Year 6 Spring Maths

Prior Learning
Ratio Algebra Decimals Fractions, decimals and percentages Area, perimeter and volume Statistics

Key vocabulary for this unit					
Ratio Ratio Proportion "for every…there are…" Part Whole Scale factor Enlargement Similar shapes Length Width Perimeter	**Algebra** Term to term rule Variable Unknown Expression Formula One/two-step equation Substitution Pairs of unknowns enumerate	**Decimals** Decimal place Decimal fraction Recurring decimal Equivalent fraction Tenth Sharing Partitioning Exchanging Rounding to 3 d.p Hundredth Thousandth Equal to Remainder grouping	**Fractions, decimals and percentages** Per cent (%) 'out of 100' Percentage Discount Equivalent fraction Equivalent decimal Convert Compare Order The whole	**Area, perimeter and volume** Perimeter Area Volume Cubic units Cuboid Width Length Rectangle Rectilinear Parallelogram Perpendicular height	**Statistics** Bar chart Pictogram Frequency table Tally chart Pie chart Discrete data Continuous data Line graph Sum Difference Comparison Interpret Mean average

Learning Sequence	
Ratio	• To add or multiply

	• To use ratio language • To identify the ratio symbol • To link ratio with fractions • To look at scale drawings and use scale factors • To solve ratio and proportion problems • To look at ratio involving recipes
Algebra	• To look at 1 and 2 step function machines • To form expressions • To look at substitution • To look at formulae and form equations • To solve 1 and 2 step equations • To find pairs of values • To solve problems with two unknowns
Decimals	• To identify place values within 1 • To look at place value in integers and decimals • To round decimals • To add and subtract decimals • To multiply and divide by 10, 100 and 1000 • To multiply and divide decimals by integers
Fractions, Decimals and Percentagess	• To look at fraction and decimal equivalents • To look at fractions as division • To understand percentages • Equivalent fractions, decimals and percentages • To order fractions, decimals and percentages

	• To find the percentage of an amount – 1 and 2 step
Area, Perimeter and Volume	• To look at shapes with the same area • To look at area and perimeter of shapes • To find the area of a triangle (counting squares) • To find the area of a right-angled triangle • To find the area of any triangle • The find the area of a parallelogram • To find the volume of a cuboid
Statistics	• To look at line graphs • To work with dual bar charts • To read and interpret pie charts • To draw pie charts • To calculate the mean

Assessment milestones

Mathematical skills:

Ratio

- Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
- Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples
- Solve problems involving similar shapes where the scale factor is known or can be found
- Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts

Algebra

- Use simple formulae
- Generate and describe linear number sequences

- Find pairs of numbers that satisfy an equation with two unknowns
- Enumerate possibilities of combinations of two variables
- Express missing number problems algebraically

Decimals

- Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places
- Solve problems which require answers to be rounded to specified degrees of accuracy
- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- Multiply 1-digit numbers with up to 2 decimal places by whole numbers
- Use written division methods in cases where the answer has up to 2 decimal places
- Use written division methods in cases where the answer has up to 2 decimal places
- Solve problems involving addition, subtraction, multiplication and division

Fractions, decimals and percentages

- Use common factors to simplify fractions; use common multiples to express fractions in the same denomination
- Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction
- Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
- Compare and order fractions, including fractions >1
- Solve problems involving the calculation of percentages and the use of percentages for comparison

Area, perimeter and 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 and volume of shapes
- Calculate the area of parallelograms and triangles
- Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units

Statistics

- Interpret and construct pie charts and line graphs and use these to solve problems

- Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs (Year 4)
- Interpret and construct pie charts and line graphs and use these to solve problems
- Calculate and interpret the mean as an average