Maths

Year 2

Non-negotiable

Explain what each number in a 2-digit number represents.
Derive and recall multiplication facts for the 2,5,10 times tables and related division facts; recognise multiples of 2, 5 and 10.
Derive and recall all addition and subtraction facts for each number to at least 10, all pairs with totals to 20 and all pairs of multiples of 10 with totals up to 100.

Number and place value

N	Assessed	Examples
1.	**Count from any number forwards and backwards in** **Multiples of 2 50 then 100** **Multiples of 5 50 then 100** **Multiples of 10 to 100** **Multiples of 3 to 30, 60 and then to 99**	Count on in 2s, 3s, 5s, and 10s from any number up to 100
2.	Know the place value of each digit in a 2-digit number and understand 0 as a place holder	32 What is the value of 3? How many tens in 64? What is the 4 worth in 24? Partition a 2-digit number showing the true value of each digit Give 10 more or less than any number to 100
3.	Recognise, show and estimate numbers using objects, pictures and number lines	
4.	**Compare and order numbers to 100 using < , > and =**	
5.	Read and write numbers to at least 100 in numbers and words.	Read and write all numbers to 20 Read and write all numbers to 50 Read and write all numbers to 100
6.	**Order, read and write numbers in increasing and decreasing value**	Order a set of numbers (at least 3) in increasing value using numbers up to 50, using numbers up to 100. Order a set of numbers (at least 3) in decreasing value using numbers up to 50, using numbers up to 100
7.	**Use place value and number facts to solve problems.**	Include partitioning numbers in different ways e.g. 23=20+3 23=10+13 Solve problems such as 50 + = 54; and + 9 = 39
8.	Distinguish between and use: ordinal and cardinal.	Order objects using the terms 1st, 2nd, 3rd, etc.

Addition, subtraction, multiplication and division

A	Assessed	Examples
1.	**Solve addition and subtraction problems including number, quantities or measures using objects and pictures.**	Number sentences as well as word problems including language; **sum and difference**, *put together, add, altogether, take away, distance between, more than, less than and use to solve problems.*
2.	**Use mental and written methods to solve addition and subtraction problems**	Solve simple word problems involving addition to 50, subtraction to 50 Solve simple word problems involving + to 100 and - to 100
3.	**Know all addition and subtraction facts to 20 and use fluently**	19+1=20, 20-1=19 Also begin to know number bonds of numbers up to 20 e.g. 13+4=17, 17-4=13 Know all addition number bonds to 10 and 20 instantly. Know all subtraction number bonds to 10 and 20 instantly
4	Use number facts to 10 to work out and use number facts to 100	9+1=10, 90+10=100 Relating number facts to work out larger numbers, if 3 + 5 = 8, then 30 + 50 = 80
5	Use objects pictures and mental strategies to add and subtract: two-digit number and ones, a two-digit number and tens, 2 two-digit numbers; adding 3 one-digit numbers	
6	Know that addition can be done in any order and subtraction cannot and show when writing number sentences.	7 + 24 = is the same as 24 + 7 = Writes subtraction always starting with largest number: 25-9=
7.	Know the inverse of addition and subtraction and use to check calculations	Checks 33-9=24 by doing 24+9= Complete calculations such as: If 6 + 8 = 14; what is 14 – 8?
8.	Use the inverse to solve missing number problems	17+ ☐ 24, use 24-17= to find missing number Recognise that division is the inverse of multiplication and use to check calculations
9.	**Know and use multiplication *and division* facts for:** **2 times tables** **5 times tables** **10 times tables**	Recite the 2x table rapidly, up to x12, without error Answer rapidly any calculation involving the 2x table out of order Know that 2 x 4 is the same as 4 x 2 Recite the 10x table rapidly, up to x12, without error Recognise x2 is doubling Recognise ÷2 is halving Answer any calculation involving the 10x table out of order Know that 3 x 10 is the same as 10 x 3 Recite the 5x table rapidly, up to x12, without error Answer rapidly any calculation involving the 5x table out of order Know that 6 x 5 is the same as 5 x 6
10	**Recognise odd and even numbers**	Recall rapidly all even numbers to 20, then to 50, then to 100 Recall rapidly all odd numbers to 20, then to 50, then to 100 Know that an even number can be shared between 2 and that an odd number cannot
11	Read, write and answer multiplication and division number sentences using (x) (÷) (=) signs	Uses the x, ÷, and = signs in simple calculations for numbers up to 100
12	Know that multiplication can be done in any order and division cannot and show when writing number sentences.	7x3= is the same as 3x7= Writes division always starting with largest number: 25÷5=
13	**Solve multiplication and division problems using:** **Materials** **Arrays** **Repeated addition** **Mental methods** **Multiplication and division facts**	Solve simple word problems involving multiplication to 50 , division to 50 Solve simple word problems involving multiplication to 100, division to 100 Know that if 40 ÷ 2 = 20 then 20 is a half of 40

Fractions

F	Assessed	Examples
1	**Recognise and find fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity**	Find 1/3 of 30cm Find 1/4 of a square Find 3/4 of 12 apples Find 2/4 of 16 Calculate of a given number up to 100 Calculate ¼ of a given number up to 100
2	**Recognise, find, name and write fractions 1/3, 1/4 , 2/4 and 3/4 of a length, shape, set of objects or quantity**	A ribbon is 20cm. What fraction is 5 cm? What fraction of the rectangle is shaded
3	Write simple fractions and recognise the equivalence of 2/4 and 1/2	e.g. 1/2 of 6 = 3 2/4 of 8 is the same as 1/2 of 8=4
4	Count in halves and quarters to 10	Count in sequence up to 10: ½; 1; 1½, 2, 2½, …………… Count in sequence up to 10: ¼, ½, ¾, 1, 1¼, 1½,…………… Use the ½ and 2/4 equivalence on a number line, e.g. 1¼ , 12/4 (or 1 ½) , 1¾ , 2

Measurement

M	Assessed	Examples
1	Choose and use appropriate standard units to estimate and measure Length/height (m/cm) Mass (kg/g) Temperature (∘C) Capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels	Know 1 m and make reasonable estimates of length/height up to 10m, 100cm Know 1kg and make reasonable estimates of weight up to 5kg Name objects that weigh more or less than 1kg, 10kg Know how much they weigh in kg Know that kg is a written format for kilogram Know how much 1 litre is Know that many liquids are sold in 1 litre amounts Know amounts that are more or less than 1 litre Know that 0°C is freezing Know that 100°C is boiling Estimate the temperature outside to a reasonable approximation
2	Compare order and record using >,< and = Length Mass Volume/capacity	30cm > 10cm Order different lengths using metres and centimetres Order different weights using kilograms and grams Use the symbols <,>, and = to compare two amounts of lengths and weight Record information using <,>, and = Record amounts of liquid using litres and millilitres
3	Read scales to the nearest numbered unit	Read weighing scales to the nearest 10 gram units Read lengths to the nearest centimetre Read liquid amounts to the nearest 10 ml
4	Recognise and use symbols for pounds (£) and pence (p). Recognise all coins from 1p to £2 Recognise all notes from £5 to £50	
5	Combine amounts of money to make a particular value	Know that 1p + 2p = 3p, 10p + 5p = 15p and 50p + 20p = 70p Know that £1 = 50p + 50p
6	Find different combinations of coins that equal the same amounts of money	Find all the different ways of using coins to make 20p Find all the different ways of using coins to make 50p Find all the different ways of using coins to make £1
7	**Solve addition and subtraction of money in a practical context including giving change**	Calculate how much Imran spends if he buys an apple for 20p and a banana for 10p. Calculate how much change he would get from 50p Calculate how much change he would get from £1
8	Compare and sequence intervals of time	5 minutes, quarter of an hour, half an hour, an hour – compare or order by shortest time
9	Tell and write the time to 5 minutes, including quarter past and quarter to and draw the hands on a clock face to show these times	Read the clock to o'clock and half past, quarter past and quarter to Read the clock in five minute intervals past the hour Read the clock to five minute intervals to the hour Draw times on clock faces to the intervals of o'clock,
10	Know the number of minutes in an hour and the number of hours in a day	
11	Recognise and use language of dates: days of the week, weeks, months and years	Know days of the week in order Know months of the year in order Know that seven days make up one week Know that there are twelve months in a year

Properties of Shapes

Sh	Assessed	Examples
1	Recognise, name and describe 2-D Shapes and describe properties including: numbers of sides vertical lines of symmetry	Know and name squares, rectangles, triangles and circles Know and name cubes, cuboids, spheres, pyramids Identify a line of symmetry in simple shapes Make up own symmetrical shapes
2	Recognise, name and describe 3-D shapes and describe the properties including Number of edges Number of vertices Number of faces	Identify and describe properties of polygons and non-polygons Draw lines and shapes using a straight edge
3	Find 2-D shapes on the faces of 3-D shapes	Circular faces on a cylinder
4	**Compare and sort common 2D and 3D shapes and everyday objects based on their properties**	Sorting shapes based on Number of faces Number of edges Curved faces

Position and Direction

P	Assessed	Examples
1	Order and arrange combinations of shapes or numbers in patterns and sequences	
2	**Use mathematical vocabulary to describe position, direction and movement including movement in a straight line**	Use the language; left, right, top, middle, bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and out, clockwise, anticlockwise, right angle, quarter turn, half turn, three quarter turn, accurately to describe movement,
3	**Understand and describe rotation as a turn and link right angles to quarter, half and three quarter turns**	

Statistics

S	Assessed	Examples
1	**Interpret and construct simple pictograms, tally charts, block diagrams and tables**	Read information contained within a simple pictogram, simple tally chart, a block diagram, simple table Construct a pictogram, simple table, tally chart, block diagram to show information collected (amounts of less than 20)
2	Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity	How many people had red cars? Which colour was the most popular?
3	**Ask and answer questions by adding or comparing categories**	How many blue and red cars were there altogether? How many more blue cars were there than red?