

# Skills and Knowledge Progression

## Maths Year 2



|                                 | Year 2  | Greater Depth   |
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| <b>Place Value</b>              | <ol style="list-style-type: none"> <li>1. Count in steps of 2 from 0 forward.</li> <li>2. Count in steps of 3 from 0 forward.</li> <li>3. Count in steps of 5 from 0 forward.</li> <li>4. Count in steps of 10 from any number forward.</li> <li>5. Count in steps of 2 from any multiple of 2 backward.</li> <li>6. Count in steps of 3 from any multiple of 3 backward.</li> <li>7. Count in steps of 5 from any multiple backward.</li> <li>8. Count in steps of 10 from any number backward.</li> <li>9. Recognise the place value of each digit in a two-digit number (tens, ones).</li> <li>10. Identify, represent and estimate numbers using different representations such as:               <ul style="list-style-type: none"> <li>• concrete quantities</li> <li>• pictorial quantities</li> <li>• the number line</li> </ul> </li> <li>11. Compare and order numbers from 0 up to 100 using <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs.</li> <li>12. Compare and order numbers from 0 up to 50 using <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs.</li> <li>13. Read and write numbers to at least 100 using numerals words</li> <li>14. Use place value and number facts to solve problems.</li> </ol> | <p>Demonstrates all elements of ‘Y2 expected’ in a range of contexts and types of problem solving.</p> <ol style="list-style-type: none"> <li>1. <b>Spot the mistake:</b> 45, 40, 35, and 25 what is wrong with this sequence of numbers?</li> <li>2. <b>Do, then explain:</b> 37 13 17 33 3 if you wrote this number sin order starting with the smallest, which number would be third? Explain how you ordered the numbers.</li> <li>3. <b>Do, then explain:</b> show the value of the digit two in these numbers? 32 27 97 Explain how you know</li> <li>4. <b>Make up an example:</b> create numbers where the ones digit is one less than the tens digit. What is the largest /smallest number?</li> </ol> |
| <b>Addition and Subtraction</b> | <ol style="list-style-type: none"> <li>1. Represent and use number bonds and related subtraction facts within 20.</li> <li>2. Solve simple one-step problems with addition</li> <li>3. Solve simple one-step problems with subtraction</li> <li>4. Recall and use addition facts to 20 fluently</li> <li>5. Recall and use subtraction facts to 20 fluently</li> </ol>  | <p>Demonstrates all elements of ‘Y2 expected’ in a range of contexts and types of problem solving.</p> <ol style="list-style-type: none"> <li>1. <b>Continue the pattern:</b> <math>90=100-10</math> <math>80=100-20</math> can you make up a similar pattern starting with the numbers 74, 26 and 100?</li> </ol>  |

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|                                    | <ol style="list-style-type: none"> <li>6. Derive and use related facts to 100</li> <li>7. Add &amp; subtract a two-digit number and ones using a number line</li> <li>8. Add &amp; subtract a two-digit number and ones mentally</li> <li>9. Add &amp; subtract a two-digit number and tens using a number line</li> <li>10. Add &amp; subtract a two-digit number and tens mentally</li> <li>11. Add &amp; subtract a two two-digit numbers using a number line</li> <li>12. Add &amp; subtract a two two-digit numbers mentally</li> <li>13. Add &amp; subtract a three one-digit numbers using a number line</li> <li>14. Add &amp; subtract a three one-digit numbers mentally</li> <li>15. Show that addition of two numbers can be done in any order and subtraction of one number from another cannot</li> <li>16. Use the inverse relationship between + and - and use this to check calculations</li> <li>17. Use the inverse relationship between + and - and use this to check missing number problems</li> </ol> | <ol style="list-style-type: none"> <li>2. <b>Missing numbers:</b> <math>91 + \_ = 100</math>, <math>100 - \_ = 89</math> what number goes in the missing box?</li> <li>3. <b>True or false:</b> are these number sentences true or false? <math>73 + 40 = 113</math>, <math>98 - 18 = 70</math>, <math>46 + 77 = 123</math>, <math>92 - 67 = 35</math><br/>Give your reasons</li> <li>4. <b>Hard and easy questions:</b> which questions are easy/hard? <math>23 + 10 = \_</math>, <math>93 = 10 = \_</math>, <math>54 + 9 = \_</math>, <math>54 + 1 = \_</math>, explain why you think the hard questions are hard.</li> <li>5. <b>Other possibilities:</b> <math>\_ + \_ + \_ = 14</math> what single digit numbers could go in the boxes? How many different ways can you do this?</li> <li>6. <b>Fact Families:</b> which four number sentences link these numbers 100, 67, 33</li> <li>7. <b>What else do you know:</b> if you know this <math>87 = 100 - 13</math> what other facts do you know?</li> <li>8. <b>Missing Symbols:</b> Write the missing symbols ( +, -, = ) in the number sentences <math>80 \_ 20 \_ 100</math>, <math>100 \_ 70 \_ 30</math></li> <li>9. <b>Convince Me:</b> what digits could go in the boxes?</li> <li>10. <b>Making an estimate:</b> Which of these number sentences have the answer that is between 50 and 60<br/><math>74 - 13</math> <math>55 + 17</math> <math>87 - 34</math></li> <li>11. <b>Always, sometimes, never:</b> is it always, sometimes or never true that if you add three numbers less than 10 the answer will be an odd number.</li> </ol> |
| <b>Multiplication and Division</b> | <ol style="list-style-type: none"> <li>1. Recall doubles and halves to 20</li> <li>2. Recall and use x and <math>\div</math> facts for the 2 x tables</li> <li>3. Recall and use x and <math>\div</math> facts for the 5 x tables</li> <li>4. Recall and use x and <math>\div</math> facts for the 10 x tables</li> <li>5. Recognise odd and even numbers</li> <li>6. Calculate mathematical statements within the x tables and use (x), division (<math>\div</math>) and equals (=) signs</li> <li>7. Recognise and use the inverse relationship between multiplication and division in calculations</li> </ol>   | <p>Demonstrates all elements of 'Y2 expected' in a range of contexts and types of problem solving.</p> <ol style="list-style-type: none"> <li>1. <b>Missing numbers:</b> <math>10 - 5 \times \_</math> What number could be written in the box?</li> <li>2. <b>Making Links:</b> I have 30p in my pocket in 5p coins. How many coins do I have?</li> <li>3. <b>Making Links:</b> write the multiplication sentences to describe this array. What do you notice? Write the division sentences.</li> <li>4. <b>Prove it:</b> which four number sentences link these numbers? 3, 5 and 15? Prove it.</li> </ol>  |

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|                  | 8. Show that (x) of two numbers can be done in any order and ( $\div$ ) of one by another cannot<br>9. Solve problems using x and $\div$ using materials in context<br>10. Solve problems using x and $\div$ using arrays in context<br>11. Solve problems using x and $\div$ using repeated + in context<br>12. Solve problems using x and $\div$ using mental methods, x $\div$ facts in context   | 5. <b>True or False?</b> When you count up in tens starting with 5 there will always be 5 ones.<br>6. <b>Use the Inverse:</b> use the inverse to check if the following calculations are correct $12 \div 3 = 4$ , $3 \times 5 = 14$   |
| <b>Fractions</b> | 1. Write simple fractions e.g. $1/2$ of $6 = 3$ and recognise the equivalence of two quarters and one half.<br>2. Recognise, find, name, and write fractions $1/4$ of a length, shape, set of objects or quantity.<br>3. Recognise, find, name, and write fractions $2/4$ of a length, shape, set of objects or quantity.<br>4. Recognise, find, name, and write fractions $1/3$ of a length, shape, set of objects or quantity.<br>5. Recognise, find, name, and write fractions $3/4$ of a length, shape, set of objects or quantity.  | Demonstrates all elements of 'Y2 expected' in a range of contexts and types of problem solving.<br>1. <b>Spot the mistake:</b> 7, $7\frac{1}{2}$ , 8, 9, 10, $8\frac{1}{2}$ , 8, 7, $6\frac{1}{2}$ .... And correct it<br>2. <b>What comes next?</b> $5\frac{1}{2}$ , $6\frac{1}{2}$ , $7\frac{1}{2}$ , .....,<br>3. <b>What do you notice?</b> $1/4$ of 4 =1; $1/4$ of 8 =2; $1/4$ of 12 =3 continue the pattern. What do you notice?<br>4. <b>True or false:</b> half of 20cm = 5cm, $3/4$ of 12cm = 9cm<br>5. <b>Odd one out?</b> Which is the odd one out in this trio and why $2/4$ $1/4$ $1/2$ |
| <b>Geometry</b>  | 1. Identify and describe the properties of 2-D shapes using the number of sides and symmetry in a vertical line.<br>2. Identify and describe the properties of 3-D shapes, incl. Number of edges, vertices, faces.<br>3. Identify 2-D shapes on the surface of 3-D shapes, e.g. circle on a cylinder, triangle on a pyramid.<br>4. Compare and sort common 2-D and 3-D shapes and everyday objects.<br>5. Order and arrange combinations of mathematical objects in patterns.<br>6. Use mathematical vocabulary to describe position, direction and movement: <ul style="list-style-type: none"> <li>• Distinguish between rotation as a turn and in terms of right angles for quarter</li> <li>• Half and three-quarter turns</li> <li>• Clockwise and anti-clockwise</li> <li>• Movement in a straight line</li> </ul> | Demonstrates all elements of 'Y2 expected' in a range of contexts and types of problem solving.<br><br>1. <b>What is the same, what's different?</b> Find a cube and a cylinder in this set of shapes. Tell me one thing that's the same and one thing that is different about them<br>2. <b>Visualising:</b> put some shapes in a bag find me a shape that has more than 3 edges<br>3. <b>True or False:</b> All 3-D shapes have at least 4 sides<br>4. <b>Other possibilities:</b> can you find shapes that can go with the set with this label?   |

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| <b>Measurement</b> | <ol style="list-style-type: none"> <li>1. Choose and use appropriate equipment and standard units to estimate and measure to the nearest unit of: <ul style="list-style-type: none"> <li>• length/height in any direction (m/cm)</li> <li>• mass (kg/g)</li> <li>• Temperature (°c)</li> <li>• capacity (litres/ml)</li> </ul> </li> <li>2. compare, order and record the results using &gt;, &lt; and = for: <ul style="list-style-type: none"> <li>• Length</li> <li>• Mass</li> <li>• Volume/capacity</li> </ul> </li> <li>3. read relevant scales to the nearest numbered unit</li> <li>4. Recognise and use symbols for pounds (£)</li> <li>5. Recognise and use symbols for pence (p)</li> <li>6. Combine amounts for (£) and (p) to make a particular value</li> <li>7. Find different combinations of coins to equal the same amounts of money</li> <li>8 Solve simple problems in a practical context involving addition and subtraction involving money of the same unit.</li> <li>9. Solve money problems involving giving change</li> <li>10. Compare and sequence intervals of time</li> <li>11. Tell the time accurate to 5 minutes/ half past the hour/ quarter past the hour/ quarter to the hour</li> <li>12. Write the time to 5 minutes/ half past the hour/ quarter past the hour/ quarter to the hour</li> <li>13. Draw the hands on a clock face to show time to 5minutes/ half past the hour/ quarter past the hour/ quarter to the hour</li> <li>14. Know the number of minutes in an hour and the number of hours in a day</li> </ol> | <p>Demonstrates all elements of ‘Y2 expected’ in a range of contexts and types of problem solving.</p> <ol style="list-style-type: none"> <li>1. <b>Top Tips:</b> Put these measurements in order starting with the smallest. 75grams, 85grmas, 100grams. Explain your thinking.</li> <li>2. <b>Position the symbols:</b> place the correct symbol between the measurements &lt; or &gt; 36cm _63cm; 130ml_103ml. explain your thinking.</li> <li>3. <b>Undoing:</b> The film finishes two hours after it starts. It finishes at 4.30. What rime it did start? Draw the clock at the start and finish of the film.</li> <li>4. <b>Explain thinking:</b> The time is 3.15pm. Kate says that in two hours she will be at her football game, which starts at 4.15. Is Kate right? Explain why.</li> <li>5. <b>Application:</b> (practical) Draw two lengths that differ by 4cm.</li> <li>6. <b>Possibilities:</b> How many different ways can you make 63p using only 20p, 10p and 1p coins?</li> <li>7. <b>Working Backwards: Draw hands on the clock faces to show when break started and and when it finished 15 minutes later at 10.25.</b></li> <li>8. <b>The answer is .....3hours what is the question?</b></li> </ol> |

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| <p><b>Statistics</b></p> | <ol style="list-style-type: none"> <li>1. Interpret and construct simple pictograms, tally charts, block diagrams and simple tables</li> <li>2. Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity</li> <li>3. Ask and answer questions about totalling and comparing categorical data</li> </ol> | <p>Demonstrates all elements of ‘Y2 expected’ in a range of contexts and types of problem solving.</p> <ol style="list-style-type: none"> <li>1. <b>True or false</b> looking at tally charts</li> <li>2. <b>Convince me</b></li> <li>3. <b>what’s the same what’s different</b> pupils identify similarities and differences between pictograms</li> <li>4. <b>Create a question</b> pupils ask questions about different representations</li> </ol> |
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