbers	
Strengthening: -Use fraction strips and bar models to physically combine and remove fractions -Begin with fractions with the same denominator and simple numerators -Use concrete objects when finding fractions of quantities -Model one step at a time		Strengthening: -Connect every decimal to a fraction representation -Use place value charts showing ones, tenths and hundredths -Build decimals using grids and concrete equipment -Count in tenths before hundredths	
Deepening: -Solve multi-step fraction problems -Find missing fractions -Create calculations with a given answer -Explain why denominators stay the same when adding/subtracting fractions with the same denominator -Solve fraction-of-quantity problems using different strategies		Deepening: -Explain the relationship between tenths and hundredths -Find different fractions representing the same decimal -Investigate decimal sequences -Explain why digits move place value when dividing by 10 or 100 -Identify and correct decimal misconceptions.	
Ready to Progress Link: 4F–3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers		Ready to Progress Link:	

Summer 1					
Unit 11: Decimals (2) (7 textbook lessons)		Unit 12: Money (9 textbook lessons)		Unit 13: Time (5 textbook lessons)	
Skills focus: -Compare and order decimals to two decimal places -Round decimals with one decimal place to the nearest whole number -Recognise decimal equivalents of quarters and halves -Solve simple measure and money problems involving fractions and decimals to two decimal places Key vocabulary: decimal, decimal point, tenths, hundredths, ones, compare, order, greater than, less than, equal to, round, nearest, fraction, equivalent, half, quarter Sentence stems: ___ is greater than ___ because... The digit ___ represents... I rounded ___ to ___ because... ___ is equivalent to ___ because... I know this decimal is greater because...		Skills focus: -Estimate, compare and calculate amounts of money -Understand pounds and pence as decimals -Relate pounds, tenths and hundredths -Order amounts of money -Add and subtract money -Solve practical money problems involving decimals and fractions Key vocabulary: money, pounds, pence, £, p, amount, value, cost, change, total, estimate, compare, order, decimal, tenths, hundredths Sentence stems: The amount is... £1 is equal to ___ pence. ___ is more expensive than ___ because... The change is... I aligned the decimal points because...		Skills focus: -Read and write times using analogue and digital clocks -Convert between 12-hour and 24-hour time -Calculate durations -Solve problems involving start and end times -Understand time in practical contexts and use appropriate units Key vocabulary: time, second, minute, hour, duration, analogue, digital, 12-hour, 24-hour, am, pm, midnight, noon, start, end, before, after Sentence stems: The time is... In 24-hour time, this is... The duration is... It starts at ___ and finishes at ____. I calculated the duration by...	
Possible resources: Decimal place value charts Place value counters Decimal grids Number lines Fraction walls Fraction strips Money Coins Price cards		Possible misconceptions: -Thinking $0.45 > 0.5$ because 45 is greater than 5 -Comparing decimals without considering place value -Rounding in the wrong direction -Confusing 0.25 with $\frac{1}{2}$ -Treating tenths and hundredths as separate whole numbers		Possible resources: Teaching clocks Clocks Digital clock cards Analogue clock cards Timelines Number lines Stopwatches Timers Timetables	
Strengthening: -Use place value charts showing decimals -Compare decimals using concrete before symbols -Use marked number lines for rounding -Link to fraction models -Use money to give decimals a context		Deepening: -Explain why one decimal is greater than another -Find decimals between two given values -Explain the relationship between fractions and decimal equivalents -Solve problems involving both decimals and money		Possible misconceptions: -Confusing the hour and minute hands -Confusing am and pm -Difficulty converting between 12-hour and 24-hour -Calculating duration incorrectly across an hour -Confusing a time with a duration	
Strengthening: -Use practical resources -Build amounts physically before recording them -Use a place value chart to show pounds, tenths and hundredths -Use familiar shopping contexts -Start with simple amounts		Deepening: -Find different ways to make an amount -Compare the efficiency of different coin combinations -Solve multi-step shopping problems -Find missing prices or change		Strengthening: -Revisit key analogue times -Use physical clocks alongside digital -Use timelines to calculate duration -Start with durations within one hour -Use familiar daily routines and timetables.	
Ready to Progress Link:		Ready to Progress Link:		Ready to Progress Link:	

Summer 2					
Unit 14: Statistics (5 textbook lessons)		Unit 15: Geometry – angles and 2D shapes (10 textbook lessons)		Unit 16: Geometry – position and direction (6 textbook lessons)	
Skills focus: -Interpret and present data using tables, bar charts and other representations -Read scales accurately -Solve comparison and total questions -Interpret information presented in different ways -Use data to answer questions and make conclusions Key vocabulary: statistics, data, table, bar chart, graph, scale, category, frequency, total, difference, compare, most, least, information, represent Sentence stems: The data shows... The scale increases by... There are ___ more than... The total is... I know this because the graph shows...		Skills focus: -Identify and compare angles -Recognise acute, obtuse and right angles -Identify angles within shapes -Recognise properties of 2D shapes -Classify shapes using their properties -Identify lines of symmetry where appropriate -Use accurate mathematical language to describe shapes and angles Key vocabulary: angle, acute, obtuse, right angle, straight angle, vertex, vertices, side, polygon, quadrilateral, triangle, symmetry, line of symmetry, parallel, perpendicular Sentence stems: This angle is ___ because... This shape is a ___ because... It has ___ sides and ___ vertices. These shapes are similar/different because...		Skills focus: -Describe positions using appropriate mathematical language -Describe movements and directions -Use coordinates to identify positions -Describe translations and movements -Use mathematical vocabulary to communicate routes and positions accurately Key vocabulary: position, direction, movement, coordinates, grid, horizontal, vertical, left, right, forwards, backwards, translate, translation, clockwise, anticlockwise, turn Sentence stems: The coordinate is... The object moves ___ squares... It moves horizontally/vertically because... The shape has been translated... I know the position is correct because...	
Possible resources: Squared paper Graph paper Tally charts Counters Pictograms Bar chart templates Classroom surveys	Possible misconceptions: -Misreading the scale -Counting intervals incorrectly -Confusing frequency with the category -Answering without referring to the data -Confusing "how many more?" with "how many altogether?"	Possible resources: Angle testers Rulers 2D shapes Geoboards Mirrors Squared paper Construction sticks	Possible misconceptions: -Thinking angle size depends on the length of the arms -Confusing acute and obtuse angles -Assuming a rotated shape is a different shape -Confusing sides and vertices -Assuming all quadrilaterals have the same properties	Possible resources: Coordinate grids Squared paper Floor grids Counters Bee-bots Maps Positional cards	Possible misconceptions: -Reversing the order of coordinates -Confusing horizontal and vertical movement -Confusing left/right or clockwise/anticlockwise -Misreading the scale on a grid
Strengthening: -Begin with concrete data and tally charts -Use clearly marked scales -Read one category at a time -Highlight the relevant information first -Modelling charts	Deepening: -Identify errors in data representations -Create questions from graphs -Explain conclusions -Decide which representation would be most useful -Solve multi-step questions - comparison and totals	Strengthening: -Use physical turns first -Compare angles directly with a right angle -Use shape sorting activities -Handle and rotate shapes -Use simple shapes before irregular polygons	Deepening: -Explain why a shape belongs to a particular category -Find shapes satisfying multiple conditions -Identify missing properties -Compare shapes with explanations	Strengthening: -Begin with physical movement and floor grids -Use one-step directions before sequences -Explicitly teach horizontal and vertical -Practice reading coordinates and axis	Deepening: -Give multi-step routes -Identify an unknown starting position from a set of instructions -Explain how a shape has been translated -Create instructions for another person to follow -Identify and correct errors
Ready to Progress Link:		Ready to Progress Link: 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. 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.		Ready to Progress Link: 4G–1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.	