

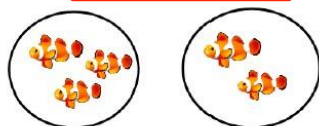
Foundation Stage 1 - Addition

Curriculum 2014 Statutory Requirements

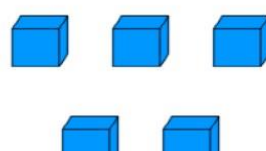
Pupils should be taught to:

- Birth to 11 months – notice changes in number of objects/ images.
- 8 to 20 months - has some understanding that things exist, even when out of sight.
- 16 to 26 months – begins to organise and categorise objects by sorting.
- 22 to 36 months – knows that a group of things changes in quantity when something is added or taken away.
- 30 to 50 months – separates a group of 3 or 4 objects in different ways beginning to recognise that the total is still the same.
- 40 to 60 months – finds the total number of items in two groups by counting all of them in practical activities and discussions. Begins to use the vocabulary involved in addition and subtraction.

1 Using pictures



2 Using objects



Teaching points:

Use number lines 0-10

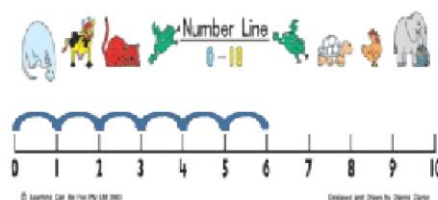
Explore numbers in the environment inside and out

Use a range of objects

Model in role play areas



NUI2 REG



Key vocabulary

Add, more, and, make, altogether, count on.

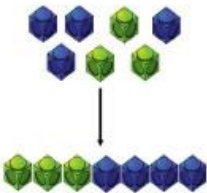
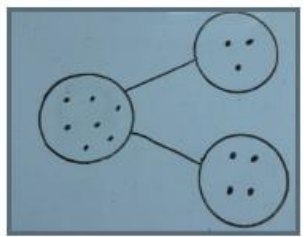

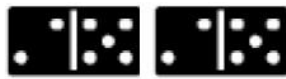
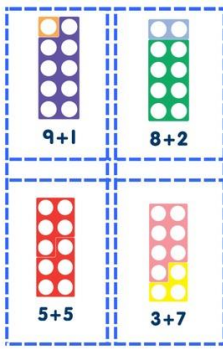
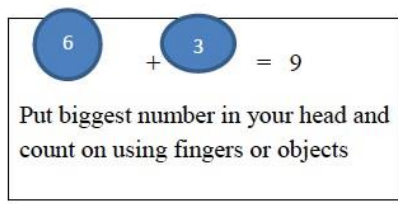
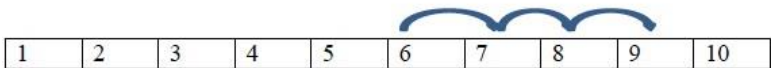
Foundation Stage 2 – Addition

Curriculum 2014 Statutory Requirements

Pupils should be taught to:

Early Learning Goals:

- Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number.
- Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer.
- Count on from first group to add two groups of objects.

Concrete	Pictorial	Teaching points:
<p>Combining two parts to make a whole (use other resources too e.g. eggs, shells, teddy bears, cars).</p> 	<p>Children to represent the cubes using dots or crosses. They could put each part on a part whole model too.</p> 	<p><u>Counting and reading numbers to 20</u></p> <p><u>Doubling numbers using objects</u></p> <p><u>Share board games</u></p> <p><u>Model in role play</u></p>
<p><u>Varied examples may include:</u></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>$5 + ? = 10$</p> </div> <div style="text-align: center;">  </div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Put biggest number in your head and count on using fingers or objects</p> </div> </div> <div style="text-align: center; margin-top: 20px;">  </div>		

Key vocabulary

Add, more, and, make, altogether, total, equal to, equals, most, count on, double, one more, two more...

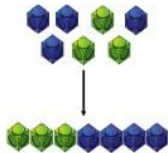
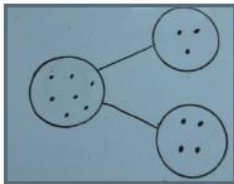
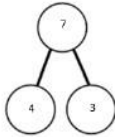


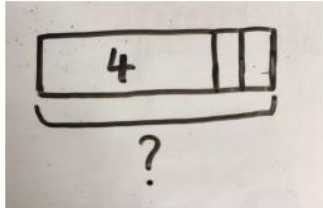
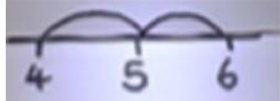

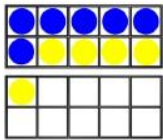
Year 1 – Addition

Curriculum 2014 Statutory Requirements

Pupils should be taught to:

- Read, write and interpret mathematical statements involving addition (+) and equals (=) signs – THIS MEANS THE SAME AS – relate this to balance sums and scales.
- Represent and use number bonds and related subtraction facts within 20.
- Add one- digit and two digit numbers to 20, including 0.
- Solve one-step problems that involve addition, using concrete objects and pictorial representations, and missing number problems such as $9 = ? + 7$.

Teaching points:

Concrete	Pictorial	Abstract
<p>Combining two parts to make a whole (use other resources too e.g. eggs, shells, teddy bears, cars).</p> 	<p>Children to represent the cubes using dots or crosses. They could put each part on a part whole model too.</p> 	<p>$4 + 3 = 7$ Four is a part, 3 is a part and the whole is seven.</p> 
<p>Counting on using number lines using cubes or Numicon.</p>  	<p>A bar model which encourages the children to count on, rather than count all.</p> 	<p>The abstract number line: What is 2 more than 4? What is the sum of 2 and 4? What is the total of 4 and 2? $4 + 2$</p> 
<p>Regrouping to make 10; using ten frames and counters/cubes or using Numicon.</p> <p>$6 + 5$</p> 	<p>Children to draw the ten frame and counters/cubes.</p> 	<p>Children to develop an understanding of equality e.g.</p> <p>$6 + \square = 11$ $6 + 5 = 5 + \square$ $6 + 5 = \square + 4$</p>

Key vocabulary (new words to year 1 are in red)

add, more, **plus**, and, make, altogether, total, equal to, equals, most, count on, double, one more, two more, **near double**, **how many more to make...?** **How many more is... than...?** **How much more is...? =**, **equals**, sign, is the same as.

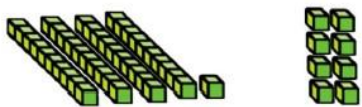
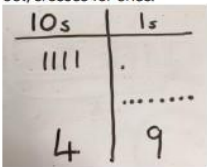
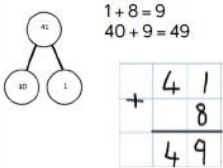
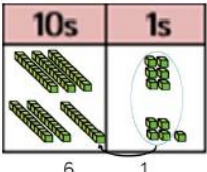
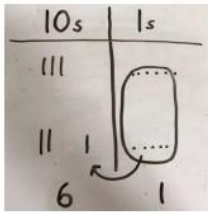

Year 2 - Addition

Curriculum 2014 Statutory Requirements

Pupils should be taught to:

- Solve problems with addition using concrete objects and pictorial representations, including those involving numbers, quantities and measures, and applying their increasing knowledge of mental and written methods.
- Recall and use addition facts to 20 fluently, and derive and use related facts up to 100.
- Add numbers using concrete objects, pictorial representations and mentally, including:
 - a two-digit number and ones.
 - a two-digit number and tens.
 - two two-digit numbers.
 - adding three one-digit numbers.
- Show that addition of two numbers can be done in any order (commutative).
- Recognise and use the inverse relationship between addition and subtraction, and use this to check calculations and solve missing number problems.

Teaching points:

Concrete	Pictorial	Abstract
<p>TO + O using base 10. Continue to develop understanding of partitioning and place value. 41 + 8</p> 	<p>Children to represent the base 10 e.g. lines for tens and dot/crosses for ones.</p> 	<p>41 + 8</p> <p>1 + 8 = 9 40 + 9 = 49</p> 
<p>TO + TO using base 10. Continue to develop understanding of partitioning and place value. 36 + 25</p> 	<p>Children to represent the base 10 in a place value chart.</p> 	<p>Looking for ways to make 10.</p> <p>36 + 25 =</p> <p>30 + 20 = 50 5 + 5 = 10 50 + 10 + 1 = 61</p> <p>36</p> <p>Formal method:</p> 

Key vocabulary (new words to year 2 are in red)

Add, more, plus, and, make, sum, altogether, total, equal to, equals, most, count on, double, near double, **addition, 10 more, one hundred more, tens boundary**. How many more to make...? How many more is... than...? How much more is...? =, equals, sign, is the same as.

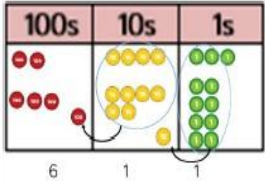
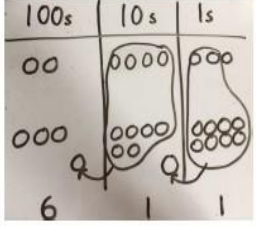
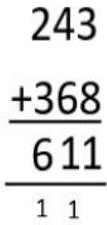
Year 3 - Addition

Curriculum 2014 Statutory Requirements

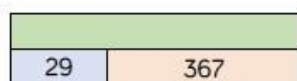
Pupils should be taught to:

- Add numbers mentally including:
 - a 3-digit number and ones.
 - a 3-digit number and tens.
 - a 3-digit number and hundreds.
 - a 3-digit number and thousands.
- Add numbers with up to three digits, using formal written methods of columnar addition.
- Estimate the answer to a calculation and use inverse operations to check answers.
- Solve problems, including missing number problems, using number facts, place value, and more complex addition.

Teaching points:

Concrete	Pictorial	Abstract
<p>Use of place value counters to add HTO + TO, HTO + HTO etc. When there are 10 ones in the 1s column- we exchange for 1 ten, when there are 10 tens in the 10s column- we exchange for 1 hundred.</p> 	<p>Children to represent the counters in a place value chart, circling when they make an exchange.</p> 	

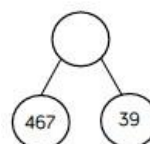
Children should develop understanding alongside other concrete materials (e.g. dienes) and visual representations (bar model, number line, part-whole/ cherry model):



Bar model



Number line



Part-whole/ cherry model

Key vocabulary (new words to year 3 are in red)

Add, more, plus, and, make, altogether, total, equal to, equals, most, count on, double, near double, addition, 10 more, one hundred more, tens boundary, **100 boundary**, **expanded**, **compact** how many more to make...? How many more is... than...? How much more is...? =, equals, sign, is the same as.


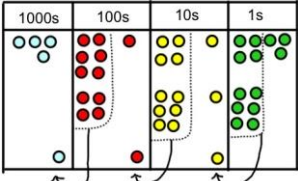

Year 4 - Addition

Curriculum 2014 Statutory Requirements

Pupils should be taught to:

- Add with up to 4 digits using the formal written methods of columnar addition where appropriate.
- Estimate and use inverse operations to check answers to a calculation.
- Solve two-step addition problems in contexts, deciding which operations and methods to use and why.

Teaching points:

Concrete	Pictorial	Abstract
		

Children should develop understanding alongside other concrete materials and visual representations (Bar, cherry, number line).

Children should also be encouraged to use these methods for adding mixed amount of digits, e.g.:

Mixed amount of digits				
1	2	4	5	
+	0	3	6	9
1	6	1	4	

Key vocabulary (new words to year 4 are in red)

Add, more, plus, and, make, altogether, **increase**, total, equal to, equals, most, count on, **decimal point**, double, near double, addition, 10 more, one hundred more, tens boundary, how many more to make...?
How many more is... than...? How much more is...? =, equals, sign, is the same as

Year 5 - Addition

Curriculum 2014 Statutory Requirements

Pupils should be taught to:

- Add whole numbers with more than 4 digits, including using formal written methods (columnar addition).
- Add numbers mentally with increasingly large numbers.
- Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.
- Solve addition multi-step problems in contexts, deciding which operations and methods to use and why.

Teaching points:

Concrete	Pictorial	Abstract																																				
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<div><div>Children should be encouraged to demonstrate their understanding through the use of concrete materials and images (e.g. place value counters and base 10).</div><div>A similar approach should be used when adding decimals, e.g.</div></div>	<div><div>2.34 + 1.23</div><div><table><tr><th>1</th><th>$\frac{1}{10}$</th><th>$\frac{1}{100}$</th></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table></div></div>	1	$\frac{1}{10}$	$\frac{1}{100}$							<div><table><tr><td>£</td><td>2</td><td>3</td><td>.</td><td>5</td><td>9</td></tr><tr><td>+</td><td>£</td><td></td><td>7</td><td>.</td><td>5</td><td>5</td></tr><tr><td></td><td>£</td><td>3</td><td>1</td><td>.</td><td>1</td><td>4</td></tr><tr><td></td><td></td><td>1</td><td>1</td><td></td><td>1</td><td></td></tr></table><div> Cross out once used!</div></div>	£	2	3	.	5	9	+	£		7	.	5	5		£	3	1	.	1	4			1	1		1	
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Key vocabulary (new words to year 5 are in red)

Add, more, plus, and, make, altogether, increase, total, equal to, equals, most, count on, decimal point, double, near double, addition, 10 more, one hundred more, tens boundary, 100 boundary, inverse, **ones boundary**, **tenths boundary**, how many more to make...? How many more is... than...? How much more is...? =, equals, sign, is the same as.

Year 6 – Addition

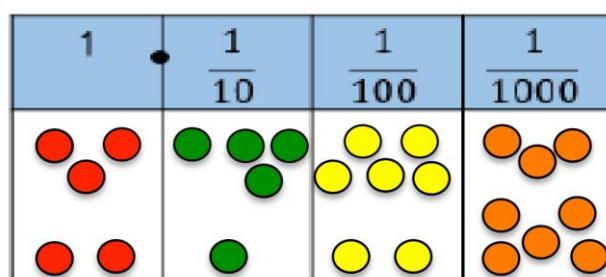
Curriculum 2014 Statutory Requirements

Pupils should be taught to:

- Solve addition multi-step problems in contexts, deciding which operations and methods to use and why.

Teaching points:

In Year 6, children build on Year 5 strategies and moving to numbers, when added together make numbers within 10 million and to 3 decimal places.



Children secure strategies through concrete, pictorial approaches for adding more than two numbers including numbers to 3 decimal places.

$$\begin{array}{r}
 120537 \\
 234271 \\
 + 323221 \\
 \hline
 678029 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 0.557 \\
 1.211 \\
 0.202 \\
 \hline
 1.970 \\
 \hline
 \end{array}$$

Key vocabulary (new words to year 6 are in red)

Add, more, plus, and, make, altogether, increase, total, equal to, equals, most, count on, double, near double, addition, 10 more, one hundred more, tens boundary, 100 boundary, inverse, ones boundary, tenths boundary, how many more to make...? How many more is... than...? How much more is...? =, equals, sign, is the same as