Year 6 – Maths

Knowledge, Skills and Understanding 2018/19

Number & Place Value
• I can read, write, order and compare numbers up to at least 10,000,000 (ten million) and say the value of each digit. • **I can round any number to a required degree of accuracy.** • **I can use negative numbers in context when looking at temperature or money, counting in jumps forwards and backwards through 0.** • I can solve number and practical problems that involve ordering and comparing numbers up to 10,000,000 (ten million) rounding to a required degree of accuracy, using negative numbers and calculating intervals across zero.
Addition & Subtraction
• I can mentally calculate using a mix of the four operations. • **I can solve problems with more than one step and operation and explain why I used them.** • I can solve addition and subtraction word and practical problems. • **I can use estimation to check answers to calculations and determine an appropriate degree of accuracy.**
Multiplication & Division
• **I can multiply numbers of up to 4 digits by a two-digit number using a formal written method.** • I can divide numbers of up to 4 digits by a two-digit number using a formal written method of long division, showing remainders, fractions or rounding as appropriate. • **I can divide numbers of up to 4 digits by a two-digit number using a formal written method of short division, showing remainders, fractions or rounding as appropriate.** • I can mentally calculate using a mix of the four operations and increasingly large numbers. • I can identify common factors, multiples and prime numbers. • I can use the order of importance of the four operations when answering questions. • I can solve addition and subtraction multi-step problems, deciding which operations and methods to use and explaining why they were suitable. • I can solve problems involving addition, subtraction, multiplication and division. • **I can use estimating to check answers and problem solving.**
Fractions
• I can use common factors and multiples to simplify fractions and express fractions in the same denomination. • I can compare and order fractions including those bigger than 2. • I can add and subtract fractions with different denominators and mixed numbers. • I can multiply simple pairs of proper fractions, writing the answer in the simplest form such as 1/4 x 1/2 = 1/8. • I can divide proper fractions by whole numbers such as 1/3 ÷ 2 = 1/6. • I can link a fraction with division and work out decimal fractions such as 0.378 is 3/8 as a simple fraction. • I can explain the place value of any digit in a number with up to 3 decimal places and multiply or divide these by 10, 100 or 1000. • I can multiply numbers less than 10 with up to 2 decimal places by whole numbers. • **I can use written division methods for numbers with up to 2 decimal places.** • **I can solve problems which require answers to be rounded to specified degrees of accuracy.** • **I can use equivalences between simple fractions, decimals and percentages to help me solve problems.**

Measurement

- I can solve problems involving the calculation and conversion of units of measure, using decimal notation up to three places if I need to.
- **I can use, read, write and convert between standard units.**
- **I can convert measurement of length, mass, volume and time from a smaller unit to a larger unit and vice versa.**
- **I can do this using decimal notation up to the three decimal places.**
- I can convert between miles and kilometres.
- I can recognise that shapes with the same areas can have different perimeters and vice versa.
- I can recognise when it is possible to use formulae to find the areas or volumes of shapes.
- I can calculate the areas of parallelograms and triangles.
- I can calculate, estimate and compare volumes of cubes and cuboids using standard units, including cubic centimetres (cm^3), and cubic metres (m^3). I can extend this to other units e.g. mm^3 and km^3.

Properties of Shape

- I can draw 2-D shapes using dimensions and angles I am given.
- I can recognise, describe and build simple 3-D shapes, including making nets.
- **I can compare and classify geometric shapes based on their properties and sizes. I can also find unknown angles in any triangles, quadrilaterals or regular polygons.**
- I can illustrate and name parts of circles, including radius, diameter and circumference. I know that the diameter is twice the radius.
- I can recognise angles where they meet at a point, are on a straight line or are vertically opposite. I can then find any missing angles.

Position & Direction

- I can describe positions in all four quadrants on a full coordinate graph.
- **I can draw and translate simple shapes on the coordinate plane and reflect these in the axis.**

Statistics

- **I can interpret and construct pie charts and line graphs.**
- **I can use these to solve problems.**
- **I can calculate and interpret the mean as an average.**

Ratio and Proportion

- I can solve problems that involve the relative sizes of two things where the missing number can be found by multiplying or dividing by whole numbers.
- **I can solve problems involving the calculation of percentages. I can also use percentages for comparisons.**
- I can solve problems involving shapes where the scale factor is known or can be found.
- **I can solve problems involving unequal sharing and grouping. I can use my knowledge of fractions and multiples to do this.**

Algebra

- **I can use simple formulae.**
- I can create and describe linear number sequences.
- I can record missing number problems algebraically.
- I can find pairs of numbers which complete an equation with two unknowns.
- I can create a list of possibilities of the combination of two variables.