Mathematics Medium Term Plan – Year 2

Unit	National Curriculum End of Year 2 Statutory Requirements	Learning Objectives	Small Steps
		Autumn Term	
Place Value	• To be able to count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward. • To be able to recognise the place value of each digit in a two-digit number (tens, ones) • To be able to identify, represent and estimate numbers using different representations, including the number line. • To be able to compare and order numbers from 0 to 100; use <,> and = signs. • To be able to read and write numbers to at least 100 in numerals and in words.	1. To be able to represent and understand the numbers from 11 to 20. 2. To be able to count objects to 100 by making groups of 10. 3. To be able to recognise the value of tens and ones 4. To be able to use a place value chart 5. To be able to partition numbers to 100 6. To be able to write numbers to 100 in words 7. To be able to flexibly partition numbers to 100 8. To be able to write numbers to 100 in expanded form 9. To be able to label, identify and find the position of 10s on the number line to 100 10. To be able to label, identify and find the position of 10s and 1s on the number line to 100 11. To be able to estimate numbers on the number line 12. To be able to compare objects using the language more than, fewer than 13. To be able to compare objects using the language greater than, less than and equal to including > < = 14. To be able to compare objects and numbers using the language more, greater, most, greatest, fewer, least, fewest 15. To be able to counts in 2s, 5s, 10s 16. To be able to count in 3s	1. Numbers to 20 2. Count objects to 100 by making 10s 3. Recognise tens and ones 4. Use a place value chart 5. Partition numbers to 100 6. Write numbers to 100 in words 7. Flexibly partition numbers to 100 8. Write numbers to 100 in expanded form 9. 10s on the number line to 100 10. 10s and 1s on the number line to 100 11. Estimate numbers on the number line 12. Compare objects 13. Compare numbers 14. Compare objects and numbers 15. Count in 2s, 5s, 10s 16. Count in 3s

Addition and subtraction	• To be able to 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
	
	• To be able to recall and use addition and subtraction facts to 20 fluently, and derive and use related facts to 100.
	• To be able to 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
	• To be able to show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.
	• To be able to recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
		1. To be able to find number bonds within 10
		2. To be able to find number bonds to and within 20
		3. To be able to use number bonds within 10 to identify related facts for addition and subtraction calculations
		4. To be able to find number bonds to 100 using multiples of 10
		5. To be able to add and subtract 1s from a given number
		6. To be able to add numbers within 20 by making 10
		7. To be able to add three 1-digit numbers
		8. To be able to add to the next 10 by making 10
		9. To be able to add across a 10 by adding a 1-digit number to a 2-digit number
		10. To be able to subtract across a 10 by partitioning a 1-digit number
		11. To be able to subtract a 1-digit number from a multiple of 10 within 100
		12. To be ab le to subtract a 1-digit number from a 2-digit number across a 10
		13. To be able to find 10 more and 10 less than a given number within 100
		14. To be able to add and subtract multiples of 10 from a given number within 100
		15. To be able to add two 2-digit numbers composed of tens and ones
		16. To be able to add two 2-digit numbers across a 10 by exchanging 10 ones for 1 ten
		17. To be able to subtract two 2-digit numbers composed of tens and ones
		18. To be able to subtract two 2-digit numbers across a 10 by exchanging 10 ones for 1 ten
		19. To be able to find the answer to mixed addition and subtraction with and without exchanges
		20. To be able to compare number sentences using > < =
		21. To be able to find missing numbers in calculations
			1. Bonds to 10
			2. Fact families – addition and subtraction bonds within 20
			3. Related facts
			4. Bonds to 100 (tens)
			5. Add and subtract 1s
			6. Add by making 10
			7. Add three 1-digit numbers
			8. Add to the next 10
			9. Add across a 10
			10. Subtract across a 10
			11. Subtract from a 10
			12. Subtract a 1-digit number from a 2-digit number (across a 10)
			13. 10 more, 10 less
			14. Add and subtract 10s
			15. Add two 2-digit numbers (not across a 10)
			16. Add two 2-digit numbers (across a 10)
			17. Subtract two 2-digit numbers (not across a 10)
			18. Subtract two 2-digit numbers (across a 10)
			19. Mixed addition and subtraction
			20. Compare number sentences
			21. Missing number problems

Shape	• To be able to identify and describe the properties of 2-D shapes, including the	1. To be able to recognise 2-D and 3-D shapes 2. To be able to count the number of sides on a 2-D shape	1. Recognise 2-D and 3-D shapes 2. Count sides on 2-D shapes 3. Count vertices on 2-D shapes

	number of sides and line symmetry in a vertical line. • To be able to identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. • To be able to identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid] • To be able to compare and sort common 2-D and 3-D shapes and everyday objects.	3. To be able to count the number of vertices on a 2-D shape 4. To be able to draw 2-D shapes 5. To be able to identify shapes with a vertical line of symmetry 6. To be able to use vertical lines of symmetry to complete shapes 7. To be able to sort 2-D shapes by using simple and formal properties 8. To be able to count the number of faces on a 3-D shape 9. To be able to count the number of edges on a 3-D shape 10. To be able to count the number of vertices on a 3-D shape 11. To be able to sort 3-D shapes into different groups 12. To be able to make patterns with 2-D and 3-D shapes	4. Draw 2-D shapes 5. Lines of symmetry on shapes 6. Use lines of symmetry to complete shapes 7. Sort 2-D shapes 8. Count faces on 3-D shapes 9. Count edges on 3-D shapes 10. Count vertices on 3-D shapes 11. Sort 3-D shapes 12. Make patterns with 2-D and 3-D shapes
Spring Term			
Money	• To be able to recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. • To be able to find different combinations of coins that equal the same amounts of money. • To be able to solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.	1. To be able to find a total value of a set of coins by counting up in 1ps, 2ps, 5ps, 10ps, 20ps 2. To be able to find a total value of a set of notes and coins by counting in £1s, £2s, £5s, £10s, £20s 3. To be able to find a total value by counting in pounds and pence 4. To be able to choose notes and coins to make a given amount 5. To be able to explore using notes and coins to find different ways of making the same amount 6. To be able to compare amounts of money using greater than, less than, most, least 7. To be able to calculate with money by finding the total cost or the difference in prices 8. To be able to make a pound in different ways, using a variety of coins 9. To be able to find change from whole pounds 10. To be able to find the total, find the difference and calculate change to solve two-step problems	1. Count money – pence 2. Count money – pounds (notes and coins) 3. Count money – pounds and pence 4. Choose notes and coins 5. Make the same amount 6. Compare amounts of money 7. Calculate with money 8. Make a pound 9. Find change 10. Two-step problems

Multiplication and division	• To be able to recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. • To be able to calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs. • To be able to show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. • To be able to solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	1. To be able to make connections between repeated addition and subtraction by recognising equal groups 2. To be able to make equal groups with a given number of objects 3. To be able to find the total of equal groups using repeated addition 4. To be able to recognise the symbol for multiplication x 5. To be able to identify multiplication number sentences 6. To be able to use arrays to solve multiplication calculations 7. To be able to make equal groups by grouping 8. To be able to make equal groups by sharing 9. To be able to explore the 2-times table in a range of ways 10. To be able to divide by 2 11. To be able double and halve a number 12. To be able to identify if a number is odd or even 13. To be able to explore the 10-times table in a range of ways 14. To be able to divide by 10 15. To be able to explore the 5 times-table in a range of ways 16. To be able to divide by 5 17. To be able to identify the connection between the 5 and 10 times-tables	1. Recognise equal groups 2. Make equal groups 3. Add equal groups 4. Introduce the multiplication symbol 5. Multiplication sentences 6. Use arrays 7. Make equal groups – grouping 8. Make equal groups – sharing 9. The 2 times table 10. Divide by 2 11. Doubling and halving 12. Odd and even numbers 13. The 10 times-table 14. Divide by 10 15. The 5 times-table 16. Divide by 5 17. The 5 and 10 times-tables
Length and height	• To be able to use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers.	1. To be able to measure lengths and heights using centimetres 2. To be able to measure lengths and heights using metres 3. To be able to compare lengths and heights using the language 'longer than', 'shorter than', 'taller than' 4. To be able to order lengths and heights using the language 'shortest', 'longest', 'tallest' 5. To be able to solve one and two step problems relating to lengths and heights	1. Measure in centimetres 2. Measure in metres 3. Compare lengths and heights 4. Order lengths and heights 5. Four operations with lengths and heights

Mass, capacity and temperature	• To be able to use appropriate standard units to estimate and measure mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using scales, thermometers and measuring vessels. • To be able to compare and order lengths, mass, volume/capacity and record the results using >, < and =	1. To be able to use a range of scales to compare the mass of two or more objects 2. To be able to measure in 1g, 10g and 100g 3. To be able to measure in kilograms and know that a kilogram is heavier than a gram 4. To be able to solve multi-step problems using mass 5. To be able to compare the volume and capacity of different sized containers 6. To be able to measure volume in millimetres 7. To be able to measure volume in litres 8. To be able to solve multi-step problems using volume and capacity 9. To be able to explore temperature using thermometers	1. Compare mass 2. Measure in grams 3. Measure in kilograms 4. Four operations with mass 5. Compare volume and capacity 6. Measure in millimetres 7. Measure in litres 8. Four operations with volume and capacity 9. Temperature
Summer Term			
Fractions	• To be able to recognise, find, name and write fractions 1/3, ¼, 2/4 and ¾ of a length, shape, set of objects or quantity. • To be able to write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of 2/4 and ½.	1. To be able to say what a part and a whole is 2. To be able to say if a shape has been split into equal and unequal parts 3. To be able to recognise a half and use the language 'numerator' and 'denominator' 4. To be able to find half of a quantity 5. To be able to recognise a quarter and use the language 'numerator' and 'denominator' 6. To be able to find a quarter of a quantity 7. To be able to recognise a third and use the language 'numerator' and 'denominator' 8. To be able to find a third of a quantity 9. To be able to find the whole of a quantity 10. To be able to use 'unit fractions' to describe 1/2, 1/4, 1/3 11. To be able to show an understanding that a non-unit fraction is a fraction where the numerator is bigger than one 12. To be able to recognise the equivalence of a half and two quarters 13. To be able to recognise three quarters and use the language 'numerator' and 'denominator' 14. To be able to find a three quarters of a quantity	1. Introduction to parts and whole 2. Equal and unequal parts 3. Recognise a half 4. Find a half 5. Recognise a quarter 6. Find a quarter 7. Recognise a third 8. Find a third 9. Find the whole 10. Unit fractions 11. Non-unit fractions 12. Recognise the equivalence of a half and two quarters 13. Recognise three-quarters 14. Find three-quarters 15. Count in fractions up to a whole

		15. To be able to count in fractions up to a whole	
Time	• To be able to compare and sequence intervals of time. • To be able to tell and write the time to five minutes, including quarter to/past the hour and draw the hands on a clock face to show these times. • To know the number of minutes in an hour and the number of hours in a day.	1. To be able to tell the time to o'clock and half past the hour 2. To be able to tell the time to quarter past and quarter to the hour 3. To be able to tell the time in five minute intervals past the hour 4. To be able to tell the time in five minute intervals before the hour 5. To be able to tell the time in five minute intervals before and past the hour 6. To be able to say how many minutes are in quarter past, half past, quarter to the hour 7. To be able to say how many hours are in the day and know that each time happens twice a day	1. O'clock and half past 2. Quarter past and quarter to 3. Tell time past the hour 4. Tell time to the hour 5. Tell the time to five minutes 6. Minutes in an hour 7. Hours in a day
Statistics	• To be able to interpret and construct simple pictograms, tally charts, block diagrams and simple tables. • To be able to ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. • To be able to ask and answer questions about totalling and comparing categorical data.	1. To be able to use tally charts to record data 2. To be able to explore the use of tables, comparing tally charts and tables 3. To be able to use block diagrams as a way to represent data 4. To be able to use pictograms (1-1) to represent 5. To be able to interpret data from pictograms 6. To be able to draw pictograms that represent 2, 5 and 10 items 7. To be able to interpret pictograms that represent 2,5 and 10 items	1. Make tally charts 2. Tables 3. Block diagrams 4. Draw pictograms (1-1) 5. Interpret pictograms (1-1) 6. Draw pictograms (2,5 and 10) 7. Interpret pictograms (2,5 and 10)
Position and direction	• To be able to order and arrange combinations of mathematical objects in patterns and sequences. • To be able to 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	1. To be able to describe the position of objects using left or right 2. To be able to describe movement as left, right, forwards, backwards 3. To be able to describe turns using clockwise, anticlockwise, quarter, half, three-quarter and full turns 4. To be able to describe movement and turns 5. To be able to explore patterns that include turns	1. Language of position 2. Describe movement 3. Describe turns 4. Describe movement and turns 5. Shape patterns with turns

	angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).		