**Progression of Skills in Maths Year 6**

* Can work with numbers up to 10 000 000 and know what each digit represents
* Can round a whole number as requested - for example to the nearest 10 or 1000 or 100000.
* Understand and use negative numbers, for example - working out how much is between -7 and +8
* Can solve number and practical problems that involve large numbers, rounding and negative numbers.
* Know how to use simple formulae such as n - 10 = 2
* Can create a sequence of numbers that follow a rule
* Can use a letter (such as n or x) to show a missing number - such as 10 - x = 5.
* Can find pairs of numbers that satisfy an equation with two unknowns
* Can list possible answers to missing numbers such as listing the possible answers of a and b in a + 6 = b – 10
* Can use common factors to simplify fractions and use common multiples to express fractions in the same denomination
* Can compare and order fractions, including fractions greater than 1
* Add and subtract fractions with different denominators and mixed numbers
* Can multiply fractions such as 1/4 × 1/2 = 1/8.
* Know how to divide proper fractions by whole numbers (for example, 1/3 ÷ 2 = 1/6).
* Can change a fraction into a decimal - for example, I can change 3/8 to 0.375 by dividing 1 by 8 and multiplying by 3.
* Can multiply and divide numbers by 10, 100 and 1000 and know what each digit means up to three decimal places.
* Can multiply numbers such as 1.45 by a one digit number - for example 1.45 x 7.
* Use written division methods in cases where the answer has up to two decimal places.
* Can solve problems which include rounding to a required accuracy such as the nearest 10, 100 or 10000.
* Know the decimal value, percentage and fraction of a range of values - such as 0.5, 50 per cent and 1/2.
* Can multiply 4 digit numbers by a two-digit number (for example 4307 x 34) using the written method of long multiplication.
* Can divide 4 digit numbers by a two-digit number using the written method of long division - and tell you the remainder.
* Can choose to divide 4 digit numbers by a two-digit number using the written method of short division if this is possible.
* Can identify common factors, common multiples and prime numbers
* Know that addition, subtraction, multiplication and division should be carried out in a specific order when looking at problems
* Can solve addition and subtraction multi-step problems, deciding where to add or subtract.
* Can solve problems involving addition, subtraction, multiplication and division.
* Solve problems about different units of measures with three decimal places.
* Can convert measurements of length, weight, volume and time up to three decimal places in length (for example 0.345kg = 345g).
* Can convert between miles and kilometres.
* Know that even though shapes may have the same area, the perimeter may be different - or shapes with the same perimeter may have different areas.
* Can use formulae for area and volume of shapes.
* Can calculate the area of parallelograms and triangles
* Can work with the volume of cubes and cuboids using cubic centimetres (cm³) and cubic metres (m³), and other units too such as mm³ and km³.
* Can use the four quadrants in a coordinate grid.
* Can draw and translate shapes using coordinates or reflect a shape on the grid.
* Can accurately draw 2-D shapes using given dimensions and angles
* Can recognise, describe and build 3-D shapes, including making nets.
* Can classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.
* Know the parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
* Can work with angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
* Can interpret and construct pie charts and line graphs and use these to solve problems.
* Can calculate the mean as an average.