Maths Core Expectations

Year 2

Autumn		Spring		Summer	
Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Counting in Jumps	Fractions	Missing numbers***	Odd and even (2s, 5s and 10s)***	Symbols (more than, less than equal to)***	Symmetry
Length	Money ***	Edges and faces ***	Intervals of time	The same as (equivalents)	Mass
Up to 100 (add and subtract)	Partitioning	Thirds	Volume	Forwards and backwards (inverse operations)	Multiplication and division
Count in steps of 2,3 and 5 from 0, and in tens from any number, forward and backwards

Recall and use addition and subtraction facts to 20 fluently | Find different combinations of coins that equal the same amounts of money

Recognise, find, name and write fractions ⅓, ¼, 2/4,and ¾ of a length, shape, set

Recognise the place of each digit in a | Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems

Write simple fractions for example ½ of 6 = 3 | Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers

Choose and use appropriate standard units to measure | Compare and order numbers from zero up to 100: use <, > and = signs.

Add and subtract numbers using concrete objects pictorial representations and mentally including two two-digit numbers | Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems and contexts
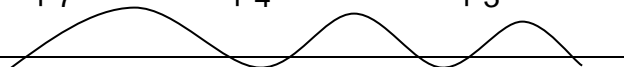
Identify and describe the |
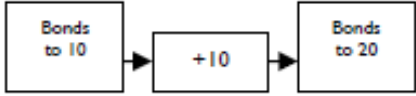
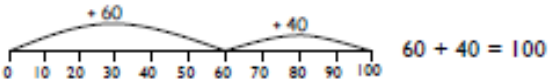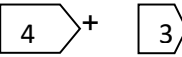|					
	two-digit number (tens, ones)		length/height in any direction (m/cm); mass (kg/g); temperature (°c); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels Compare and order lengths, mass, volume/capacity and record the results using ≥, ≤ and =		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
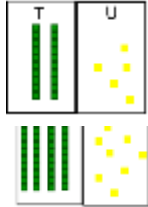
Mastery links

Calculation Policy Pages

Addition: Phase 2

Mental methods	Written methods	Visual images and models	Vocabulary
Be able to quickly recall and use addition facts to 20. (Use related facts to perform calculations e.g. 3+7=10, 30+70=100) Add a 2 digit number and ones. Add a 2 digit number and 10s. Add two 2 digit numbers. Recognise addition can be done in any order (commutative), extending	**Addition in any order.** Use drawings, numicon and numberlines to show understanding that addition can be done in any order. Children record on number lines: 3 + 4 + 7 = 7 + 4 + 3 + 3 + 4 + 7 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 + 7 + 4 + 3	13 + 7 = 20 7 + 13 = 20 17 + 3 = 20 3 + 17 = 20 Bonds to 10 +10 Bonds to 20 1 + 9 11 + 9 2 + 8 12 + 8 3 … 13 … Use knowledge of number bonds to 10 to help with bonds to 20 and multiples of 10 to 100	Add, addition, more, plus, make, sum, total, altogether, score, double, near double, 1 more, 2 more, 10 more, 100 more. How many more to make? How many more is … than…? How much more is … than …? **Resources** Moveable counting objects, numicon, coat hangers and pegs, flip flaps, beads, number

| understanding that $7+3=10, 3+7=10$.

Recognise and use inverse operation to check (undoing).

Solve word problems with addition of numbers up to 2 digits, including missing number questions.

Count in steps of 2, 3, 5 and 10 from any number.

Give 10 more or less than a given number to 100. | 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

Add two 2 digit numbers.

Add 2 digit numbers using partitioning in columns (not bridging 10).

Children record :

43

54

 7   (3 + 4)

90   (40 + 50)

97

(Continue to extend understanding of place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100**)** | + 60   + 40
0 10 20 30 40 50 60 70 80 90 100   60 + 40 = 100

Support using Dienes, place value cards.

43   4 + 3

    50   4
+ 54   +

        3   4   7
7   +   =

90   40   50 = 9

97   9   7 97

  23   +   25   =
            48

T U   T U | tracks and lines, number fans, 100 square, multilink. |

Subtraction: Phase 2

Mental Methods	Written Methods	Visual models and images	Vocabulary

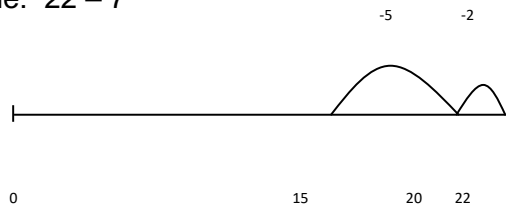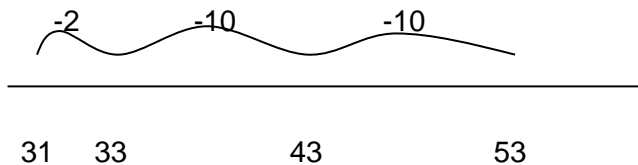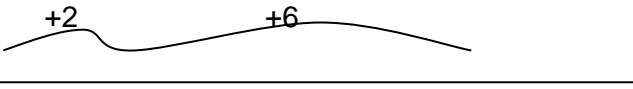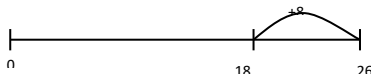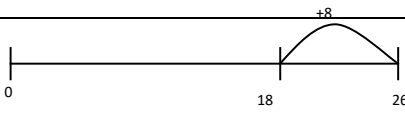|			
Count back in 2s, 3s, 5s and10s from any given number. Understanding/ experience of finding the difference by counting on and back. Know subtraction facts for all numbers up to 10 and derive facts for 20 (e.g. 13-4, 18-3). Include halving of whole numbers 17 + 17 = 34 so, 34 – 17 = 17. Subtract any single digit number from a multiple of 10 (e.g. 60-5) Subtract a single digit number from a two digit number including crossing the tens boundary (e.g. 57-3, 52-7)	**Subtract 2 digit numbers from 2 digit numbers.** Children record with informal jottings. Use moveable objects, visual equipment, drawings and number line/100 square to represent subtraction. Children record counting back on a number line: 22 – 7 -5 -2 0 15 20 22 22- 2 – 5 = 15 53 – 22 -2 -10 -10 31 33 43 53	Subtraction as taking away 22 people on a bus, 7 people get off. How many left on the bus? Subtraction as counting back 54p in the purse. Take 10p out, another 10p and so on…. 54p, 44p, 34p *Ooooooooooooooo____ oooooooo* 22 – 7 using a bead string 22 – 7 using numicon (Take away 2 plate, then 5 plate) Finding the difference by comparing 2 groups	Subtraction Take away Minus Count back How many? Difference Total Sharing Halving Fewer Half of… How many are left? How many fewer than…? How can we make them the same? How many more is…than…? How many less than … is ….? What is the difference between? **Resources:**

| Solve word problems with subtraction of numbers with up to 2 digits.

Subtract mentally:

A 2 digit number and ones

A 2 digit number and tens

Two 2 digit numbers | 53 – 10 – 10 – 2 = 31

 Children record finding the difference by counting on a number line.

26 – 18

+2   +6

18   20   26

18 + 2 + 6 = 26

The difference between 18 and 26 is 8. 26 – 18 = 8 |

The difference between 18 and 26 is 8. 26 – 18 = 8

Support mental subtraction of 2 digit number and ones using straws, objects, numicon.

Use different contexts for difference. Make links with the wider curriculum, for example: heights, measuring plants etc. | 100 squares, number games, number lines and practical resources to support calculation. |

Multiplication: Phase 2			
Mental	**Written**	**Visual images and models**	**Vocabulary**
Recall multiplication facts for the 2, 3, 5 and 10 multiplication tables (up to x12). Count in 3s to support grouping in 3s and division by 3.	**Write and calculate mathematical statements for multiplication within the multiplication tables.** Use x and = signs to read and write mathematical statements. 5 x 2 (pairs of socks) = 10		Multiply Multiplied by Multiple of Repeated addition Array Double Pairs

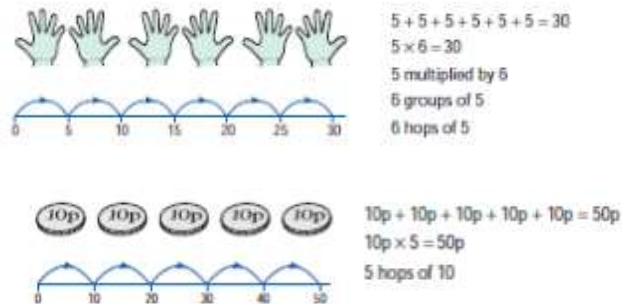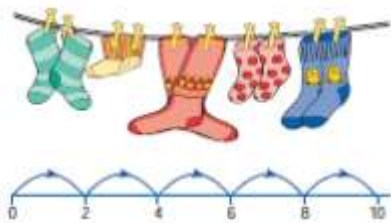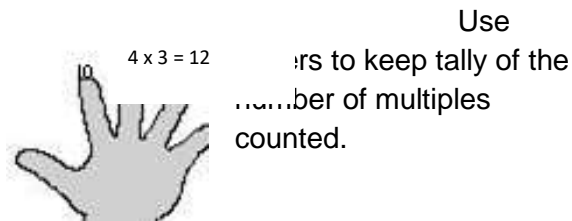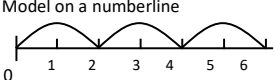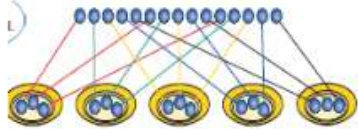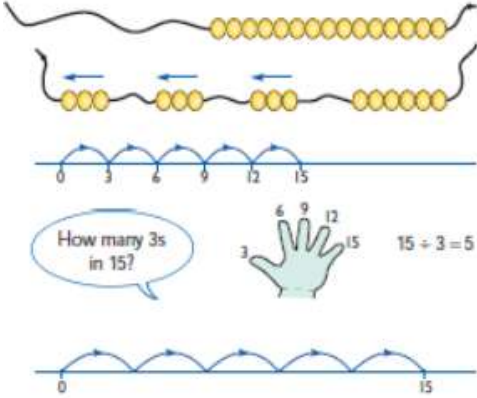|		
Introduce 11 times table to explore place value patterns Count in halves and quarters to ten. Calculate mathematical statements for multiplication within the multiplication tables. Recognise and use the inverse relationship to check calculations. Recognise and show that multiplication can be done in any order (commutative). Solve word problems involving multiplication.	 $5 + 5 + 5 + 5 + 5 + 5 = 30$ $5 \times 6 = 30$ 5 multiplied by 5 6 groups of 5 6 hops of 5 $10p + 10p + 10p + 10p + 10p = 50p$ $10p \times 5 = 50p$ 5 hops of 10 Draw pictures and arrays. Use knowledge that for whole numbers in exact multiples of 10 the last digit is 0 2 the last digit is 0, 2, 4, 6 or 8 5 the last digit is 0 or 5	**As an array** $3 \times 4 = 12$ $4 \times 3 = 12$ Use ...rs to keep tally of the number of multiples counted. Use physical equipment (e.g. beads in pots) Use numicon visiting table for a 5 plate. How many times have you gone for a 5? 5 multiplied by 6, or 5 x 6, or six lots of five, or six times five	Lots of Groups of Times **Resources** Moveable objects Numicon Hundred grid Number lines Multilink Coins Dienes Counters Washing line Counting stick Bead strings Pegs on hangers Containers Arrow cards

Division: Phase 2

Mental Methods	Written Methods	Visual images and models	Vocabulary
Halve all numbers up to 20. Halve all multiples of 10 up to 50. Begin to use knowledge of division as the inverse of multiplication to solve problems ('undoing').	**Informal jottings** Use moveable objects, visual equipment and number line/100 square to support understanding of division. Children understand division as sharing. I have 8 sweets, if I share them equally between the two of you, how many will you have each? One for you… one for you… Introduce the division sign to mean "divided into groups of". A bag of sweets, how many children can have 2 sweets each? Model on a numberline 	Use fingers to represent different amounts e.g. 2s, 5s, 10s Share 15 between 5 of you, one for you, one for you… Use number bead strings, number lines, number square, numicon, balance pans. 	Division Divide Halving Halve Sharing Share Pairs Equal groups Share equally Group Remainder **Resources** 100 squares

		How many groups of 2?	Model using number lines for grouping.	number games, number lines along side practical resources to support calculation
		Children start to record on a number line.	10 divided in to equal groups of 2	ITP
		Children record in drawings.	Use grouping ITP	
		$11 \div 2 = 5 \text{ r} 1$		