

## Number and Place Value

### Selected National Curriculum Programme of Study Statements

Pupils should be taught to:

- count to and across 100, forwards and backwards, beginning with 0 or one, or from any given number
- count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens
- given a number, identify one more and one less

### The Big Ideas

The position a digit is placed in a number determines its value.

The language used to name numbers does not always expose the place value, for example the word 'twelve' does not make it transparent that the value of this number is ten and two. It is important that children develop secure understanding of the value of each digit.

Place value is based on unitising: treating a group of things as one 'unit'. In mathematics, units can be any size, for example units of 1, 2, 5 and 10 are used in money. In place value units of 1, 10 and 100 are used.

### Mastery Check

Please note that the following columns provide indicative examples of the sorts of tasks and questions that provide evidence for mastery and mastery with greater depth of the selected programme of study statements. Pupils may be able to carry out certain procedures and answer questions like the ones outlined, but the teacher will need to check that pupils really understand the idea by asking questions such as 'Why?', 'What happens if ...?', and checking that pupils can use the procedures or skills to solve a variety of problems.

#### Mastery

Compare amounts.

What's the same? What's different?

*Children compare the bead strings and notice:*

*One has 9 beads and the other has 6 beads.*

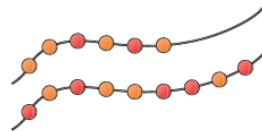
*9 is 3 more than 6.*

*6 is 3 less than 9.*

*Pupils should be able to successfully respond to questions such as:*

- Count forwards from 36, etc.
- Point to the third object in the line.
- Show me 8 cubes.

*Pupils should demonstrate one to one correspondence, cardinality and conservation of number.*



#### Mastery with Greater Depth

I am going to count on from 20. Will I say the number 19? Convince me.

I am going to count on in twos from 3. Will I say an even number? Convince me.

I am going to count backwards from 20. How many steps will it take to reach 0? Convince me.

I am going to count backwards in twos from 20. How many steps will it take to reach 0? Convince me.

### Mastery

Write the numbers in order of size.

15	16	5	71	50
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What is one more than...?

What is one less than...?

Complete:

19		21	22		
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Write 25 in the correct place on the number grid.

8	9	10	11	12	13
14	15	16	17		

Write the numbers missing from these sequences.

11		13	14	15
		33		
		43		

### Mastery with Greater Depth

2	3	4	5	6
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Use two of the digit cards to make a number greater than 50.

Use two of the digit cards to make a number less than 30.

Use two of the digit cards to make an odd/even number.

Use two of the digit cards to make a number between 47 and 59.

What is the smallest 2-digit number you can make?

What is the largest 2-digit number you can make?

Explain your reasoning.

Which number could be the odd one out? Why?

40	71	65
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*Pupils suggest their own reasoned ideas, for example 71 might be the odd one out because it's not a multiple of 5.*

Sam says 40 is the odd one out. What reasons did she give?

*Pupils suggest their own reasoned ideas, for example 40 might be the odd one out because it's not an odd number.*

What's the same? What's different?

45	54
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If Sam places these 5 numbers in order, starting with the smallest number, which number will be in fourth position?

46    64    24    42    50

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smallest

largest

### Mastery

Write the missing number in each box.

19  $\xrightarrow{\text{is 1 less than}}$

33  $\xrightarrow{\text{is 1 less than}}$

54  $\xrightarrow{\text{is 1 less than}}$

59  $\xrightarrow{\text{is 1 less than}}$

Look at the grid. Choose a number and complete the second grid.

		50	
Count in 1s	49	50	51
Count in 10s	40	50	60

		?	
Count in 1s			
Count in 10s			

### Mastery with Greater Depth

Complete:

$\xrightarrow{\text{is 1 less than}}$

$\xrightarrow{\text{is 1 more than}}$

Gemma thought of a number. One more than her number was 18.  
What was her number?

Gemma thought of a number. Ten more than her number was 67.  
What was her number?

Gemma thought of a number. Ten less than her number was 71.  
What was her number?

Mastery	Mastery with Greater Depth																		
<p>Complete:</p> <table><tr><td>5</td><td>10</td><td></td><td></td><td></td><td>30</td></tr></table> <table><tr><td></td><td>4</td><td>6</td><td></td><td></td><td>12</td></tr></table> <table><tr><td></td><td></td><td></td><td>40</td><td>50</td><td>60</td></tr></table>	5	10				30		4	6			12				40	50	60	<p>Alin says, 'If I start at 5 and count in fives I will say the number 100.' Is he correct?</p> <p>Explain your reasoning.</p> <p>Sita says, 'If I start at 17 and count in twos I will say the number 28.' Is she correct?</p> <p>Explain your reasoning.</p>
5	10				30														
	4	6			12														
			40	50	60														