

| <b>Number Bonds</b>                                                       |                                                                                                                                                                                                                               |                                                                                                                                                      |               |                                                                   |                                                                                |
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| <b>Year 1</b>                                                             | <b>Year 2</b>                                                                                                                                                                                                                 | <b>Year 3</b>                                                                                                                                        | <b>Year 4</b> | <b>Year 5</b>                                                     | <b>Year 6</b>                                                                  |
| represent and use number bonds and related subtraction facts within 20    | recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100                                                                                                                      |                                                                                                                                                      |               |                                                                   |                                                                                |
| <b>Mental Calculation</b>                                                 |                                                                                                                                                                                                                               |                                                                                                                                                      |               |                                                                   |                                                                                |
| Add and subtract one-digit and two-digit numbers to 20, including zero    | add and subtract numbers using concrete objects, pictorial representations, and mentally, including:<br>a two-digit number and ones<br>a two-digit number and tens<br>two two-digit numbers<br>adding three one-digit numbers | add and subtract numbers mentally, including:<br>a three-digit number and ones<br>a three-digit number and tens<br>a three-digit number and hundreds |               | add and subtract numbers mentally with increasingly large numbers | perform mental calculations, including with mixed operations and large numbers |
| read, write and interpret mathematical statements involving addition (+), | show that addition of two numbers can be done in any order (commutative) and subtraction of one                                                                                                                               |                                                                                                                                                      |               |                                                                   | use their knowledge of the order of operations to carry out calculations       |

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| subtraction (-) and equals (=) signs                                                                           | number from another cannot                                                                                                                       |                                                                                                                     |                                                                                                                                      |                                                                                                                                    | involving the four operations                                                                                   |
| <b><u>Written methods</u></b>                                                                                  |                                                                                                                                                  |                                                                                                                     |                                                                                                                                      |                                                                                                                                    |                                                                                                                 |
| read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs |                                                                                                                                                  | add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction | add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate | add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) |                                                                                                                 |
| <b><u>Inverse operations, estimating and checking answers</u></b>                                              |                                                                                                                                                  |                                                                                                                     |                                                                                                                                      |                                                                                                                                    |                                                                                                                 |
|                                                                                                                | recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems | estimate the answer to a calculation and use inverse operations to check answers                                    | estimate and use inverse operations to check answers to a calculation                                                                | use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy                       | use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. |

| <b><u>Problem solving</u></b>                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                      |                                                                                                                           |                                                                                                                             |                                                                                                                                                                                                               |
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| <p>solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = * - 9</math></p> | <p>solve problems with addition and subtraction: * using concrete objects and pictorial representations, including those involving numbers, quantities and measures * applying their increasing knowledge of mental and written methods.</p> <p>solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.</p> | <p>solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction</p> | <p>solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why</p> | <p>solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</p> | <p>solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.<br/>Solve problems involving addition, subtraction, multiplication, and division</p> |