



## The End of Year 6 Expectations in Maths are:

### Place Value:

Can read and write numbers up to 10 000 000 and determine the value of each digit.

Can order and compare numbers up to 10 000 000 and determine the value of each digit.

Can round any whole number to a required degree of accuracy.

Can use negative numbers in context, and calculate intervals across zero.

Can solve number and practical problems that involve all of the above.

### Addition and Subtraction:

Can perform mental calculations, including with mixed operations and large numbers.

Can use their knowledge of the order of operations to carry out calculations involving the four operations.

Can solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Can solve problems involving addition, subtraction, multiplication and division.

Can use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.

### Multiplication and Division:

Can perform mental calculations, including with mixed operations and large numbers.

Can multiply multi-digit numbers (up to 4-digits) by a 2-digit whole number using the formal written method of long multiplication.

Can divide numbers (up to 4-digits) by a 2-digit whole number using the formal written method of long division.

Can divide numbers (up to 4-digits) by a 2-digit number using the formal written method of short division where appropriate.

Can interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context, when using the formal method of long division.

Can identify common factors, common multiples and prime numbers.

Can use their knowledge of the order of operations to carry out calculations involving the four operations.

Can solve problems involving addition, subtraction, multiplication and division.

Can use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.

### **Ratio and Proportion:**

Can solve problems involving the relative sizes of two quantities, where missing values can be found by using integer multiplication and division facts.

Can solve problems involving the calculation of percentages (for example, of measures, and such as find 15% of 360) and the use of percentages for comparison.

Can solve problems involving similar shapes where the scale factor is known or can be found.

Can solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

### **Algebra:**

Can use simple formulae.

Can generate and describe linear number sequences.

Can express missing number problems algebraically.

Can find pairs of numbers that satisfy an equation with two unknowns.

Can enumerate possibilities of combinations of two variables.

### **Measurement:**

Can solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.

Can use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places.

Can convert between miles and kilometres.

Can recognise that shapes with the same area can have different perimeters and vice versa.

Can recognise when it is possible to use formulae for area and volume of shapes.

Can calculate the area of parallelograms and triangles.

Can calculate, estimate and compare the volume of cubes and cuboids using standard units, including centimetre cubed ( $\text{cm}^3$ ) and cubic metres ( $\text{m}^3$ ), and extending to other units such as  $\text{mm}^3$  and  $\text{km}^3$ .

### **Fractions:**

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  $>1$ .

Can add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.

Can multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g.  $1/4 \times 1/2 = 1/8$ ).

Can divide proper fractions by whole numbers (e.g.  $1/3 \div 2 = 1/6$ ).

Can associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g.  $3/8$ ).

Can identify the value of each digit to three decimal places, and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places.

Can multiply 1-digit numbers (with up to two decimal places) by whole numbers.

Can use written division methods in cases where the answer has up to two decimal places.

Can solve problems which require answers to be rounded to specified degrees of accuracy.

Can recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

### **Geometry – Properties of Shape:**

Can draw 2-D shapes using given dimensions and angles.

Can recognise, describe and build simple 3-D shapes, including making nets.

Can compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.

Can illustrate and name parts of circles, including radius, diameter and circumference, and know that the diameter is twice the radius.

Can recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

### **Geometry – Position and Direction:**

Can describe positions on the full coordinate grid (all four quadrants).

Can draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

**Statistics:**

Can interpret and construct pie charts and line graphs, and use these to solve problems.

Can calculate and interpret the mean as an average.