# Maths – Year 6 Termly Overview

## Autumn

### Place Value
- Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.

- Round any whole number to a required degree of accuracy.

- Use negative numbers in context, and calculate intervals across zero.

- Solve number and practical problems that involve all of the above.

### Addition / Subtraction
- Perform mental calculations, including with mixed operations and large numbers.

- Use knowledge of the order of operations to carry out calculations.

- Solve addition and subtraction multi-step problems in context.

### Multiplication / Division
- Identify common factors, common multiples and prime numbers.

- Use estimation to check answers to calculations.

- Multiply numbers up to four digits by two digits using long multiplication.

- Divide numbers up to four digits by two digits using long and short division, interpreting remainders as whole numbers, fractions or by rounding as appropriate.

- Solve problems involving multiplication and division.

### Fractions
- Use common factors to simplify fractions.

- Use common multiples to express fractions with the same denominator.

- Compare and order fractions, including fractions bigger than 1.

- Add and subtract mixed numbers and fractions with different denominators.

- Multiply simple pairs of proper fractions, writing the answer in its simplest form.

- Divide proper fractions by whole numbers.

### Decimals / Percentages
- Identify the value of each digit in numbers given to three decimal places.

- Multiply and divide numbers by 10, 100 and 1,000 and give answers up to three decimal places.

- Multiply one-digit numbers with up to two decimal places by whole numbers.

- Use written division methods in cases where the answer has up to two decimal places.

- Solve problems which require answers to be rounded to specified degrees of accuracy.

- Associate fractions with division and calculate decimal/fraction equivalents (3/8 = 0.375).

- Recall and use equivalences between simple fractions, decimals and percentages.

# Maths – Year 6 Termly Overview

## Spring

### Ratio and Proportion
- Solve problems involving the relative sizes of two quantities where missing values can be found by using multiplication and division facts.

- Solve problems involving the calculation of percentages.

- Solve problems involving similar shapes where the scale factor is known or can be found.

- Solve problems involving unequal sharing and grouping, using knowledge of fractions and multiples.

### Properties of Shape
- Draw 2-D shapes using given dimensions and angles.

- Compare/classify geometric shapes based on properties and size.

- Illustrate and name parts of a circle, including radius, diameter and circumference (know that diameter is twice the radius).

- Recognise, describe and build simple 3-D shapes (making nets).

- Find unknown angles in any triangle/quadrilateral/regular polygon.

- Recognise angles where they meet at a point, are on a straight line or are vertically opposite (find missing angles).

### Algebra
- Use simple formulae.

- Generate and describe linear number sequences.

- Express missing number problems algebraically.

- Find pairs of numbers that satisfy an equation with two unknowns.

- Enumerate possibilities of combinations of two variables.

### Converting Units
- Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places (1.234km = 1,234m).

- Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from smaller units to larger and vice versa.

- Convert between miles and kilometres.

### Perimeter / Area / Volume
- Recognise that shapes with the same areas can have different perimeters and vice versa.

- Recognise when it is possible to use formulae for area/volume of shapes.

- Calculate the area of parallelograms and triangles.

- Calculate, estimate and compare the volume of cubes and cuboids using standard units, including cubic centimetres / metres and extending to other units (km and mm etc.).

### Statistics and Problem Solving
- Interpret and construct pie charts and line graphs and use them to solve problems.

- Calculate and interpret the mean as an average.

### Position and Direction
- Describe positions on the full coordinate grid (four quadrants).

- Draw and translate simple shapes on a grid, reflecting them in the axis.