

## Overview of Strategies and Methods – Year 1

### KEY STAGE 1

Children in Years 1 and 2 will be given a really solid foundation in the basic building blocks of mental and written arithmetic. Through being taught place value, children will develop an understanding of how numbers work, so that they are confident with 2-digit numbers and beginning to read and say numbers above 100.

**Addition and Subtraction:** A focus on number bonds, first via practical hands-on experiences and subsequently using memorisation techniques, enables a good grounding in these crucial facts, and ensures that all children leave Year 2 knowing the pairs of numbers which make all the numbers up to 10 at least. Children will also have experienced and been taught pairs to 20. Children's knowledge of number facts enables them to add several 1-digit numbers, and to add/subtract a 1-digit number to/from a 2-digit number. Another important conceptual tool is the ability to add/subtract 1 or 10, and to understand which digit changes and why. This understanding is extended to enable children to add and subtract multiples of 10 to and from any 2-digit number. The most important application of this knowledge is the ability to add or subtract any pair of 2-digit numbers by counting on or back in 10s and 1s. Children may extend this to adding by partitioning numbers into 10s and 1s.

**Multiplication and Division:** Children will be taught to count in 2s, 3s, 5s and 10s, and will relate this skill to repeated addition. Children will meet and begin to learn the associated  $\times 2$ ,  $\times 3$ ,  $\times 5$  and  $\times 10$  tables. Engaging in a practical way with the concept of repeated addition and the use of arrays enables children to develop a preliminary understanding of multiplication, and asking them to consider how many groups of a given number make a total will introduce them to the idea of division. Children will also be taught to double and halve numbers, and will thus experience scaling up or down as a further aspect of multiplication and division.

**Fractions:** Fractions will be introduced as numbers and as operators, specifically in relation to halves, quarters and thirds.


### Using place value

Count in 1s

e.g.  $45 + 1$

Count in 10s

e.g.  $45 + 10$  without counting on in 1s

34	35	36
44		46
54	55	56

Add 10 to any given 2-digit number

### Counting on

Count on in 1s

e.g.  $8 + 3$  as 8, 9, 10, 11

Add, putting the larger number first

Count on in 10s

e.g.  $45 + 20$  as 45, 55, 65

Number bonds ('story' of 5, 6, 7, 8, 9 and 10)

Count on in 1s from a given 2-digit number

Add two 1-digit numbers

Add three 1-digit numbers, spotting doubles or pairs to 10

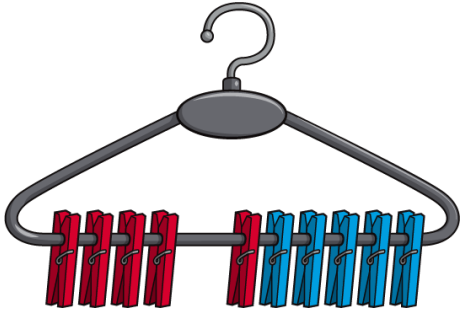
Count on in 10s from any given 2-digit number

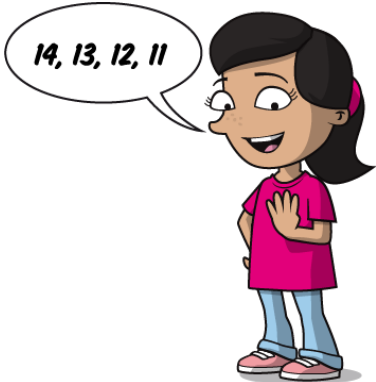
Add 10 to any given 2-digit number

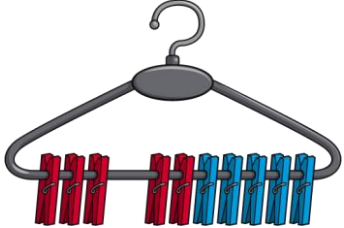
Use number facts to add 1-digit numbers to 2-digit numbers

e.g. Use  $4 + 3$  to work out  $24 + 3$ ,  $34 + 3$

Add by putting the larger number first

	Year 1	Additional information
Mental Addition	<p><b>Using number facts</b></p> <p>'Story' of 4, 5, 6, 7, 8 and 9 e.g. <math>7 = 7 + 0</math>, <math>6 + 1</math>, <math>5 + 2</math>, <math>4 + 3</math></p> <p>Number bonds to 10 e.g. <math>5 + 5</math>, <math>6 + 2</math>, <math>7 + 3</math>, <math>8 + 2</math>, <math>9 + 1</math>, <math>10 + 0</math></p> <div style="text-align: center;">  <p><math>4 + 6 = 10</math></p> </div> <p>Use patterns based on known facts when adding e.g. <math>4 + 3 = 7</math> so we know <math>24 + 3</math>, <math>44 + 3</math>, <math>74 + 3</math></p>	

	Year 1	Additional information
<b>Mental Subtraction</b>	<p><b>Using place value</b> Count back in 1s e.g. <i>Know 53 – 1</i> Count back in 10s e.g. <i>Know 53 – 10 without counting back in 1s</i></p> <p style="text-align: center;"><b>32   33   34</b></p> <p style="text-align: center;"><b>42   43   44</b></p> <p style="text-align: center;"><b>52   53   54</b></p> <p><b>Taking away</b> Count back in 1s e.g. <i>11 – 3 as 11, 10, 9, 8</i> e.g. <i>14 – 3 as 14, 13, 12, 11</i></p> <div style="text-align: center;">  </div> <p>Count back in 10s e.g. <i>53 – 20 as 53, 43, 33</i></p>	<p>Number bonds ('story' of 5, 6, 7, 8, 9 and 10) Count back in 1s from a given 2-digit number Subtract one 1-digit number from another Count back in 10s from any given 2-digit number Subtract 10 from any given 2-digit number Use number facts to subtract 1-digit numbers from 2-digit numbers e.g. <i>Use 7 – 2 to work out 27 – 2, 37 – 2</i></p>

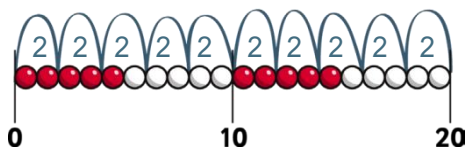
	Year 1	Additional information
<b>Mental Subtraction</b>	<p><b>Using number facts</b>            ‘Story’ of 4, 5, 6, 7, 8 and 9            e.g. ‘Story’ of 7 is <math>7 - 1 = 6</math>, <math>7 - 2 = 5</math>, <math>7 - 3 = 4</math>            Number bonds to 10            e.g. <math>10 - 1 = 9</math>, <math>10 - 2 = 8</math>, <math>10 - 3 = 7</math></p> <div style="text-align: center;">  <p><math>10 - 7 = 3</math></p> </div> <p>Subtract using patterns of known facts            e.g. <math>7 - 3 = 4</math> so we know <math>27 - 3 = 24</math>, <math>47 - 3 = 44</math>, <math>77 - 3 = 74</math></p>	

Year 1


Additional information

Counting in steps ('clever' counting)

Count in 2s



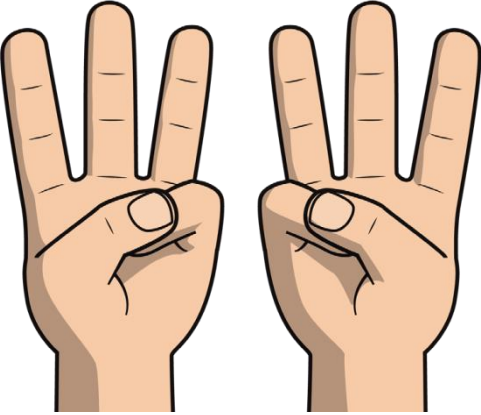
Count in 10s

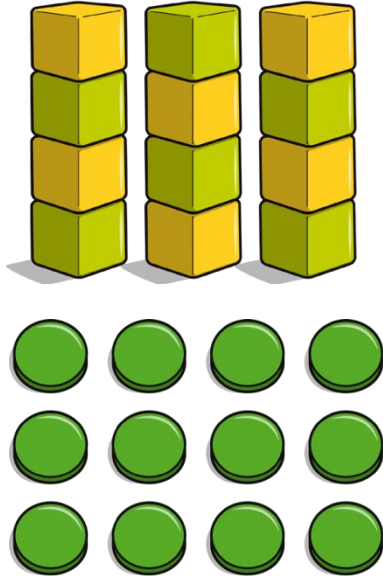
										
1	2	3	4	5	6	7	8	9	10	
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
41	42	43	44	45	46	47	48	49	50	
51	52	53	54	55	56	57	58	59	60	
61	62	63	64	65	66	67	68	69	70	
71	72	73	74	75	76	77	78	79	80	
81	82	83	84	85	86	87	88	89	90	
91	92	93	94	95	96	97	98	99	100	

Begin to count in 2s, 5s and 10s

Begin to say what three 5s are by counting in 5s, or what four 2s are by counting in 2s, etc.

Double numbers to 10

	Year 1	Additional information
Mental Multiplication	<p data-bbox="203 248 546 284"><b>Doubling and halving</b></p> <p data-bbox="203 293 736 328">Find doubles to double 5 using fingers</p> <p data-bbox="219 338 394 373">e.g. <i>double 3</i></p> 	

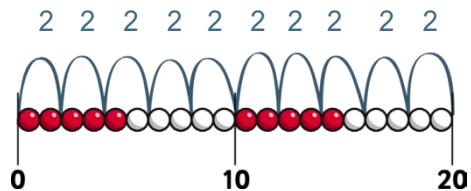
	Year 1	Additional information
Mental Multiplication	<p><b>Grouping</b></p> <p>Begin to use visual and concrete arrays and sets of objects to find the answers to ‘three lots of four’ or ‘two lots of five’</p> <p>e.g. <i>three lots of four</i></p>  <p>The image shows two visual representations of 'three lots of four'. The top representation consists of three vertical stacks of four cubes each. The colors of the cubes in each stack alternate: yellow, green, yellow, green from top to bottom. The bottom representation is a 3x4 grid of 12 green circles, arranged in three rows and four columns.</p>	



Year 1

Counting in steps ('clever' counting)

Count in 2s

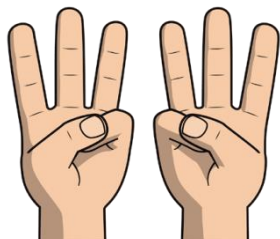


Count in 10s

1	2	3	4	5	6	7	8	9	
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
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Doubling and halving

Find half of even numbers up to 12, including realising that it is hard to halve an odd number



Additional information

Begin to count in 2s, 5s and 10s

Find half of even numbers to 12 and know it is hard to halve odd numbers

Find half of even numbers by sharing

Begin to use visual and concrete arrays or

'sets of' to find how many sets of a small number make a larger number

	Year 1	
<b>Mental Division</b>	<p><b>Grouping</b> Begin to use visual and concrete arrays and ‘sets of’ objects to find the answers to questions such as <i>‘How many towers of three can I make with twelve cubes?’</i></p> <p><b>Sharing</b> Begin to find half of a quantity using sharing e.g. <i>find half of 16 cubes by giving one each repeatedly to two children</i></p>	