



Glossary of terms used in teaching **multiplication** and **division** at QPIA

Array	A pictorial representation to help children understand multiplication and division. Typically shown as rows of dots, for example, 2×3 would be shown as two rows of three dots.
Calculation	Working out the amount or number of something, usually by using one of the four operations $+$, $-$, \times or \div
Commutative	Addition and multiplication have the property of commutativity – when two numbers are added or multiplied, this can be done in any order and the same answer will be obtained;; $4 \times 6 = 24$, $6 \times 4 = 24$. Subtraction and division are not commutative
Concrete equipment	Equipment which children may use to help them carry out practical maths activities, for example counters to help with addition, cubes and rods for place value or playdough to make 3D shapes
Digit	A digit is a single symbol used to make numerals. 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9 are the ten digits we use in everyday numerals.
Division	The process of dividing a number up into equal parts, and finding how many equal parts can be made and whether there is a remainder. It is represented by the symbol ' \div '
Division Fact	A division number sentence related to the times tables. For example, the division fact $16 \div 4 = 4$ is related to the 4x table.
Equivalent fractions	Fractions which represent the same amount but are expressed using different numbers. For example $1/2$ is the same as $2/4$.
Even numbers	All numbers that are exactly divisible by 2. Even numbers always end with 0, 2, 4, 6 or 8.
Fraction	A fraction is a number which represents part of a whole.
Inverse	The calculation which 'un-does' a calculation, and reverses it. Addition is the inverse of subtraction, multiplication is the inverse of division. So for the calculation $4 \times 3 = 12$, the following calculations also apply: $3 \times 4 = 12$, $12 \div 3 = 4$ and $12 \div 4 = 3$
Multiple	A multiple is a number in a number sequence, 2 4 6 8 are all multiples of 2
Multiplication	Finding how many altogether there are in a given number of equal sized groups. Shown by the symbol ' \times '.
Multiplication fact	The answer to a multiplication calculation. For example in $3 \times 3 = 9$, the multiplication fact is 9.
Number pattern	A list of numbers that follow a certain sequence or pattern, e.g.: 0 2 4 6 8 10
Numicon	A school teaching resource consisting of plastic tiles with holes which represent the numbers 1 to 10.
Odd numbers	All whole numbers which are not exactly divisible by 2. Odd numbers always end in 1, 3, 5, 7 or 9.
Operation	The four mathematical operations are addition, subtraction, multiplication and addition.
Repeated addition	A way of teaching multiplication as the repeated grouping of the same number. For example, 4×2 is the same as four groups of 2, or $2 + 2 + 2 + 2$.
Repeated subtraction	A way of teaching division as the repeated subtraction of the same number down to zero. For example $15 \div 3$ is the same as 15 shared into 3 groups of 5, or $15 - 5 - 5 - 5 = 0$