

Year 6 Algebra and Ratio Knowledge Organiser

National Curriculum Aims

Algebra

- use simple formulae
- generate and describe linear number sequences
- express missing number problems algebraically
- find pairs of numbers that satisfy an equation with 2 unknowns
- enumerate possibilities of combinations of 2 variables

Ratio and Proportion

- solve problems involving the relative sizes of 2 quantities.
- solve problems involving the calculation of percentages
- solve problems involving unequal sharing and grouping

Key Vocabulary

Algebra	Letters and symbols are used to represent numbers and quantities in formulae and equations.
Equation	A statement that the values of 2 mathematical expressions are equal.
Expressions	Combines numbers and/or variables using operations.
Formulae	A fact or a rule written with mathematical symbols.
Ratio	Indicates how many times one number contains another.
Percentages	Any proportion or share in relation to a whole.
Proportion	A part, share, or number considered in comparative relation to a whole.
Quantities	The amount of a number.
Variables	A quantity that may change within the context of a mathematical problem

Home Learning



- Baking is excellent for using ratio practically, could you find a recipe then adjust to suit the exact size of your family.

Core Knowledge and Representations

Algebra

When solving an equation it is important to find the value of one letter.

Let's solve the equation $3x + 4 = 10$

- To remove the $+ 4$ we complete the **inverse** (opposite) operation by subtracting the 4.
 $3x = 10 - 4$
- That gives us $3x = 6$ (3 loaves cost £6)
- To work out the cost of one loaf we divide both sides of the equation by 3.
- $x = 6 \div 3$
- So $x = 2$ (one loaf costs £2)

Ratio and Proportion

There are 48 beads in a jar. For every 2 purple beads there are 6 red beads. How many red beads are there altogether?

A quick way to work this out would be to:

- Add the 2 and 6 together to make 8. If you then divide 48 by 8, you get 6.
- You then multiply each of the colour beads by 6.

This can also be demonstrated like this:

