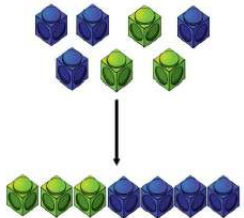
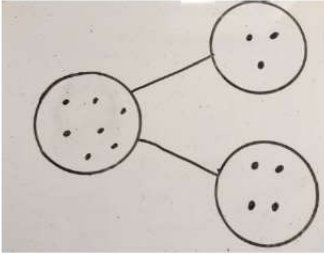
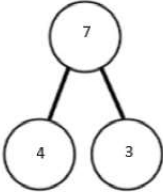
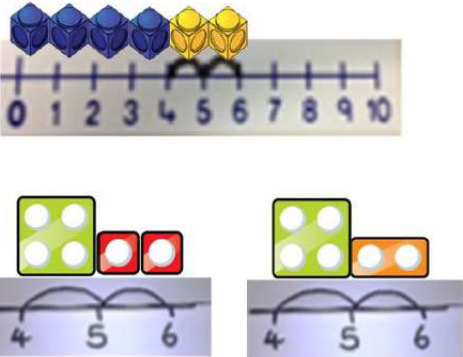
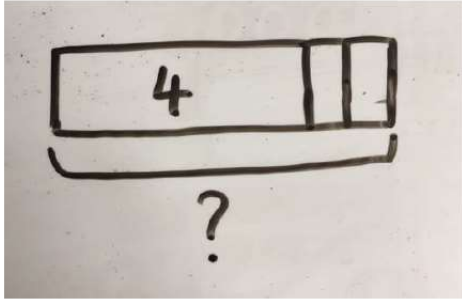





# Spire Junior School

## Calculation Policy: Addition

Key language: sum, total, parts and wholes, plus, add, altogether, more, 'is equal to' 'is the same as'.

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><math>4 + 3 = 7</math> 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? <math>4 + 2</math></p> 



# Spire Junior School

## Calculation Policy: Addition

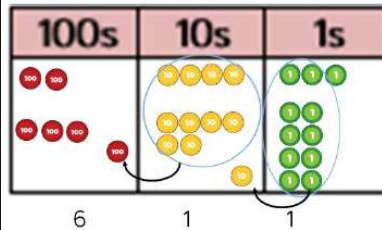
<p><b>Regrouping to make 10;</b> using ten frames and counters/cubes or using Numicon.</p> <p><math>6 + 5</math></p>	<p>Children to draw the ten frame and counters/cubes.</p>	<p>Children to develop an understanding of equality e.g.</p> $6 + \square = 11$ $6 + 5 = 5 + \square$ $6 + 5 = \square + 4$
<p><b>TO + O using base 10.</b> Continue to develop understanding of partitioning and place value.</p> <p><math>41 + 8</math></p>	<p>Children to represent the base 10 e.g. lines for tens and dot/crosses for ones.</p>	<p><math>41 + 8</math></p> <p><math>1 + 8 = 9</math> <math>40 + 9 = 49</math></p>
<p><b>TO + TO using base 10.</b> Continue to develop understanding of partitioning and place value.</p> <p><math>36 + 25</math></p>	<p>Children to represent the base 10 in a place value chart.</p>	<p>Looking for ways to make 10.</p> <p><math>36 + 25 =</math></p> <p><math>30 + 20 = 50</math> <math>5 + 5 = 10</math> <math>50 + 10 + 1 = 61</math></p> <p>36</p> <p>Formal method:</p> $\begin{array}{r} +25 \\ 36 \\ \hline 61 \\ 1 \end{array}$



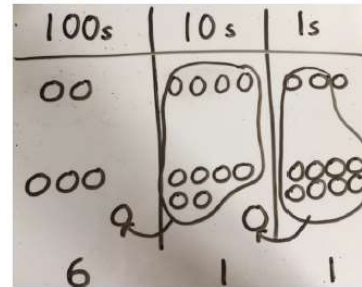
# Spire Junior School

## Calculation Policy: Addition

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.

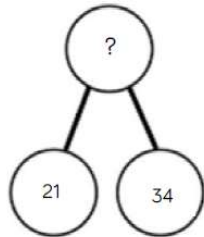


Children to represent the counters in a place value chart, circling when they make an exchange.



$$\begin{array}{r} 243 \\ +368 \\ \hline 611 \\ \hline 11 \end{array}$$

### Conceptual variation; different ways to ask children to solve 21 + 34



?	
21	34

Word problems:

In year 3, there are 21 children and in year 4, there are 34 children. How many children in total?

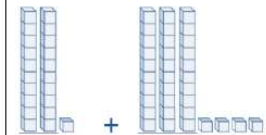
$21 + 34 = 55$ . Prove it

$$\begin{array}{r} 21 \\ +34 \\ \hline \end{array}$$

$21 + 34 =$

$$\boxed{\phantom{00}} = 21 + 34$$

Calculate the sum of twenty-one and thirty-four.



Missing digit problems:

10s	1s
2	1
3	?
?	5