

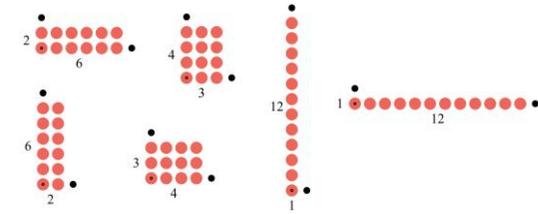
Year 3 Parakeets Mathematics Autumn 2

Number

Addition and subtraction
Multiplication and division

Arrays

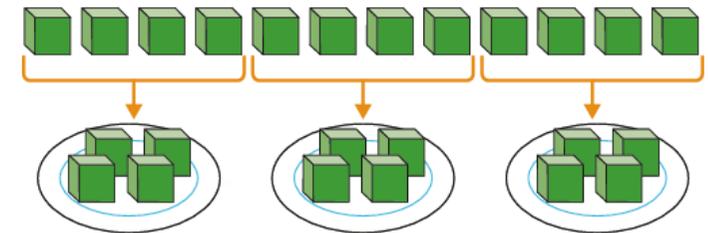
The counters are organised into rectilinear shapes to show related multiplication facts. This shows that 1,2,3,4,6 and 12 are factors of 12.



	Key Vocabulary	Definition
Addition and Subtraction	Addition	The action of putting two or more numbers together resulting in the answer being bigger $3+7=10$
	Commutative	The calculation can be rearranged to make it easier with the same result. E.g. $5+8=13$ $8+5=13$
	Estimate	A rough representation of the number.
	Exchanging	Changing the value within the number for example forming another ten from the ones column if it is greater than ten.
	The Inverse	Also known as the inverse operation. It is method to calculate something backwards using an answer to prove its answer is one of the original numbers given. A good way to check accuracy.
	Represent	to present a picture, image, or likeness of something.
Multiplication and division	Subtraction	The action of taking one number away from another resulting in the answer being smaller.
	Arrays	An arrangement of objects to show multiplication facts. Arrays are uniform: all rows are equal, and all columns are equal.
	Division	The sharing out of a number into equal groups.
	Factors	A number that when multiplied by an integer gives the given number. (see top right)
	Multiples	A number which represents a
	Multiplication	The total value when a number of equal groups is formed.
	Product	The answer when two or more numbers have been multiplied.
	Related facts	Facts that are connected which could make a calculation easier. For example $2 \times 2 = 4$ so 8×4 could be $8 \times 2 \times 2 = 16 \times 2$.
Remainder	The remainder is the left over part of a number which cannot be shared equally into all of the groups.	

Division

A number is shared into equal groups. Here the number 12 is divided by 3. The 12 cubes are shared equally on 3 plates. 12 divided by 3 is 4.



Column addition

	Tens	Ones
	3	5
+	4	2
	7	7

It is important to put the digits into the correct column for their place value. All additions start from the ones column in case you need to exchange.

Column subtraction

	Tens	Ones
	3	5
-	4	2
	2	7

It is important to put the digits into the correct column for their place value. All subtractions start from the ones column in case you need to exchange. There were not enough ones above so a ten was used to make more ones.

Inverse Operation

This bar model can represent the inverse if 347 was found by adding 273 and 74. The inverse to check the accuracy could be $347 - 273$ or $347 - 74$.

