

# Year 1

# Addition

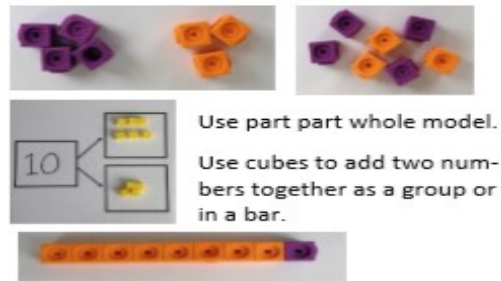
## Objective and Strategy

## Concrete

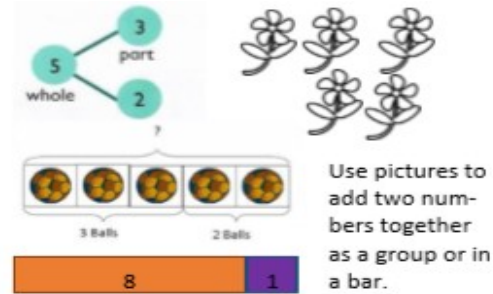
## Pictorial

## Abstract

Combining two parts to make a whole: part- whole model




Use part part whole model.  
Use cubes to add two numbers together as a group or in a bar.



Use pictures to add two numbers together as a group or in a bar.

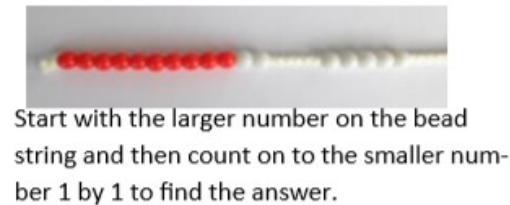
$4 + 3 = 7$



$10 = 6 + 4$

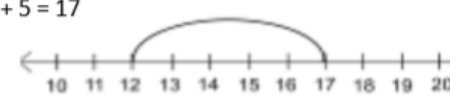
Use the part-part whole diagram as shown above to move into the abstract.

Starting at the bigger number and counting on



Start with the larger number on the bead string and then count on to the smaller number 1 by 1 to find the answer.

$12 + 5 = 17$



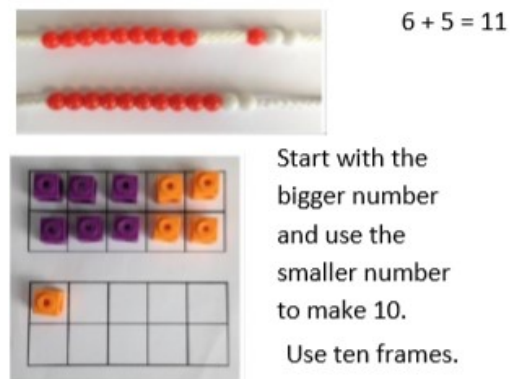
Start at the larger number on the number line and count on in ones or in one jump to find the answer.

$5 + 12 = 17$

Place the larger number in your head and count on the smaller number to find your answer.

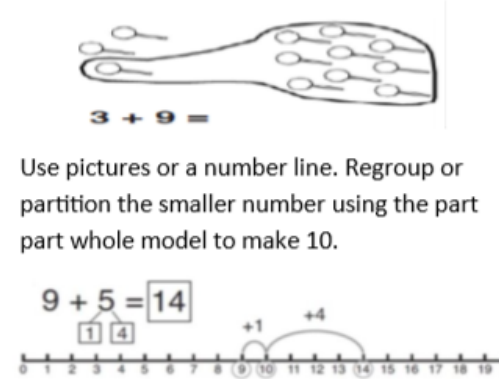
Regrouping to make 10.

This is an essential skill for column addition later.



$6 + 5 = 11$

Start with the bigger number and use the smaller number to make 10.  
Use ten frames.



$3 + 9 =$

Use pictures or a number line. Regroup or partition the smaller number using the part part whole model to make 10.

$9 + 5 = 14$

$7 + 4 = 11$

If I am at seven, how many more do I need to make 10. How many more do I add on now?

Represent & use number bonds and related subtraction facts within 20



2 more than 5.



$5 + 2 =$

Draw 2 more birds

Emphasis should be on the language  
'1 more than 5 is equal to 6.'  
'2 more than 5 is 7.'  
'8 is 3 more than 5.'

# Year 2

# Addition

## Objective and Strategy

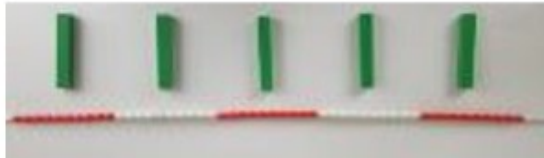
### Concrete

### Pictorial

### Abstract

Adding multiples of ten

$$50 = 30 + 20$$



Model using dienes and bead strings



$$3 \text{ tens} + 5 \text{ tens} = \text{---} \text{ tens}$$

$$30 + 50 = \text{---}$$

Use representations for base ten.

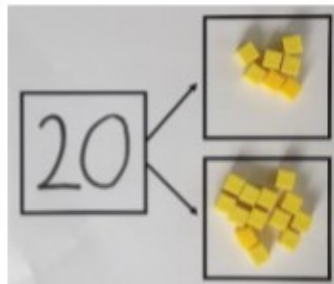
$$20 + 30 = 50$$

$$70 = 50 + 20$$

$$40 + \square = 60$$

Use known number facts

Part part whole



Children explore ways of making numbers within 20

$$\begin{array}{l} \square + \square = 20 \\ \square + \square = 20 \end{array} \quad \begin{array}{l} 20 - \square = \square \\ 20 - \square = \square \end{array}$$

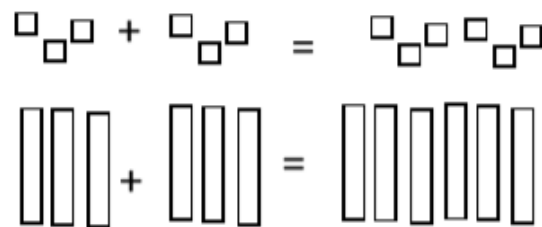
$$\square + 1 = 16$$

$$16 - 1 = \square$$

$$1 + \square = 16$$

$$16 - \square = 1$$

Using known facts



Children draw representations of H,T and O

$$3 + 4 = 7$$

Leads to...

$$30 + 40 = 70$$

Leads to...

$$300 + 400 = 700$$

Bar model



$$3 + 4 = 7$$



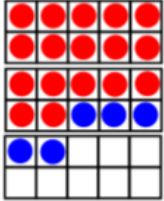
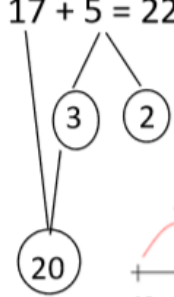
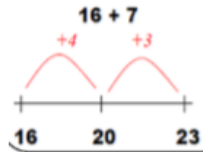
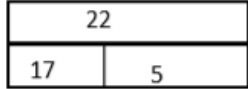

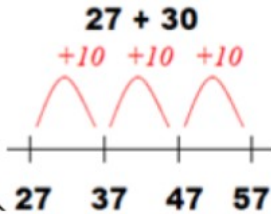

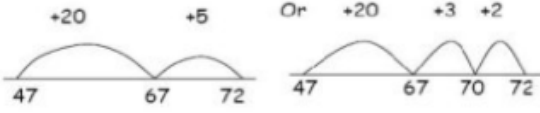
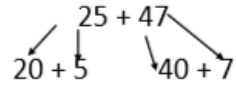

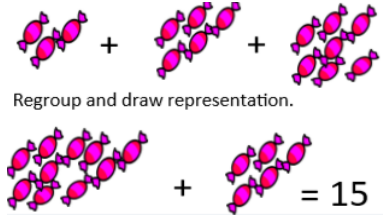
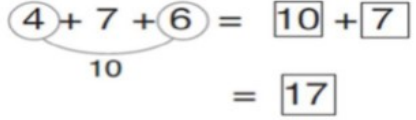
$$7 + 3 = 10$$

23	25
?	

$$23 + 25 = 48$$

# Year 2

# Addition continued

Objective and Strategy	Concrete	Pictorial	Abstract
<p>Add a two digit number and ones</p>	 <p><math>17 + 5 = 22</math></p> <p>Use ten frame to make 'magic ten'</p> <p>Children explore the pattern.</p> <p><math>17 + 5 = 22</math></p> <p><math>27 + 5 = 32</math></p>	<p>Use part part whole and number line to model.</p>  <p><math>17 + 5 = 22</math></p>  <p><math>16 + 7 = 23</math></p>	<p><math>17 + 5 = 22</math></p> <p>Explore related facts</p> <p><math>17 + 5 = 22</math></p> <p><math>5 + 17 = 22</math></p> <p><math>22 - 17 = 5</math></p> <p><math>22 - 5 = 17</math></p> 
<p>Add a 2 digit number and tens</p>	 <p><math>25 + 10 = 35</math></p> <p>Explore that the ones digit does not change</p>	 <p><math>27 + 30 = 57</math></p>	<p><math>27 + 10 = 37</math></p> <p><math>27 + 20 = 47</math></p> <p><math>27 + \square = 57</math></p>
<p>Add two 2-digit numbers</p>	 <p>Model using dienes , place value counters and numicon</p>	 <p>Use number line and bridge ten using part whole if necessary.</p>	 <p><math>20 + 40 = 60</math></p> <p><math>5 + 7 = 12</math></p> <p><math>60 + 12 = 72</math></p>
<p>Add three 1-digit numbers</p>	 <p>Combine to make 10 first if possible, or bridge 10 then add third digit</p>	 <p>Regroup and draw representation.</p> <p><math>4 + 7 + 6 = 17</math></p>	 <p>Combine the two numbers that make/ bridge ten then add on the third.</p>

# Year 2

# Addition continued

## Objective and Strategy

## Concrete

## Pictorial

## Abstract

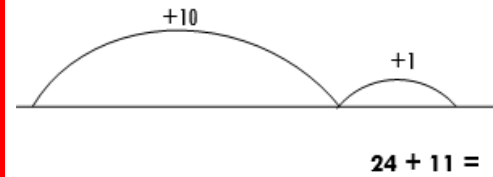
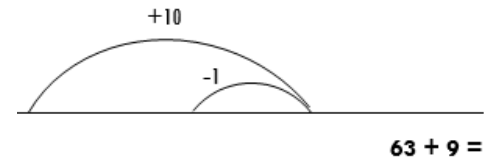
Adjusting  
(adding 9 or 11)

$$16 + 9 = 25$$

To begin:  $16 + 10 = 26$



Then:  $26 - 1 = 25$




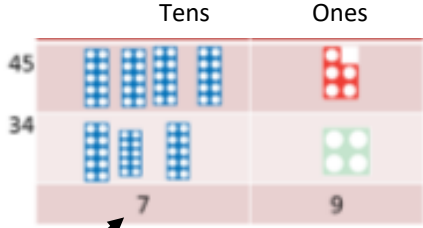
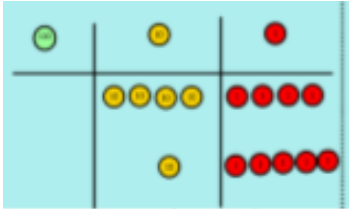
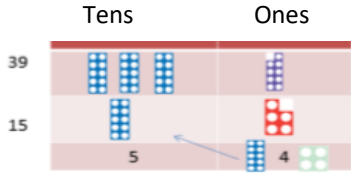
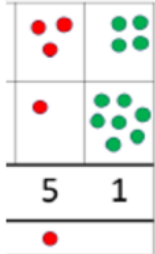
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

$$2 + 10 = \square$$

$$2 + 9 = \square$$

# Year 3

# Addition

Objective and Strategy	Concrete	Pictorial	Abstract
Column Addition—no regrouping (friendly numbers)	 <p>Model using Dienes or Numicon</p> <p>Add together the ones first, then the tens</p>	Children move to drawing their own counters onto a place value grid/frame.	24 + 15 =
Add two or three 2 or 3 digit numbers.	 <p>Tens      Ones</p> <p>45      34</p> <p>7      9</p> <p>Emphasise 7 lots of 10 = 70</p> <p>44 + 15 =</p> 	Children to draw their own grids/frames and counters to show their understanding.	45 + 34 = 79  Remember: Add the ones first, then the tens, then the hundreds.
Column Addition with regrouping.	 <p>Tens      Ones</p> <p>39      15</p> <p>5      4</p> <p>Exchange ten ones for a ten. Model using Numicon and pv counters.</p>	 <p>Children can draw a representation of the grid to further support their understanding, carrying the ten <u>underneath</u> the line</p>	$\begin{array}{r} 27 \\ + 25 \\ \hline 12 \\ 40 \\ \hline 52 \end{array}$ <p><b>Expanded Column Addition</b></p> <p>Add the ones</p> <p>Drop a line</p> <p>Add the tens</p> <p>Write the answer</p>

# Year 4 - 6

# Addition

## Objective and Strategy

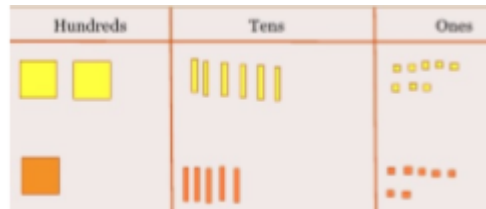
## Concrete

## Pictorial

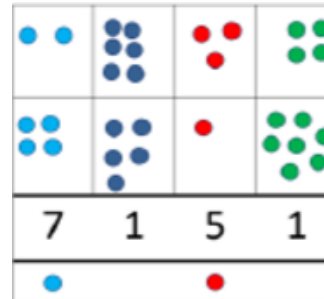
## Abstract

Y4—add numbers with up to 4 digits

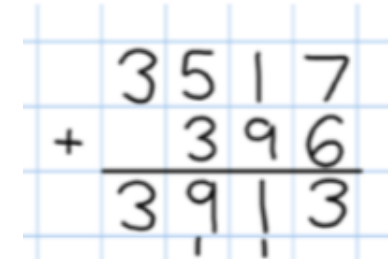
Children continue to use dienes or pv counters to add, exchanging ten ones for a ten and ten tens for a hundred and ten hundreds for a thousand.



Draw representations using pv grid.



Relate to money and measures.

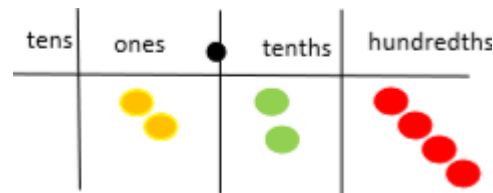


Change to carry underneath 2019/2020

Y5—add numbers with more than 4 digits.

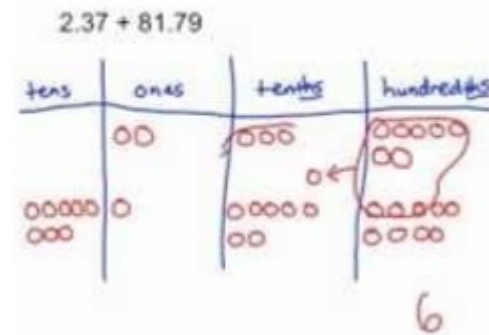
As Year 4

Introduce decimal place value counters and model exchange for addition.

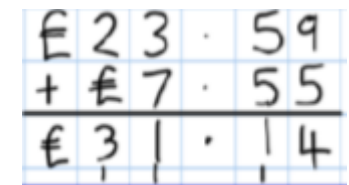


Add decimals with 2 decimal places, including money

Regrouping shown in table



$$\begin{array}{r} 72.8 \\ + 54.6 \\ \hline 127.4 \\ 11 \end{array}$$



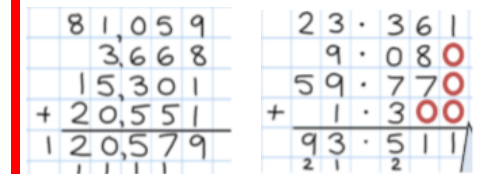
Change to carry underneath 2020/2021

Y6—add several numbers of increasing complexity

As Year 5

Including: adding money, measure and decimals with different numbers of decimal points.

As Year 5



Change to carry underneath 2021/2022