Key learning in mathematics – year 2

Number – number and place value

- Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
- Read and write numbers to at least 100 in numerals and in words
- 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
- Partition numbers in different ways (e.g. 23 = 20 + 3 and 23 = 10 + 13)
- Compare and order numbers from 0 up to 100; use <, > and signs
- Find 1 or 10 more or less than a given number
- Round numbers to at least 100 to the nearest 10
- Understand the connection between the 10 multiplication table and place value
- Describe and extend simple sequences involving counting on or back in different steps
- Use place value and number facts to solve problems

Number – addition and subtraction

- Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting)
- Select a mental strategy appropriate for the numbers involved in the calculation
- Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
- Understand subtraction as take away and difference (how many more, how many less/fewer)
- Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
- Recall and use number bonds for multiples of 5 totalling 60 (to support telling time to nearest 5 minutes)
- 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
- Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems
- Solve problems with addition and subtraction including with missing numbers:
- using concrete objects and pictorial representations, including those involving numbers, quantities and measures
- applying their increasing knowledge of mental and written methods

Number – multiplication and division

- Understand multiplication as repeated addition
- Understand division as sharing and grouping and that a division calculation can have a remainder
- Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
- Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- Derive and use doubles of simple two-digit numbers (numbers in which the ones total less than 10)
- Derive and use halves of simple two-digit even numbers numbers in which the tens are even)
- Calculate mathematical statements for multiplication using repeated addition) and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs
- Solve problems involving multiplication and division (including those with remainders), using materials, arrays, repeated addition, mental methods, and multiplication and division facts,including problems in contexts

Number – fractions

- Understand and use the terms numerator and denominator
- Understand that a fraction can describe part of a set
- Understand that the larger the denominator is, the more pieces it is split into and therefore the smaller each part will be
- Recognise, find, name and write fractions 1/3 ,1/4 ,2/4 and 3/4 of a length, shape, set of objects or quantity
- Write simple fractions for example, of ½ of 6 = 3 and recognize the equivalence of 2/4 and 1/2
- Count on and back in steps of ½ and ¼

Geometry – Properties of shapes

- 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]

Geometry – position and direction

- Order/arrange combinations of mathematical objects in patterns/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 anti-clockwise)

Statistics

- Compare and sort objects, numbers and common 2-D and 3-D shapes and everyday objects
- 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

Measurement

- Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g);temperature (°C); capacity and volume (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
- Compare and sequence intervals of time
- Tell and write the time to five minutes, including quarter 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
- Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change and measures (including time)