# GLOSSARY OF TERMS

**Algebra-** An area of maths where numbers are represented by letters.
e.g. 3 + a = 4 *so* a *must equal* 1
1 + b = 4 *so* b *must equal* 3
c + c = 4 *so* c *must equal* 2
*Therefore* a + b + c = 6

**Algebraic Reasoning-** Algebraic reasoning is the ability to think logically about unknown quantities and the relationships between them.

**Algorithm-** A formal way of setting out a step-by-step mathematical procedure e.g. addition.

**Area-** The size a surface takes up.

**Arithmetic-** Simple algebra.

**Array-** A set of objects arranged in order, often in rows and columns.

**Cartesian Product Idea-** A systematic list to determine all possible options using a graphic organiser.

**Complex Patterns-** Involve more than one recurring sequence or repeated design e.g. 2, 15, 28; or 2, 5, 106.

**Communicative Principle-** In addition and multiplication, numbers may be added or multiplied together in any order.

**Composite Numbers-** A number with more than 2 factors (factor = a whole number that divides exactly into another whole number.)

**Computation-** The procedure of calculating.

**Conceptualise-** Different ways of formulating an answer e.g. 6x14 = 6x10 + 6x4 or 6x14 = 3x14 x 2.

**Continuous Fraction Models-** Can have an infinite number of possible values within a selected range.

**Discrete Fraction Models-** Only have a finite or limited possible value.

**Dividend-** The number being divided.

**Divisor-** A number that will divide the dividend.

**Equivalent Fraction-** Having the same value or amount.

**Factor-** A whole number that divides exactly into another number.

**Formal Processes-** Using the correct method for recording multiplication and division.

**Informal Division Strategy-** Using methods such as drawing, making, acting (not algorithm).

**Meta-cognitive-** Thinking about thinking.

**Multiple-** Interchangeable with product.

**Multiple Patterns-** Recognizing number patterns in familiar and unfamiliar problems.

**Multiple-Step Problem-** A problem involving more than one step/process.

**Non-Numerical-** Using visual or other aids as opposed to using a numeral.

**Notion of Variable-** Get an *idea* of what something is.

**Notation-** To write numbers in words e.g. 60 = 6 tens.

**Number Expanders-** A number expander is a simple aid made of paper which can show the many ways of renaming a number (both whole numbers and decimal numbers).

**Pattern-** Repeated design or recurring sequence.

**Partition-** Break something up into parts.

**Partitioning Continuous Quantities-** Giving names, and constructing equal fractional parts e.g. 1/3 is 1 equal part of 3.

**Perimeter-** Distance around the outside of a shape.

**Product-** The result when 2 numbers are multiplied.

**Properties-** A basic or essential attribute shared by all.

**Proportion-** A part to whole comparison.

**Proportion Problems-** A part to whole comparison e.g. a score of 3 out of 4 would be in proportion to 9 out of 12 (ratio, percent or fraction).

**Quotient-** The result of a division.

**Ratio-** Comparative value of 2 or more amounts.

**Representation Strategies-** Allow students to use a variety of functions, graphs, equations and so forth, making it possible for them to draw conclusions and make conjectures about the relationships between them.

**Simple proportion problems-** Activities involving part to whole comparisons.

**Tree diagram-** A diagram that uses branches to display sample space for each possible outcome.

**Value-** Numerical worth or amount.

**Variable-** 1. A quantity that can change or take on different values – not constant.
2. A letter or symbol representing a varying quantity
e.g. **n** in 10 + **n**
e.g. In **x** + 2 = 6 **x** is the variable.