# Year 6

## Small Steps Summary

Block 1: Place Value

**White Rose Maths**

# Overview

## Small Steps

- Numbers to ten million
- Compare and order any number
- Round any numbers
- Negative numbers

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.

# Overview

## Small Steps

- Add and subtract whole numbers
- Multiply up to a 4-digit by 1-digit number
- Short division
- Division using factors
- Long division (1)
- Long division (2)
- Long division (3)
- Long division (4)
- Common factors
- Common multiples
- Primes
- Squares and cubes
- Order of operations
- Mental calculations and estimation
- Reasoning from known facts

## NC Objectives

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

Multiply multi-digit number up to 4 digits by a 2-digit number using the formal written method of long multiplication.

Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding as appropriate for the context.

Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division, interpreting remainders according to the context.

Perform mental calculations, including with mixed operations and large numbers.

Identify common factors, common multiples and prime numbers.

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

Solve problems involving addition, subtraction, multiplication and division.

Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy.

# Overview
## Small Steps

- Simplify fractions
- Fractions on a number line
- Compare and order fractions by the denominator
- Compare and order fractions by the numerator
- Add and subtract fractions  (1)
- Add and subtract fractions (2)
- Adding fractions
- Subtracting fractions
- Mixed addition and subtraction problems
- Multiply fractions by whole number
- Multiply fractions by fraction
- Divide a fraction by a whole number (1)
- Divide a fraction by a whole number (2)
- Four rules with fractions
- Fraction of an amount
- Fraction of an amount - finding the whole

## NC Objectives

Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.

Compare and order fractions, including fractions > 1

Generate and describe linear number sequences (with fractions)

Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions.

Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ ]

Divide proper fractions by whole numbers [for example $\frac{1}{3} \div 2 = \frac{1}{6}$ ]

Associate a fraction with division and calculate decimal fraction equivalents [ for example, 0.375] for a simple fraction [for example $\frac{3}{8}$ ]

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

# Overview

## Small Steps

- Coordinates in the first quadrant
- Plotting coordinates
- Translations
- Reflections
- Reasoning about shapes with coordinates

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

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