MATHS CALCULATION POLICY
EARLY YEARS FOUNDATION STAGE

This calculations policy has been written to provide an understanding of when and how the four operations – addition, subtraction, multiplication and division, are taught.

It is designed to ensure consistency throughout the school and to make teachers aware of the continuity and progression in skill development across the year groups. It aims to enable staff, and parents, to see how the concepts, facts and calculation strategies and methods used in any particular year are taught, and how these build on previous learning and contribute to future learning.

Structure of the document

For each year in the Early Years, this policy begins with an outline of the key knowledge and understanding of number and the number system, including place value; that pupils are taught in order to calculate successfully.

Then, for each year group, a detailed summary is provided of how each of the four operations: addition, subtraction, multiplication and division – is taught.
This summary includes information on the following:

Conceptual understanding and procedural fluency

The key concepts pupils need to know and understand in order to calculate successfully.
The number facts that pupils need to recall with fluency.

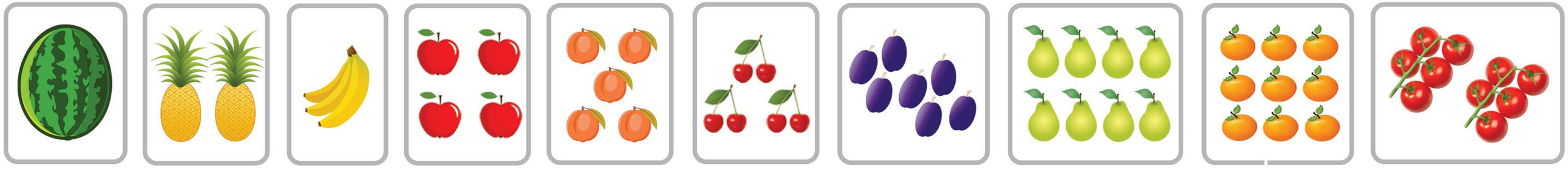
Reason mathematically and solve problems

The problem solving and reasoning skills pupils need to develop in order to use and apply their conceptual understanding and procedural fluency.

NURSERY	
Number and Place Value	To add and subtract successfully, pupils need to: • Recognise some numerals of personal significance • Recognises numerals 1 to 5 • Counts up to three or four objects by saying one number name for each item • Counts objects to 10, and beginning to count beyond 10 • Counts out up to six objects from a larger group • Selects the correct numeral to represent 1 to 5, then 1 to 10 objects

Numbers from 1 - 5

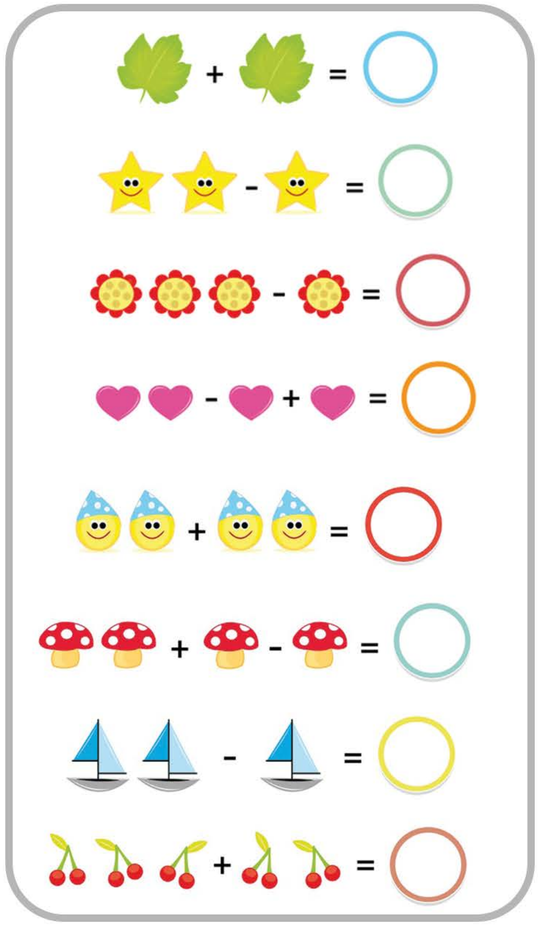
1 2 3 4 5

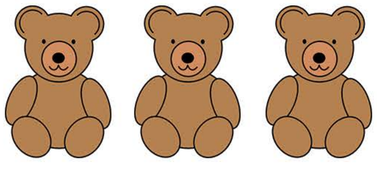


Select a number to represent the correct group of fruits

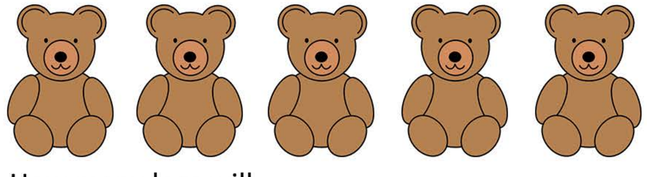
7 5 10 6 4 8 1 3 9 2

	Conceptual Understanding and procedural fluency	Reason Mathematically and solve problems	Mental Strategies
Addition	To add successfully, pupils need to: • Finds the total number of items in two groups by counting all of them • Use objects to calculate one more than any given number up to 10	Pupils need to use and apply their understanding of, and fluency in, addition to: • Solve one-step problems that involve addition, using concrete objects and pictorial representations	Use of models and images: • Concrete objects/pictorial representations 
Subtraction	To subtract successfully, pupils need to: • Use objects to calculate one less than any given number up to 10	Pupils need to use and apply their understanding of, and fluency in, subtraction to: • Solve one-step problems that involve subtraction, using concrete objects and pictorial representations	Use of models and images: • Concrete objects/pictorial representations 

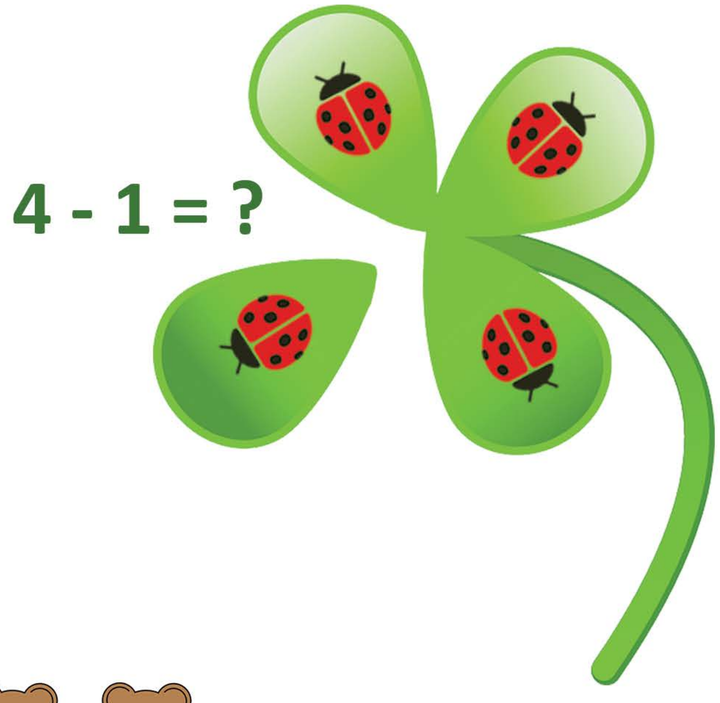


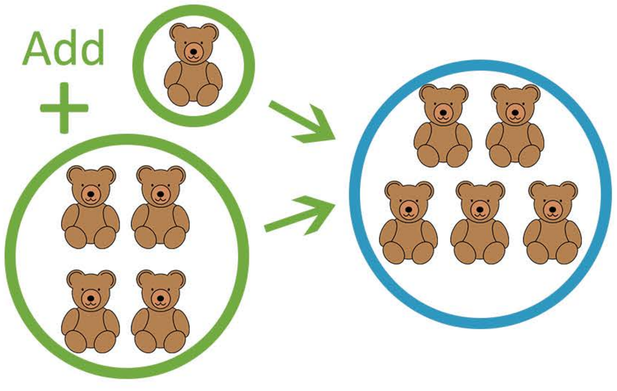


How many legs will 3 teddies have?



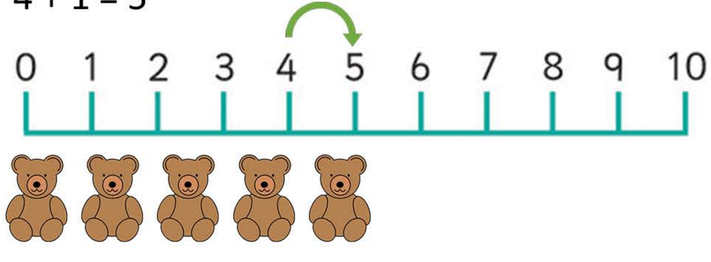
How many legs will 5 teddies have?





4 bears and 1 bears is 5 bears altogether

4 + 1 = 5

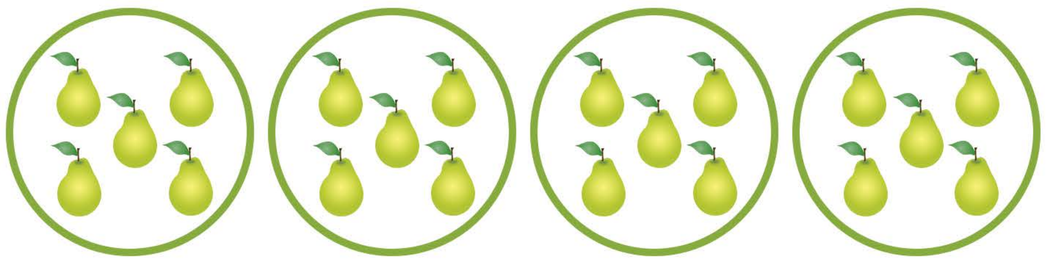


RECEPTION	
Number and Place Value	To add, subtract, multiply and divide successfully, pupils need to: • Count reliably with numbers from 1 to 20. • Recognise and place them in order • Count to and across 20, forwards and backwards, beginning with 0 or 1 • Identify one more and one less from any given number to 20 • Count in multiples of twos, fives and tens

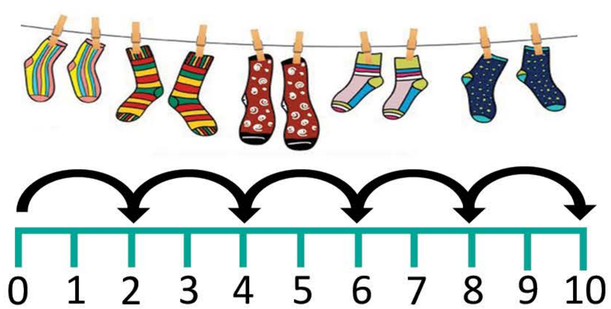
Counting in multiples

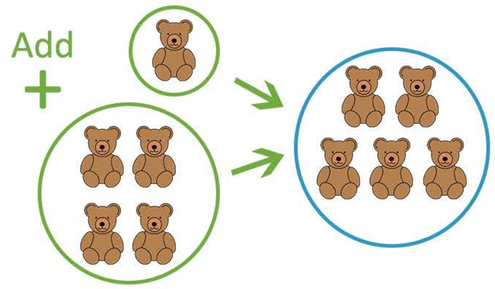
10 + 10 = 20

5 + 5 +5 + 5 = 20

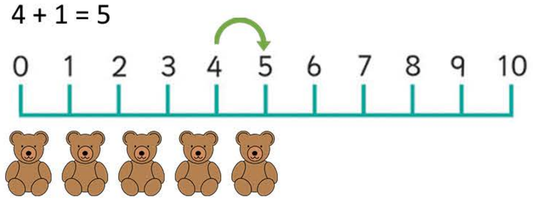


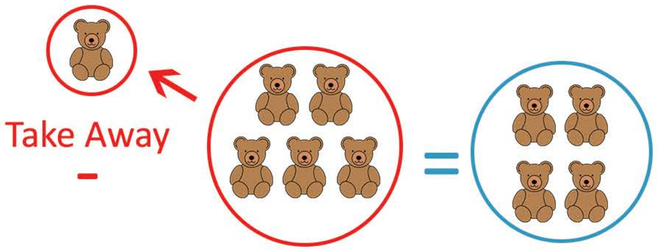
2 + 2 + 2 + 2 + 2 = 10



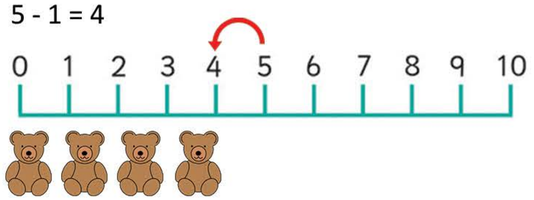


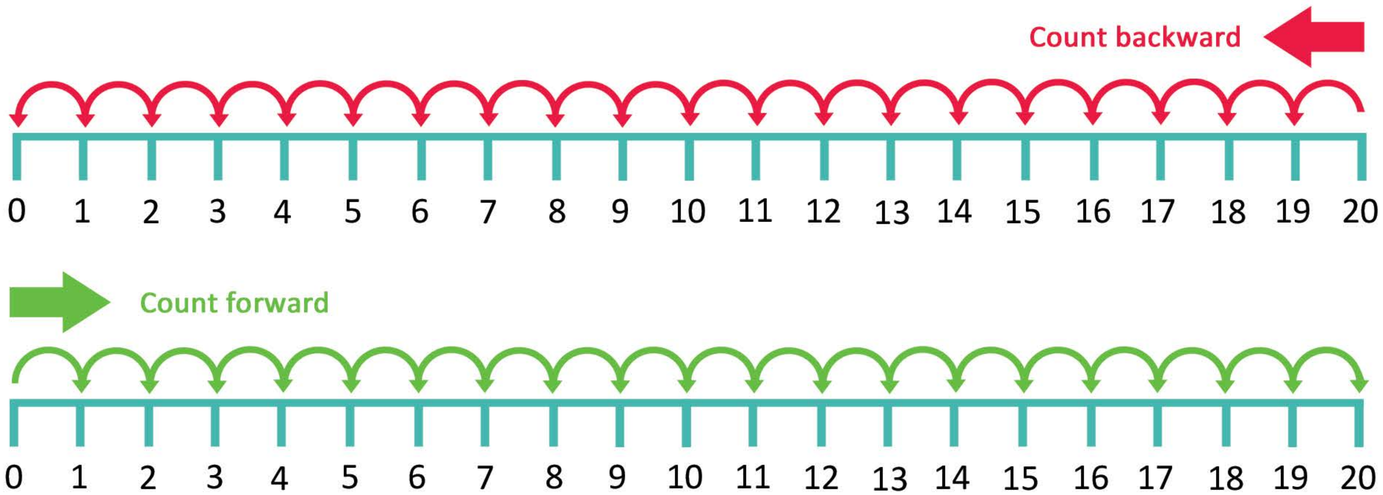
4 bears and 1 bears is 5 bears altogether
4 + 1 = 5

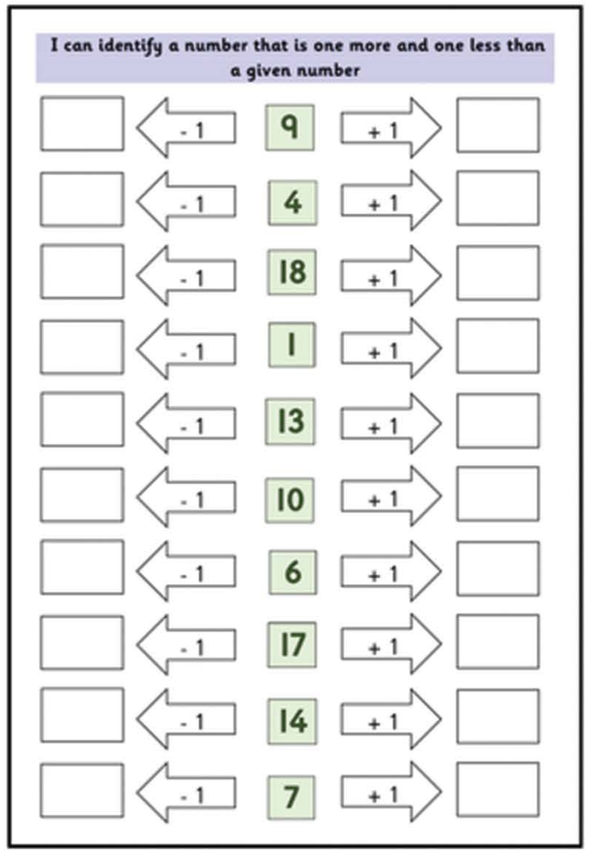


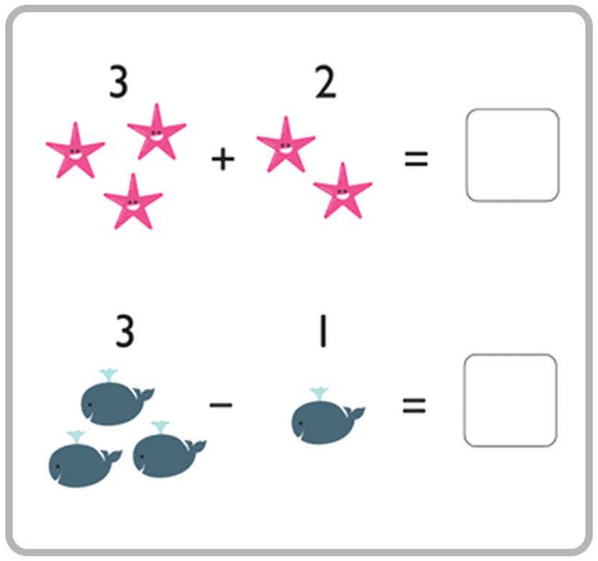


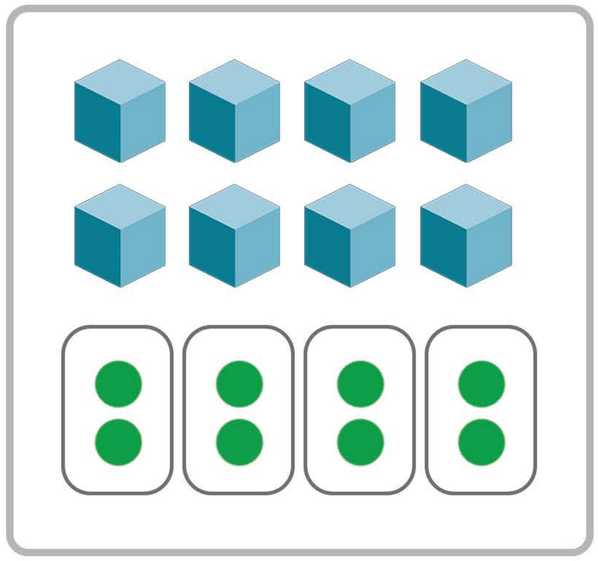
5 bears take away 1 bears is 4 bears altogether
5 - 1 = 4

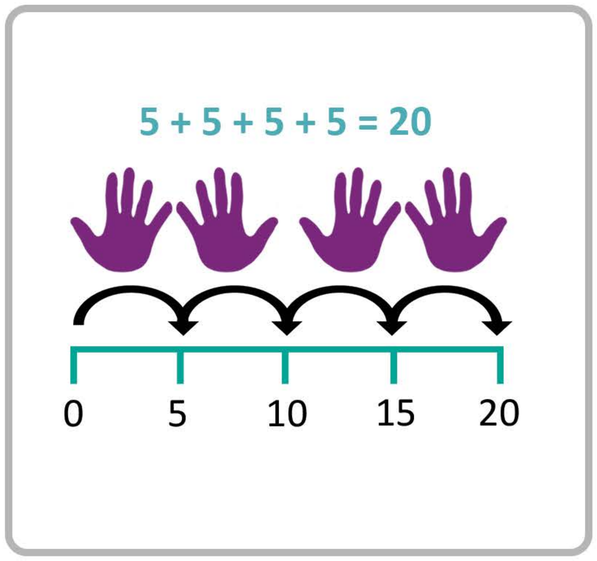


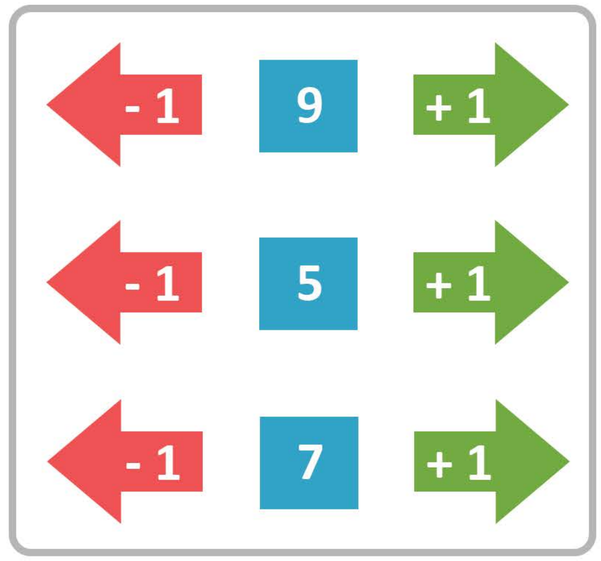


	Conceptual Understanding and procedural fluency	Reason Mathematically and solve problems	Mental Strategies
Addition	To add successfully, pupils need to: • Understand addition as combining two or more groups of objects • Understand addition as counting on and add two single-digit numbers • Recall one more than any given number to 20	Pupils need to use and apply their understanding of, and fluency in, addition to: • Solve one-step problems that involve addition, using concrete objects and pictorial representations • Solve one-step problems that involve addition in familiar contexts	
Subtraction	To subtract successfully, pupils need to: • Understand subtraction as 'taking away' (counting back) • Subtract one-digit up to 10 • Recall one less than any given number to 20	Pupils need to use and apply their understanding of, and fluency in, subtraction to: • Solve one-step problems that involve subtraction, using concrete objects and pictorial representations • Solve one-step problems that involve subtraction in familiar contexts	









	Conceptual Understanding and procedural fluency	Reason Mathematically and solve problems	Mental Strategies
Multiplication	To multiply successfully, pupils need to: • Double numbers to 5	Pupils need to use and apply their understanding of, and fluency in, multiplication to: • Solve one-step problems involving doubling, by calculating the answer using concrete objects, pictorial representations • Solve one-step problems that involve doubling in familiar contexts	Use models and images: • Concrete objects and pictorial representations
Division	To divide successfully, pupils need to: • Halve numbers and share into equal groups	Pupils need to use and apply their understanding of, and fluency in, division to: • Solve one-step problems involving sharing and halving, by calculating the answer using concrete objects, pictorial representations • Solve one-step problems that involve sharing and halving in familiar contexts	Use models and images: • Concrete objects and pictorial representations