Year 2

Unit	What do I need to know before I start this unit? (Year 1)	What will I be learning this year?	What is the next step? (Year 3)
Number – Place Value **Vocabulary:** Number, zero, one to twenty and beyond, none, count (on, up, to, from, down), before, after, more, less, many, few, fewer, least, fewest, smaller, greater, equal to, the same as, odd, even, pair, units, tens, ones, digit, numeral, figures, compare, size, value, between, halfway between, above, below	• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens • Given a number, identify one more and one less • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least • Read and write numbers from 1 to 20 in numerals and words	• Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward • Recognise the place value of each digit in a two-digit number (tens, ones) • Identify, represent and estimate numbers using different representations, including the number line • Compare and order numbers from 0 up to 100; use and = signs • Read and write numbers to at least 100 in numerals and in words • Use place value and number facts to solve problems.	• Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number • Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • Compare and order numbers up to 1000 • Identify, represent and estimate numbers using different representations • Read and write numbers up to 1000 in numerals and in words • Solve number problems and practical problems involving these ideas.

NOTES:
- Using materials and a range of representations, practise counting, reading, writing and comparing numbers to at least 100 and solving a variety of related problems to develop fluency.
- Count in multiples of three to support their later understanding of a third.
- Introduced to larger numbers (greater than 100) in various visual and concrete representations

Unit	What do I need to know before I start this unit? (Year 1)	What will I be learning this year?	What is the next step? (Year 3)

Number – Addition and Subtraction
 	
Vocabulary:
Number bonds, number lines, add, more, plus, make, sum, total, altogether, number bonds, number lines, add, more, plus, make, sum, total, altogether, inverse, double, halve, equals, the same, difference between, subtract, take away, minus
	• Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs
	
	• Represent and use number bonds and related subtraction facts within 20
	
	• Add and subtract one-digit and two-digit numbers to 20, including zero
	
	• Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = – 9.
		• Solve problems with addition and subtraction:
		
		• Using concrete objects and pictorial representations, including those involving numbers, quantities and measures
		
		• Applying their increasing knowledge of mental and written methods
		
		• Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
		
		• Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
		
		    ○ a two-digit number and ones
		    ○ a two-digit number and tens
		    ○ two two-digit numbers
		    ○ adding three one-digit numbers
		
		• Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
		
		• Recognise and use the inverse relationship between addition and subtraction and use this to check
			• Add and subtract numbers mentally, including:
			
			    ○ a three-digit number and ones
			    ○ a three-digit number and tens
			    ○ a three-digit number and hundreds
			
			• Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
			
			• Estimate the answer to a calculation and use inverse operations to check answers
			
			• Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

		calculations and solve missing number problems.	

NOTES:

- Extend understanding of the language of addition and subtraction to include sum and difference.

- Practise addition and subtraction to 20 to become increasingly fluent in deriving facts such as using 3 + 7 = 10; 10 – 7 = 3 and 7 = 10 – 3 to calculate 30 + 70 = 100; 100 – 70 = 30 and 70 = 100 – 30.

- Check calculations, including by adding to check subtraction and adding numbers in a different order to check addition (for example, 5 + 2 + 1 = 1 + 5 + 2 = 1 + 2 + 5). This establishes commutativity and associativity of addition.

- Record addition and subtraction in columns supports place value and prepares for formal written methods with larger numbers.

Unit	What do I need to know before I start this unit? (Year 1)	What will I be learning this year?	What is the next step? (Year 3)
Number – Multiplication and Division **Vocabulary:** count in twos, fives, tens, how many times? Lots of, groups of, multiples of, repeat addition, array, row, column, double, halve, share, equal, group in pairs/threes, divide, divided by, left over, sets of, grouping, sharing	• Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	• Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot • Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	• Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods • Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

NOTES:

Use a variety of language to describe multiplication and division (see vocabulary)

- Pupils are introduced to the multiplication tables.

- Practise to become fluent in the 2, 5 and 10 multiplication tables and connect them to each other.

- Connect the 10 times table to place value, and the 5 time table to the divisions on the clock face.

| | Begin to use other multiplication tables and recall multiplication facts, including using related division facts to perform written and mental calculations. Work with a range of materials and contexts in which multiplication and division relate to grouping and sharing discrete and continuous quantities, to arrays and to repeated addition. Begin to relate these to fractions and measures (for example, 40 ÷ 2 = 20, 20 is a half of 40). Use commutativity and inverse relations to develop multiplicative reasoning (for example, 4 × 5 = 20 and 20 ÷ 5 = 4). |

Unit	What do I need to know before I start this unit? (Year 1)	What will I be learning this year?	What is the next step? (Year 3)
Number – Fractions **Vocabulary:** Half, quarter, part, section, equal	• Recognise, find and name a half as one of two equal parts of an object, shape or quantity • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	• Recognise, find, name and write fractions 1/3, ¼ , 2/4 and ¾ of a length, shape, set of objects or quantity • Write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of 2/4 and 1/2 .	• Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 • Recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit fractions with small denominators • Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators • Recognise and show, using diagrams, equivalent fractions with small denominators • Add and subtract fractions with the same denominator within one whole [for example, 7 5 + 7 1 = 7 6] • Compare and order unit fractions, and fractions with the same denominators • Solve problems that involve all of the above.
	NOTES: Use fractions as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. Connect unit fractions to equal sharing and grouping, to numbers when they can be calculated, and to measures, finding fractions of lengths, quantities, sets of objects or shapes.		

	Meet 3/4 as the first example of a non-unit fraction.

Count in fractions up to 10, starting from any number and using the 1/2 and 2/4 equivalence on the number line This reinforces the concept of fractions as numbers and that they can add up to more than one. |

Unit	What do I need to know before I start this unit? (Year 1)	What will I be learning this year?	What is the next step? (Year 3)

Measurement
 	
Vocabulary:
Estimate, measure, heavy, light, long, short, centimetres, metres, minutes, hours, seconds, clock, timer
	• Compare, describe, and solve practical problems for:
	  o lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]
	  o mass/weight [for example, heavy/light, heavier than, lighter than]
	  o capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]
	  o time [for example, quicker, slower, earlier, later]
	• measure and begin to record the following:
	  o lengths and heights
	  o mass/weight
	  o capacity and volume
	  o time (hours, minutes, seconds)
	• recognise and know the value of different denominations of coins and notes
	• sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]
	• recognise and use language relating to dates, including
		• Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
		
		• Compare and order lengths, mass, volume/capacity and record the results using >, < and =
		
		• Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
		
		• Find different combinations of coins that equal the same amounts of money
		
		• Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
		
		• Compare and sequence intervals of time
		
		• Tell and write the time to five minutes, including quarter
			• Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
			
			• Measure the perimeter of simple 2-D shapes
			
			• Add and subtract amounts of money to give change, using both £ and p in practical contexts
			
			• Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
			
			• Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight
			
			• Know the number of seconds in a minute and the number of days in each month, year and leap year
			
			• Compare durations of events [for example to calculate the time

days of the week, weeks, months and years • tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	past/to the hour and draw the hands on a clock face to show these times • Know the number of minutes in an hour and the number of hours in a day.	taken by particular events or tasks].

NOTES:

- Use standard units of measurement with increasing accuracy, using their knowledge of the number system.
- Use the appropriate language and record using standard abbreviations.
- Compare measures includes simple multiples such as 'half as high'; 'twice as wide'.
- Become fluent in telling the time on analogue clocks and recording it.
- Become fluent in counting and recognising coins. R
- Read and say amounts of money confidently and use the symbols £ and p accurately, recording pounds and pence separately

Unit	What do I need to know before I start this unit? (Year 1)	What will I be learning this year?	What is the next step? (Year 3)

Geometry – Properties of Shape
 	
Vocabulary:
group, sort, cube, cuboid, pyramid, sphere, cone, cylinder, circle, triangle, square, hexagon, pentagon, flat, curved, straight, face, side, edge, corner
	• Recognise and name common 2-D and 3-D shapes, including:
	
	    ○ 2-D shapes [for example, rectangles (including squares), circles and triangles]
	    ○ 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].
		• Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
		
		• Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
		
		• Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]
		
		•
		
		Compare and sort common 2-D and 3-D shapes and everyday objects.
			• Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
			
			• Measure the perimeter of simple 2-D shapes
			
			• Add and subtract amounts of money to give change, using both £ and p in practical contexts
			
			• Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
			
			• Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight
			
			• Know the number of seconds in a minute and the number of days in each month, year and leap year
			
			• Compare durations of events [for example to calculate the time taken by particular events or tasks].

	NOTES:
	- Handle and name a wide variety of common 2-D and 3-D shapes including: quadrilaterals and polygons, and cuboids, prisms and cones, and identify the properties of each shape (for example, number of sides, number of faces). - Identify, compare and sort shapes on the basis of their properties and use vocabulary precisely, such as sides, edges, vertices and faces. Read and write names for shapes that are appropriate for their word reading and spelling. - Draw lines and shapes using a straight edge.

Unit	What do I need to know before I start this unit? (Year 1)	What will I be learning this year?	What is the next step? (Year 4)
Geometry – Position and Direction **Vocabulary:** Position, direction, over, under, next to, on inside, above, below, top, bottom, side, on, in outside, inside, out, around, front, back, behind, apart, middle, edge, centre, corner, direction, left, right, up down, forwards, backwards, across, close, far, near, along, through, rotate, rotation, degrees, right angle, ninety degree, one hundred and eighty degrees, clockwise, anticlockwise	• Describe position, direction and movement, including whole, half, quarter and three-quarter turns.	• Order and arrange combinations of mathematical objects in patterns and sequences • Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise).	• 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.

NOTES:

• Work with patterns of shapes, including those in different orientations.

• Use the concept and language of angles to describe 'turn' by applying rotations, including in practical contexts (for example, pupils themselves moving in turns, giving instructions to other pupils to do so, and programming robots using instructions given in right angles)

Unit	What do I need to know before I start this unit? (Year 1)	What will I be learning this year?	What is the next step? (Year 3)
Geometry – Statistics **Vocabulary:** count, tally, sort, graph, block, set, list, table, bar chart, pictogram	• Finding totals • Keeping count	• Interpret and construct simple pictograms, tally charts, block diagrams and simple tables • Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity • Ask and answer questions about totalling and comparing categorical data.	• Interpret and present data using bar charts, pictograms and tables • Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.

NOTES:

• Record, interpret, collate, organise and compare information (for example, using many-to-one correspondence in pictograms with simple ratios 2, 5, 10)