Key Learning in Mathematics – Year 4

Number – number and place value

- Count in multiples of 6, 7, 9, 25 and 1000
- Count backwards through zero to include negative numbers
- Read and write numbers to at least 10 000
- Recognise the place value of each digit in a four-digit number
- Identify, represent and estimate numbers using different representations
- Order and compare numbers beyond 1000
- Find *0.1, 1, 10, 100 or* 1000 more or less than a given number
- Round any number to the nearest 10, 100 or 1000
- Read Roman numerals to 100 and know that over time, the numeral system changed to include the concept of zero and place value
- Solve number and practical problems that involve all of the above and with increasingly large positive numbers

Number – fractions and decimals

- Count up and down in hundredths
- Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten
- Recognise and show, using diagrams, families of common equivalent fractions
- Recognise and write decimal equivalents of any number of tenths or hundredths
- Round decimals with one decimal place to the nearest whole number
- Compare numbers with the same number of decimal places up to two decimal places.
- Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths
- Recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$
- Add and subtract fractions with the same denominator
- Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number
- Solve simple measure and money problems involving fractions and decimals to two decimal places

Number – addition and subtraction

- Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
- Estimate; use inverse operations to check answers to a calculation
- Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

Geometry – properties of shapes

- Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
- Identify lines of symmetry in 2-D shapes presented in different orientations
- Complete a simple symmetric figure with respect to a specific line of symmetry
- Identify acute and obtuse angles and compare and order angles up to two right angles by size

Geometry – position and direction

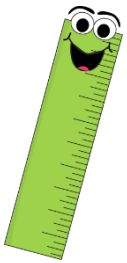
- Describe positions on a 2-D grid as coordinates in the first quadrant
- Plot specified points and draw sides to complete a given polygon
- Describe movements between positions as translations of a given unit to the left/right and up/down

Statistics

- Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts, time graphs
- Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

Number – multiplication and division

- Recognise and use factor pairs and commutativity in mental calculations
- Recall multiplication and division facts for multiplication tables up to 12 × 12
- Use place value, known and derived facts to multiply and divide mentally, including:
  - multiplying by 0 and 1
  - dividing by 1
  - multiplying together three numbers
- Multiply two-digit and three-digit numbers by a one-digit number using formal written layout
- Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects

Measurement

- Estimate, compare and calculate different measures, including money in pounds and pence
- Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres
- Find the area of rectilinear shapes by counting squares
- Convert between different units of measure [e.g. kilometre to metre; hour to minute]