Mereside
Church of England Primary Academy
Learn to Love, Love to Learn

Year: 6

Subject: Maths

Title:

Ratio and Algebra

What key knowledge do I need to have before this unit?

- Ratio has not been taught prior to Year 6
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- Although formal algebraic notation is not introduced until Y6, algebraic thinking starts much earlier as exemplified by the 'missing number' objectives from Y1/2/3

Key outcomes:
What I need to know by the end of this unit of work:

- Find the relationship between two numbers by adding or multiplying.
- Find missing values by using multiplication and division facts

National Curriculum Links:

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

Use simple formulae

Generate and describe linear number sequence

Find pairs of numbers that satisfy an equation with two unknowns

Enumerate possibilities of combinations of two variables

Express missing number problems algebraically

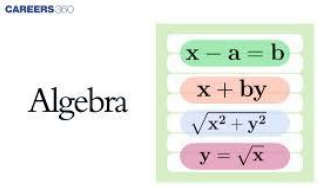
Key Vocabulary and Definitions:

Factors – a number or quantity that when multiplied with another produces a given number.

Multiples - numbers that result from multiplying one whole number by another whole number.

Ratio - the relation between two amounts showing the number of times one value contains or is contained within the other.

Algebra - the part of mathematics in which letters and other general symbols are used to represent numbers and quantities in formulae and equations.



Formula - a mathematical relationship or rule expressed in symbols.

Ratio and Proportion, Algebra

Ratio and proportion

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					• 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 the calculation/use of percentages for comparison • 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

Algebra

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• *solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ – 9*	• *recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems*	• *solve problems, including missing number problems*			• 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