

## Maths Calculation Policy

At Bowlsh Infant School, we follow the **White Rose Maths** scheme to provide a consistent, progressive, and mastery-based approach to teaching mathematics. Our **Calculation Policy** supports this by clearly outlining the key methods and strategies children use as they build their understanding of number and calculation.

The policy is divided into four main sections: **addition, subtraction, multiplication, and division**. Each section begins with an overview of skill progression, showing how children's understanding develops over time. This includes steps involving **decimal numbers and fractions**, where appropriate.

We are committed to developing a **mastery approach** to maths, where all children are encouraged to develop a deep, secure, and adaptable understanding of mathematical concepts. Mastery means spending time becoming fluent in each area before moving on, allowing children to reason confidently and apply their knowledge in different contexts.

We use the **concrete, pictorial, abstract (CPA)** approach throughout our teaching. This helps children move from hands-on experiences to visual models and then to more abstract representations with confidence. Sentence stems and key questions are included to support children's reasoning and use of mathematical language alongside the key representations.

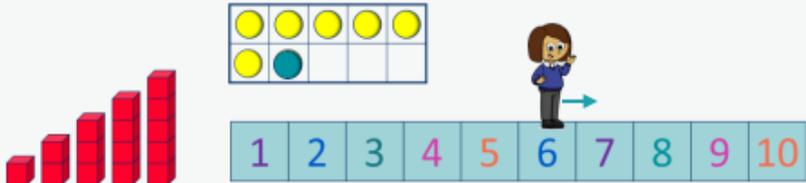
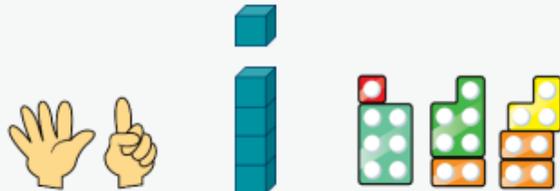
Our aim is to ensure that all children develop a **deep and lasting understanding of calculation**, equipping them with the skills and confidence they need for the next stage in their mathematical learning.

# Progression of skills - Addition

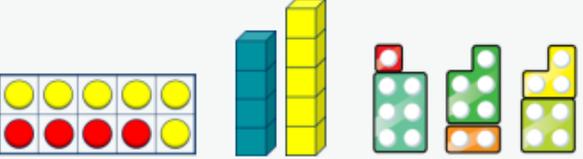
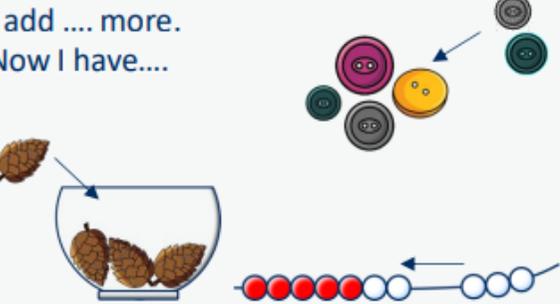
| Year group | Skill                                                                                                                                                                                             |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reception  | <ul style="list-style-type: none"><li>• Conceptually subitise to 5</li><li>• 1 more</li><li>• Notice the composition of numbers within 10</li><li>• Combine 2 groups</li><li>• Add more</li></ul> |
| Year 1     | <ul style="list-style-type: none"><li>• Add together</li><li>• Add more</li><li>• Bonds within 10</li><li>• Related facts within 20</li><li>• Missing numbers</li></ul>                           |

| Year group | Skill                                                                                                                                                                                                                                                                                                                                              |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Year 2     | <ul style="list-style-type: none"><li>• Add 1s to any number (related facts)</li><li>• Add three 1-digit numbers</li><li>• Add across a 10</li><li>• Add multiples of 10</li><li>• Add 10s to any number</li><li>• Add two 2-digit numbers (not across a ten)</li><li>• Add two 2-digit numbers (across a ten)</li><li>• Missing numbers</li></ul> |

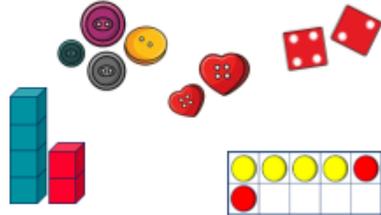
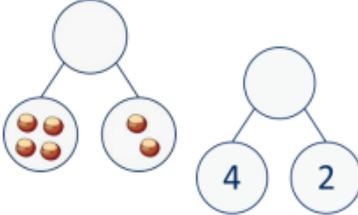
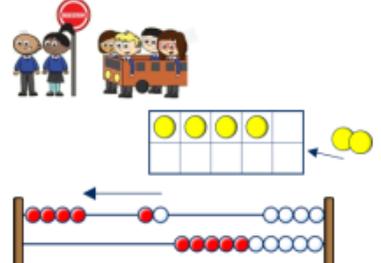
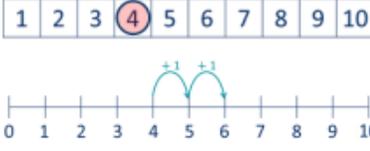
# Addition

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| <p><b>Reception</b></p>                                                                             | <ul style="list-style-type: none"> <li>• Have a deep understanding of numbers to 10, including the composition of each number.</li> <li>• Subitise (recognise quantities without counting) up to 5</li> <li>• Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 and some number bonds to 10, including double facts.</li> </ul> |                                                                                                                             |
| <p><b>Progression of skills</b></p>                                                                 | <p><b>Key representations</b></p>                                                                                                                                                                                                                                                                                                                                             |                                                                                                                             |
| <p><b>Conceptually subitise to 5</b></p> <p>Notice the parts that make up the whole.</p>            | <p>What do you see?<br/>How do you see it?</p>                                                                                                                                                                                                                                              |                                                                                                                             |
| <p><b>1 more</b></p> <p>Continue to link to stories, songs and rhymes.</p>                          | <p>1 more than ... is ...</p>                                                                                                                                                                                                                                                              |                                                                                                                             |
| <p><b>Notice the composition of numbers within 10</b></p> <p>Link to stories, songs and rhymes.</p> | <p>How many...?<br/>How many...?<br/>How many altogether?</p>                                                                                                                                                                                                                             | <p>How many ways can you make...?</p>  |

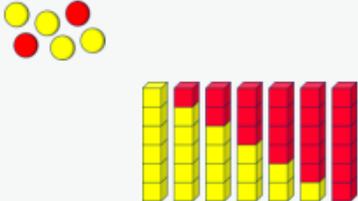
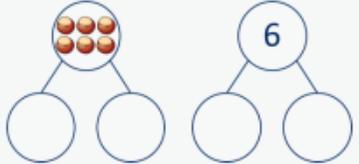
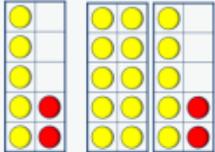
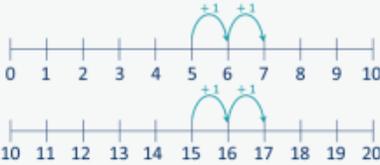
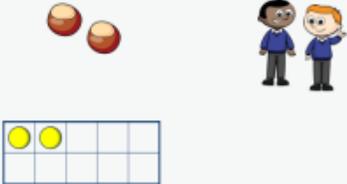
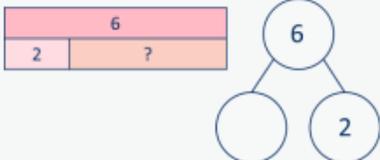
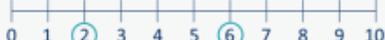
# Addition

| Progression of skills                                                          | Key representations                                                                                                                                        |                                                                                                                                                 |
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| <p><b>Combine 2 groups</b></p> <p>2 groups are combined to find the total.</p> | <p>There are ....<br/>There are ....<br/>There are .... altogether.</p>  | <p>.... and .... make ....</p>                               |
| <p><b>Add more</b></p> <p>A quantity is increased.</p>                         | <p>First... Then.... Now....</p>                                        | <p>I have ....<br/>I add .... more.<br/>Now I have....</p>  |

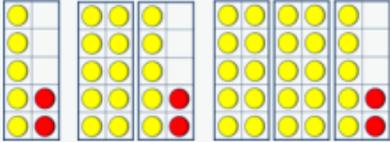
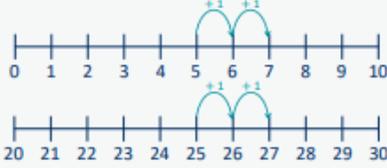
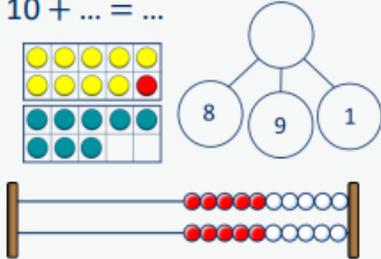
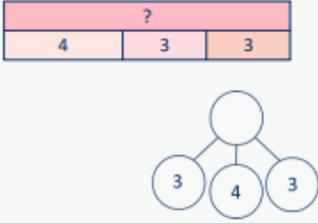
# Addition

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| <p><b>Year 1</b></p>                                                                             | <ul style="list-style-type: none"> <li>• Read, write and interpret mathematical statements involving addition (+) and equals (=) signs.</li> <li>• Represent and use number bonds within 20</li> <li>• Add 1-digit and 2-digit numbers to 20, including zero.</li> <li>• Solve one-step problems that involve addition, using concrete objects and pictorial representations, and missing number problems such as <math>7 = \square + 2</math></li> </ul> |                                                                                                                                                    |                                                                                                                   |
| <p><b>Progression of skills</b></p>                                                              | <p><b>Key representations</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                    |                                                                                                                   |
| <p><b>Add together</b><br/>(aggregation)</p> <p>2 quantities are combined to find the total.</p> | <p>There are ...<br/>There are ...<br/>There are ... altogether.</p>                                                                                                                                                                                                                                                                                                    | <p>... is a part.<br/>... is a part.<br/>... is the whole.</p>  | <p>... plus ... is equal to ...<br/>... is equal to ... + ...</p> $4 + 2 = 6$ $2 + 4 = 6$ $6 = 4 + 2$ $6 = 2 + 4$ |
| <p><b>Add more</b><br/>(augmentation)</p> <p>A quantity is increased.</p>                        | <p>First... Then... Now...</p>                                                                                                                                                                                                                                                                                                                                         | <p>I start at ...<br/>I jump on ...<br/>I land on ...</p>     | <p>... plus ... is equal to ...<br/>... is equal to ... + ...</p> $4 + 2 = 6$ $2 + 4 = 6$ $6 = 4 + 2$ $6 = 2 + 4$ |

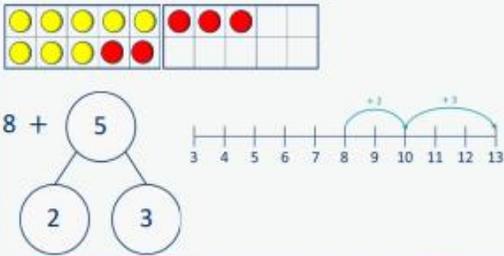
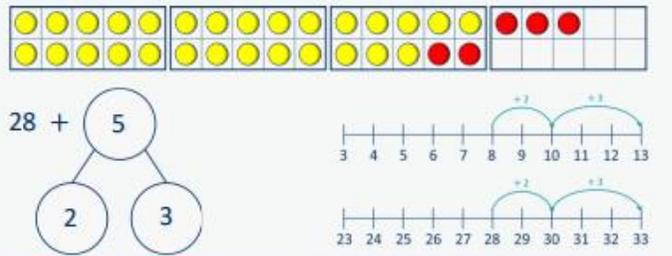
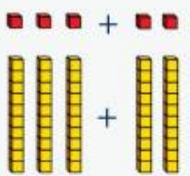
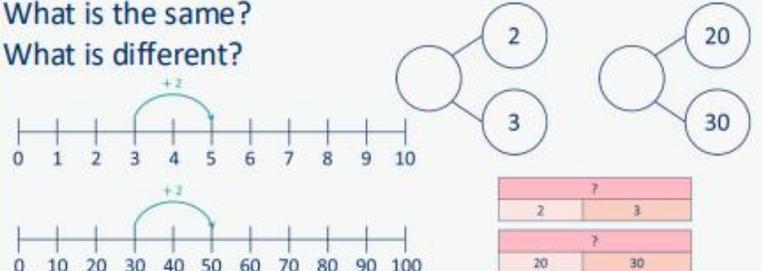
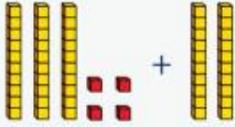
# Addition

| Progression of skills                                                                                                      | Key representations                                                                                                                              |                                                                                                                                                               |                                                                                                                                                               |
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| <p><b>Bonds within 10</b></p> <p>Include bonds for each number within 10</p> <p>Encourage children to notice patterns.</p> | <p>... is made of ... and ...<br/>... and ... make ...</p>     | <p>... can be partitioned into ... and ...</p>                             | <p>... plus ... is equal to ...</p> $6 + 0 = 6$ $5 + 1 = 6$ $4 + 2 = 6$ $3 + 3 = 6$ $2 + 4 = 6$ $1 + 5 = 6$ $0 + 6 = 6$                                       |
| <p><b>Related facts within 20</b></p> <p>Make links to known facts.</p>                                                    | <p>I know that ... and ... = ...<br/>so ... and ... = ...</p>  | <p>... more than ... is ...<br/>so ... more than ... is ...</p>           | <p>What patterns do you notice?</p> $5 + 2 = 7$ $15 + 2 = 17$ $7 = 5 + 2$ $17 = 15 + 2$                                                                       |
| <p><b>Missing numbers</b></p> <p>Make links to known facts.</p>                                                            | <p>How many more do you need to make ...?</p>                | <p>If ... is the whole and ... is a part, the other part must be...</p>  | <p>... plus ... is equal to ...</p> $2 + \square = 6$ $6 = 2 + \square$  |

# Addition

|                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                     |                                                                                                                                                                      |
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| <p><b>Year 2</b></p>                                                                                                                                  | <ul style="list-style-type: none"> <li>Recall and use addition facts to 20 fluently, and derive and use related facts up to 100</li> <li>Add numbers using concrete objects, pictorial representations, and mentally, including:               <ul style="list-style-type: none"> <li>a two-digit number and 1s</li> <li>a two-digit number and 10s</li> <li>2 two-digit numbers</li> <li>adding 3 one-digit numbers</li> </ul> </li> <li>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</li> </ul> |                                                                                                                                                     |                                                                                                                                                                      |
| <p><b>Progression of skills</b></p>                                                                                                                   | <p><b>Key representations</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                     |                                                                                                                                                                      |
| <p><b>Add ones to any number</b><br/>(related facts)</p> <p>Make links to known facts.</p>                                                            | <p>I know that ... and ... = ...<br/>so ... and ... = ...</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>... more than ... is ...<br/>so ... more than ... is ...</p>  | <p>What do you notice?<br/>Can you continue the pattern?</p> <p><math>5 + 2 = 7</math><br/><math>15 + 2 = 17</math><br/><math>25 + 2 = 27...</math></p>              |
| <p><b>Add three 1-digit numbers</b></p> <p>Prompt children to understand that addition can be done in any order and to make links to known facts.</p> | <p>... and ... are a bond to 10<br/><math>10 + ... = ...</math></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>Double ... + ... = ...</p>                                  | <p>What do you notice?<br/>Which addition is the easiest to calculate?</p> <p><math>8 + 9 + 1 =</math><br/><math>8 + 1 + 9 =</math><br/><math>9 + 1 + 8 =</math></p> |

# Addition

| Progression of skills                                                                     | Key representations                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |    |    |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                |
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| <p><b>Add across a 10</b></p> <p>Partition the number being added to make a full ten.</p> | <p>... can be partitioned into ... and ...</p>                                                             | <p>I add ... to get to ... then I add ...</p> $8 + 5 = 13$<br>$28 + 5 = 33$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |    |    |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                |
| <p><b>Add multiples of 10</b></p> <p>Make links to known facts within ten.</p>            | <p>... ones + ... ones = ... ones<br/>so ... tens + ... tens = ... tens</p>  $3 + 2 = 5$<br>$30 + 20 = 50$ | <p>What is the same?<br/>What is different?</p>  <table border="1"> <tr><td>?</td></tr> <tr><td>2</td><td>3</td></tr> </table> <table border="1"> <tr><td>?</td></tr> <tr><td>20</td><td>30</td></tr> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    | ?  | 2  | 3  | ?  | 20 | 30 |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                |
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| 20                                                                                        | 30                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |    |    |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                |
| <p><b>Add 10s to any number</b></p> <p>Make links to known facts.</p>                     | <p>... tens + ... tens = ... tens<br/>... tens and ... ones = ...</p>                                     | <p>To add ... I need to add 10 ... times.</p> <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> <tr><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td></tr> <tr><td>41</td><td>42</td><td>43</td><td>44</td><td>45</td><td>46</td><td>47</td><td>48</td><td>49</td><td>50</td></tr> <tr><td>51</td><td>52</td><td>53</td><td>54</td><td>55</td><td>56</td><td>57</td><td>58</td><td>59</td><td>60</td></tr> </table> | 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 | <p>I know that ... and ... = ...<br/>so ... and ... = ...</p> $30 + 20 = 50$<br>$34 + 20 = 54$ |
| 1                                                                                         | 2                                                                                                                                                                                            | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 4  | 5  | 6  | 7  | 8  | 9  | 10 |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                |
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| 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 |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                |

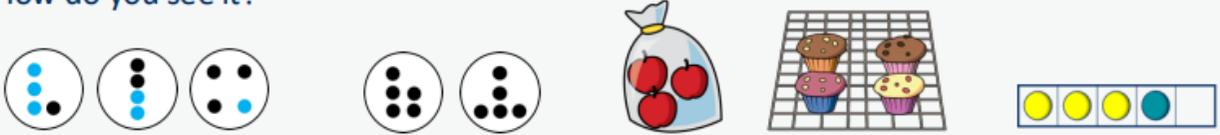
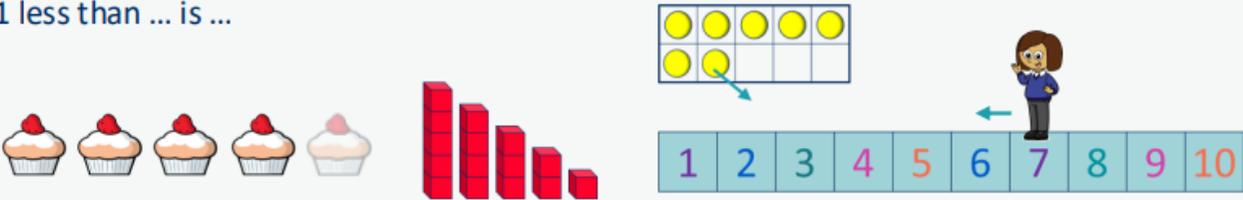
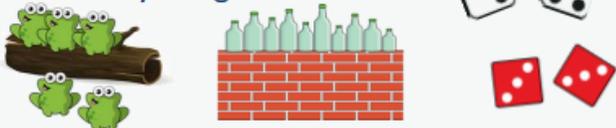
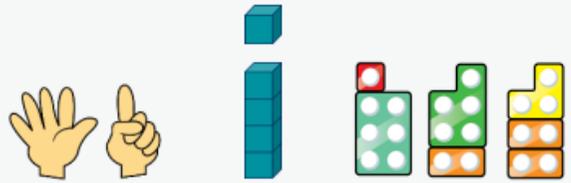
# Addition

| Progression of skills                                                                                                                       | Key representations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---|----------|--|----------|-----|----------|--|----------|--|---|--|----|----|
| <p><b>Add 2-digit numbers</b><br/>(not across a ten)</p> <p>Lining up ones and tens in columns will support with later written methods.</p> | <p>... ones + ... ones = ... ones<br/>... tens + ... tens = ... tens</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><th style="background-color: #fff9c4;">Tens</th><th style="background-color: #ffe0b2;">Ones</th></tr> <tr><td>████████</td><td>■ ■ ■</td></tr> <tr><td>████████</td><td>■ ■ ■</td></tr> <tr><td>████████</td><td>■</td></tr> <tr><td>████████</td><td></td></tr> </table> <div style="text-align: center;"> <p>43    21</p> </div> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><th colspan="2" style="background-color: #ffe0b2;">?</th></tr> <tr><td style="background-color: #ffe0b2;">43</td><td style="background-color: #ffe0b2;">21</td></tr> </table> </div> <p style="text-align: right;">           3 ones + 1 one = 4 ones<br/>           4 tens + 2 tens = 6 tens<br/>           6 tens + 4 ones = 64         </p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |   | Tens                                                                                                                                                                                                                                                                                                  | Ones                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ████████  | ■ ■ ■     | ████████  | ■ ■ ■     | ████████  | ■         | ████████ |   | ?        |  | 43       | 21  |          |  |          |  |   |  |    |    |
| Tens                                                                                                                                        | Ones                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| ████████                                                                                                                                    | ■ ■ ■                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| ████████                                                                                                                                    | ■ ■ ■                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| ████████                                                                                                                                    | ■                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| ████████                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| ?                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| 43                                                                                                                                          | 21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| <p><b>Add 2-digit numbers</b><br/>(across a ten)</p> <p>Begin to exchange 10 ones for 1 ten.</p>                                            | <p>There are ... ones, so I do/do not need to make an exchange.</p> <p>... ones = ... ten and ... ones</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><th style="background-color: #fff9c4;">T</th><th style="background-color: #ffe0b2;">O</th></tr> <tr><td>████████</td><td>■ ■ ■ ■ ■</td></tr> <tr><td>████████</td><td>■ ■ ■ ■ ■</td></tr> <tr><td>████████</td><td>■ ■ ■</td></tr> </table> <span style="font-size: 2em;">→</span> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><th style="background-color: #fff9c4;">T</th><th style="background-color: #ffe0b2;">O</th></tr> <tr><td>████████</td><td></td></tr> <tr><td>████████</td><td>■ ■</td></tr> <tr><td>████████</td><td></td></tr> <tr><td>████████</td><td></td></tr> </table> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><th colspan="2" style="background-color: #ffe0b2;">?</th></tr> <tr><td style="background-color: #ffe0b2;">45</td><td style="background-color: #ffe0b2;">37</td></tr> </table> <div style="text-align: center;"> <p>45    37</p> </div> </div> <p style="text-align: right;">           5 ones + 7 ones = 12 ones<br/>           12 ones = 1 ten and 2 ones<br/>           4 tens + 3 tens + 1 ten = 8 tens<br/>           8 tens and 2 ones = 82         </p> |           |   | T                                                                                                                                                                                                                                                                                                     | O                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ████████  | ■ ■ ■ ■ ■ | ████████  | ■ ■ ■ ■ ■ | ████████  | ■ ■ ■     | T        | O | ████████ |  | ████████ | ■ ■ | ████████ |  | ████████ |  | ? |  | 45 | 37 |
| T                                                                                                                                           | O                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| ████████                                                                                                                                    | ■ ■ ■ ■ ■                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| ████████                                                                                                                                    | ■ ■ ■ ■ ■                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| ████████                                                                                                                                    | ■ ■ ■                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| T                                                                                                                                           | O                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| ████████                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| ████████                                                                                                                                    | ■ ■                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| ████████                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| ████████                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| ?                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| 45                                                                                                                                          | 37                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
| <p><b>Missing numbers</b></p> <p>Solve missing number problems and use the inverse to check.</p>                                            | <p>How many more do you need to make ...?</p> <div style="display: flex; align-items: center;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td>■ ■ ■ ■ ■</td></tr> <tr><td>■</td></tr> </table> <div style="margin-left: 20px;"> <math>6 + \square = 10</math><br/> <math>10 - \square = 6</math> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ■ ■ ■ ■ ■ | ■ | <p>If ... is a whole and ... is a part, then ... is the other part.</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <math>\square + 3 = 7</math><br/> <math>7 - 3 = \square</math> </div> <div style="text-align: center;"> <p>7<br/>3    ○</p> </div> </div> | <p>... can be partitioned into ... and ...</p> <p style="text-align: center;"><math>10 + 8 = 12 + \square</math></p> <div style="display: flex; justify-content: space-around;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td>■ ■ ■ ■ ■</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td>■ ■ ■ ■ ■</td></tr> <tr><td>■ ■ ■ ■ ■</td></tr> <tr><td>■ ■</td></tr> <tr><td></td></tr> </table> </div> | ■ ■ ■ ■ ■ | ■ ■ ■ ■ ■ | ■ ■ ■ ■ ■ | ■ ■ ■ ■ ■ | ■ ■ ■ ■ ■ | ■ ■ ■ ■ ■ | ■ ■      |   |          |  |          |     |          |  |          |  |   |  |    |    |
| ■ ■ ■ ■ ■                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
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| ■ ■ ■ ■ ■                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |   |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |           |           |           |           |           |          |   |          |  |          |     |          |  |          |  |   |  |    |    |
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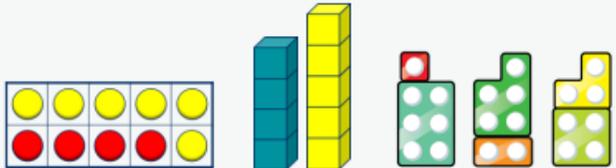
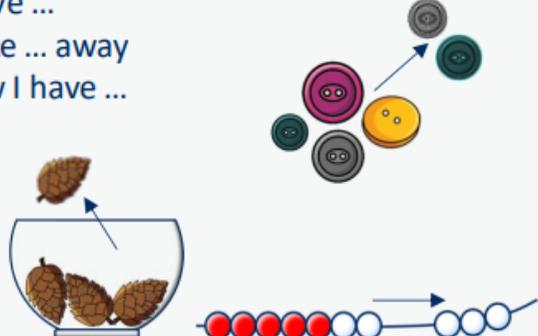
# Progression of skills - Subtraction

| Year group | Skill                                                                                                                                                                                                                                                                                                                                            |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reception  | <ul style="list-style-type: none"><li>• Conceptually subitise to 5</li><li>• 1 less</li><li>• Notice the composition of numbers within 10</li><li>• Partition</li><li>• Take away</li></ul>                                                                                                                                                      |
| Year 1     | <ul style="list-style-type: none"><li>• Find a part</li><li>• Take away</li><li>• Bonds within 10</li><li>• Related facts within 20</li><li>• Missing numbers</li></ul>                                                                                                                                                                          |
| Year 2     | <ul style="list-style-type: none"><li>• Subtract 1s from any number (related facts)</li><li>• Subtract across a 10</li><li>• Subtract multiples of 10</li><li>• Subtract 10s from any number</li><li>• Subtract two 2-digit numbers (not across a ten)</li><li>• Subtract two 2-digit numbers (across a ten)</li><li>• Missing numbers</li></ul> |

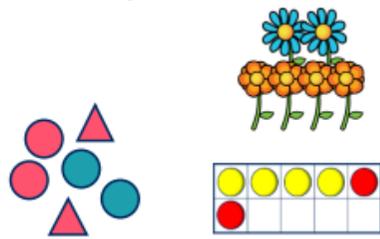
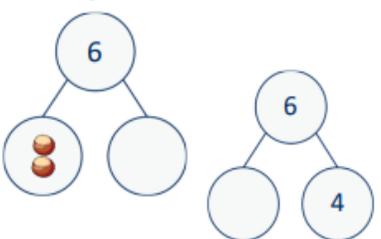
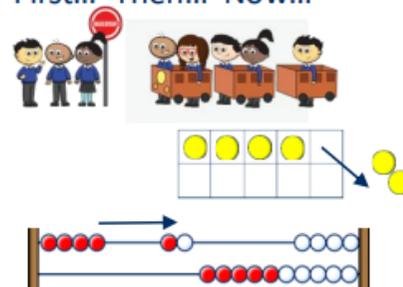
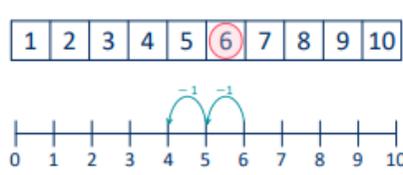
# Subtraction

|                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                             |
|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <p><b>Reception</b></p>                                                                             | <ul style="list-style-type: none"> <li>• Have a deep understanding of number to 10, including the composition of each number.</li> <li>• Subitise (recognise quantities without counting) up to 5</li> <li>• Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (and some subtraction facts) and some number bonds to 10, including double facts.</li> </ul> |                                                                                                                             |
| <p><b>Progression of skills</b></p>                                                                 | <p><b>Key representations</b></p>                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                             |
| <p><b>Conceptually subitise to 5</b></p> <p>Notice the parts that make up the whole.</p>            | <p>What do you see?<br/>How do you see it?</p>                                                                                                                                                                                                                                                                          |                                                                                                                             |
| <p><b>1 less</b></p> <p>Continue to link to stories, songs and rhymes.</p>                          | <p>1 less than ... is ...</p>                                                                                                                                                                                                                                                                                          |                                                                                                                             |
| <p><b>Notice the composition of numbers within 10</b></p> <p>Link to stories, songs and rhymes.</p> | <p>How many...?<br/>How many...?<br/>How many altogether?</p>                                                                                                                                                                                                                                                         | <p>How many ways can you make...?</p>  |

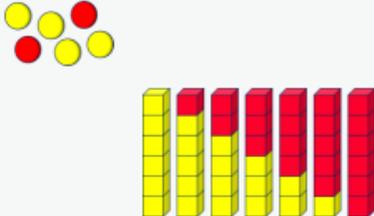
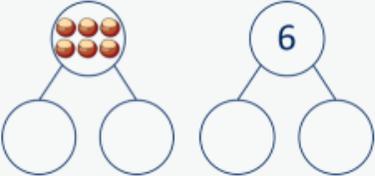
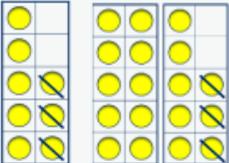
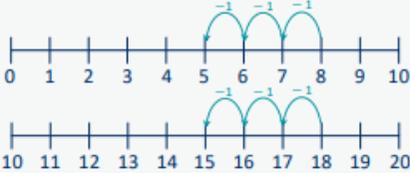
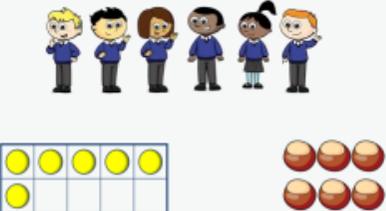
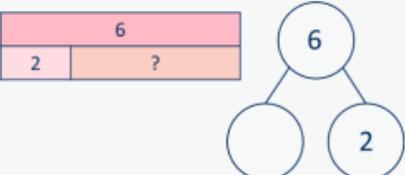
# Subtraction

| Progression of skills                                                                                            | Key representations                                                                                                                                       |                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Partition</b></p> <p>Using objects, explore different ways to partition a number into 2 or more parts.</p> | <p>There are ... altogether.<br/>I can see ... here and ... there.</p>  | <p>... and ... make ...</p>                                |
| <p><b>Take away</b></p> <p>A quantity is reduced.</p>                                                            | <p>First... Then... Now...</p>                                         | <p>I have ...<br/>I take ... away<br/>Now I have ...</p>  |

# Subtraction

|                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                    |                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| <p><b>Year 1</b></p>                                                                                                                                              | <ul style="list-style-type: none"> <li>• Read, write and interpret mathematical statements involving subtraction (−) and equals (=) signs.</li> <li>• Represent and use number bonds and related subtraction facts within 20</li> <li>• Subtract one-digit and two-digit numbers to 20, including zero.</li> <li>• Solve one-step problems that involve subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = \square - 9</math></li> </ul> |                                                                                                                                                    |                                                                                                                       |
| <p><b>Progression of skills</b></p>                                                                                                                               | <p><b>Key representations</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                    |                                                                                                                       |
| <p><b>Find a part</b></p> <p>Link to number bonds and known facts. E.g. <math>2 + 4 = 6</math> so if 6 is the whole and 4 is a part, the other part must be 2</p> | <p>There are ... in total.<br/>... are ...<br/>How many are <b>not</b> ...?</p>                                                                                                                                                                                                                                                                                                                                      | <p>... is the whole.<br/>... is a part.<br/>... is a part.</p>  | <p>... subtract ... is equal to ...<br/>... is equal to ... − ...</p> $6 - 2 = 4$ $6 - 4 = 2$ $4 = 6 - 2$ $2 = 6 - 4$ |
| <p><b>Take away</b></p> <p>A quantity is decreased.</p>                                                                                                           | <p>First... Then... Now...</p>                                                                                                                                                                                                                                                                                                                                                                                      | <p>I start at ...<br/>I jump back ...<br/>I land on ...</p>   | <p>... minus ... is equal to ...<br/>... is equal to ... − ...</p> $6 - 2 = 4$ $6 - 4 = 2$ $4 = 6 - 2$ $2 = 6 - 4$    |

# Subtraction

| Progression of skills                                                                                          | Key representations                                                                                                                                  |                                                                                                                                                               |                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Bonds within 10</b></p> <p>Focus on subtraction facts.</p> <p>Encourage children to notice patterns.</p> | <p>... is made of ... and ...<br/>... and ... make ...</p>         | <p>... can be partitioned into ...<br/>and ...</p>                         | <p>... minus ... is equal to ...</p> $6 - 0 = 6$ $6 - 1 = 5$ $6 - 2 = 4$ $6 - 3 = 3$ $6 - 4 = 2$ $6 - 5 = 1$ $6 - 6 = 0$                                       |
| <p><b>Related facts within 20</b></p> <p>Make links to known facts.</p>                                        | <p>I know that ... minus ... = ...<br/>so ... minus ... = ...</p>  | <p>... less than ... is ...<br/>so ... less than ... is ...</p>           | <p>What patterns do you notice?</p> $8 - 3 = 5$ $18 - 3 = 15$ $5 = 8 - 3$ $15 = 18 - 3$                                                                        |
| <p><b>Missing numbers</b></p> <p>Make links to known facts.</p>                                                | <p>How many do you need to subtract to make ...?</p>             | <p>If ... is the whole and ... is a part, the other part must be...</p>  | <p>... minus ... is equal to ...</p> $6 - \square = 2$ $2 = 6 - \square$  |

# Subtraction

Year 2

- Recall and use subtraction facts to 20 fluently, and derive and use related facts up to 100
- Subtract numbers using concrete objects, pictorial representations, and mentally, including:
  - a two-digit number and 1s
  - a two-digit number and 10s
  - 2 two-digit numbers
- Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

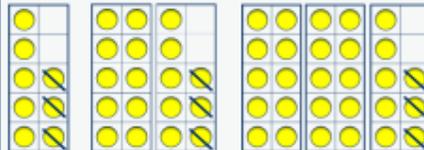
## Progression of skills

## Key representations

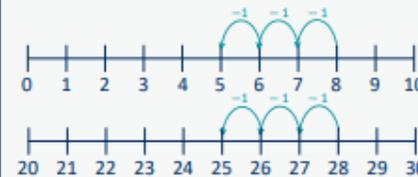
**Subtract ones from any number**  
(related facts)

Make links to known facts.

I know that ... minus ... = ...  
so ... minus ... = ...



... less than ... is ...  
so ... less than ... is ...



What do you notice?  
Can you continue the pattern?

$$8 - 3 = 5$$

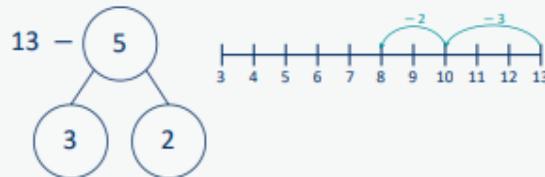
$$18 - 3 = 15$$

$$28 - 3 = 25...$$

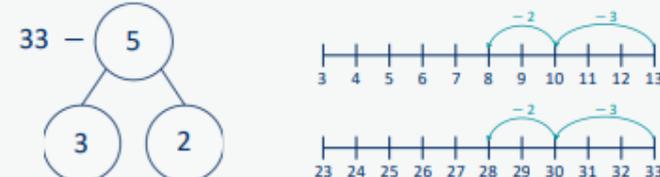
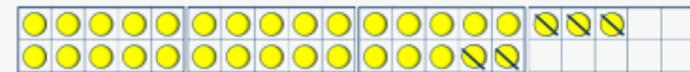
**Subtract across a 10**

Partition the number being subtracted to bridge through a ten.

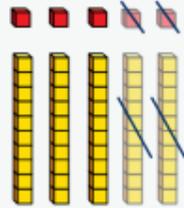
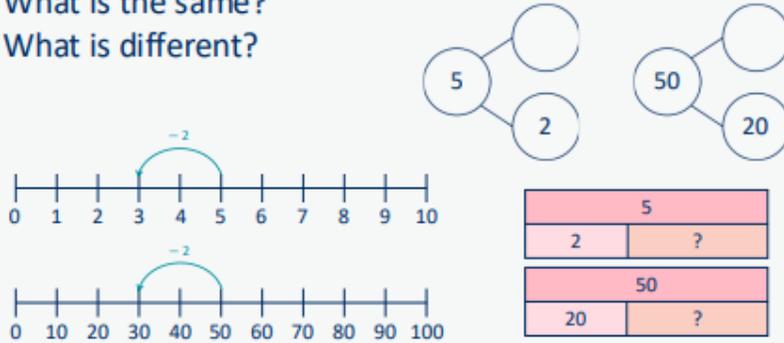
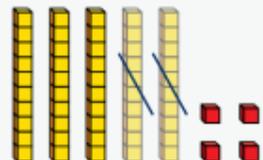
... can be partitioned into ... and ...



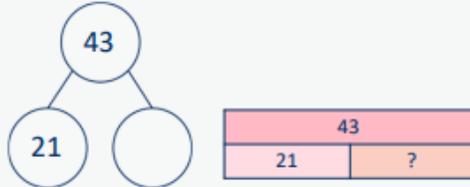
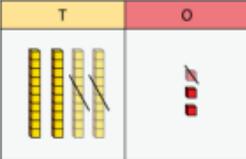
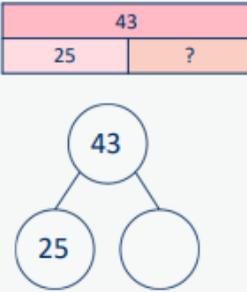
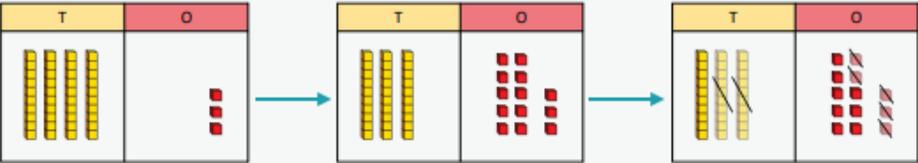
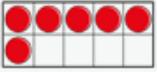
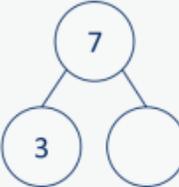
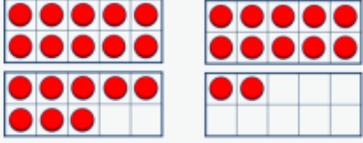
Make links with related facts.



# Subtraction

| Progression of skills                                                               | Key representations                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                  |
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| <p><b>Subtract multiples of 10</b></p> <p>Make links to known facts within ten.</p> | <p>... ones – ... ones = ... ones<br/>so ... tens – ... tens = ... tens</p>  <p><math>5 - 2 = 3</math><br/><math>50 - 20 = 30</math></p> | <p>What is the same?<br/>What is different?</p>  <table border="1"> <tr> <td colspan="2">5</td> </tr> <tr> <td>2</td> <td>?</td> </tr> <tr> <td colspan="2">50</td> </tr> <tr> <td>20</td> <td>?</td> </tr> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    | 5  |    | 2  | ?  | 50 |    | 20 | ? |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                  |
| 5                                                                                   |                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                  |
| 2                                                                                   | ?                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                  |
| 50                                                                                  |                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                  |
| 20                                                                                  | ?                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                  |
| <p><b>Subtract 10s from any number</b></p> <p>Make links to known facts.</p>        | <p>... tens – ... tens = ... tens<br/>... tens and ... ones = ...</p>                                                                   | <p>To subtract ... I need to subtract 10 ... times.</p> <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> <tr><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td></tr> <tr><td>41</td><td>42</td><td>43</td><td>44</td><td>45</td><td>46</td><td>47</td><td>48</td><td>49</td><td>50</td></tr> <tr><td>51</td><td>52</td><td>53</td><td>54</td><td>55</td><td>56</td><td>57</td><td>58</td><td>59</td><td>60</td></tr> </table> | 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 | <p>I know that ... minus ... = ...<br/>so ... minus ... = ...</p> <p><math>50 - 20 = 30</math><br/><math>54 - 20 = 34</math></p> |
| 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 |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                  |

# Subtraction

| Progression of skills                                                                                     | Key representations                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                    |                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Subtract two 2-digit numbers</b><br/>(not across a ten)</p>                                         | <p>... ones – ... ones = ... ones<br/>... tens – ... tens = ... tens</p>   <p>3 ones – 1 one = 2 ones<br/>4 tens – 2 tens = 2 tens<br/>2 tens and 2 ones = 22</p>                                                                                  |                                                                                                                                                                                                                                    |                                                                                                                                                                                |
| <p><b>Subtract two 2-digit numbers</b><br/>(across a ten)</p> <p>Begin to exchange 1 ten for 10 ones.</p> | <p>I need to make an exchange because I do not have enough ones to subtract ... ones.</p>   <p>3 ones – 5 ones<br/>(I need to exchange 1 ten for 10 ones)</p> <p>13 ones – 5 ones = 8 ones<br/>3 tens – 2 tens = 1 ten<br/>1 ten and 8 ones = 18</p> |                                                                                                                                                                                                                                    |                                                                                                                                                                                |
| <p><b>Missing numbers</b></p> <p>Solve missing number problems and use the inverse to check.</p>          | <p>How many do you need to subtract to make ...?</p>  <p><math>10 - \square = 6</math><br/><math>6 + \square = 10</math></p>                                                                                                                                                                                                         | <p>If ... is a whole and ... is a part, then ... is the other part.</p> <p><math>7 - 3 = \square</math><br/><math>\square + 3 = 7</math></p>  | <p>... can be partitioned into ... and ...</p> <p><math>18 - \square = 12 + 2</math></p>  |

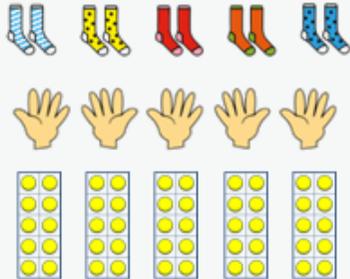
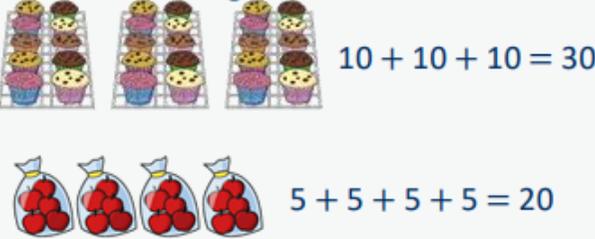
# Progression of skills - Multiplication

| Year group | Skill                                                                                                                                                                                                                                            |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reception  | <ul style="list-style-type: none"><li>• Double to 10</li><li>• Make equal groups</li></ul>                                                                                                                                                       |
| Year 1     | <ul style="list-style-type: none"><li>• Count in 2s, 5s and 10s</li><li>• Add equal groups</li><li>• Make arrays</li><li>• Make doubles</li></ul>                                                                                                |
| Year 2     | <ul style="list-style-type: none"><li>• Link repeated addition and multiplication</li><li>• Use arrays</li><li>• Double</li><li>• The 2 times-table</li><li>• The 10 times-table</li><li>• The 5 times-table</li><li>• Missing numbers</li></ul> |

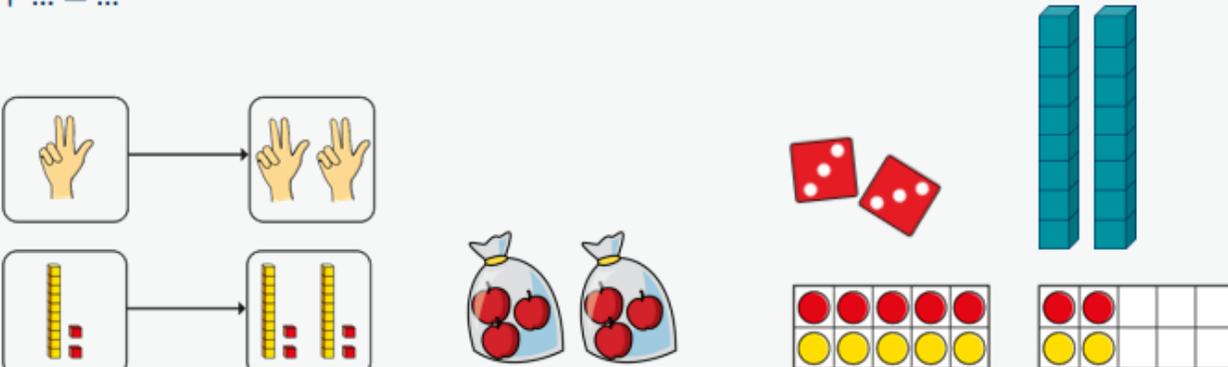
# Multiplication

|                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Reception</b></p>                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Have a deep understanding of number to 10, including the composition of each number.</li> <li>• Subitise (recognise quantities without counting) up to 5</li> <li>• Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 and some number bonds to 10, including double facts.</li> <li>• Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.</li> </ul> |
| <p><b>Progression of skills</b></p>                                                                                                                                                      | <p><b>Key representations</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p><b>Double to 10</b></p> <p>Prompt children to notice that double means twice as many and to notice that there are two equal groups.</p>                                               | <p>Double ... is ...<br/>... is double ...</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <p><b>Make equal groups</b></p> <p>Provide opportunities to make equal groups when tidying up or during snack time. Encourage children to check that each group has the same amount.</p> | <p>There are ... groups of ...<br/>There are ... altogether.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

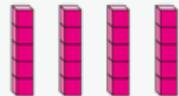
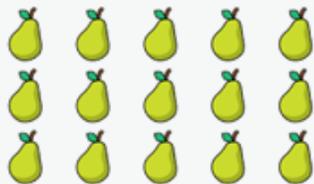
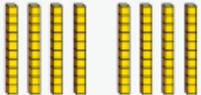
# Multiplication

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| <p><b>Year 1</b></p>                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>Count in multiples of twos, fives and tens.</li> <li>Solve one-step problems involving multiplication, using concrete objects, pictorial representations and arrays with the support of the teacher.</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          |    |    |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                   |   |    |    |    |  |  |  |  |
| <p><b>Progression of skills</b></p>                                                                                                                                                                                | <p><b>Key representations</b></p>                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          |    |    |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                   |   |    |    |    |  |  |  |  |
| <p><b>Count in 2s, 5s and 10s</b></p> <p>Begin by counting objects that naturally come in 2s, 5s and 10s, for example pairs of socks or fingers.</p>                                                               | <p>There are ... equal groups of ...<br/>There are ... altogether.</p>                                                                                               | <p>Continue to colour in ...s<br/>What do you notice?</p> <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> <tr><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td></tr> <tr><td>41</td><td>42</td><td>43</td><td>44</td><td>45</td><td>46</td><td>47</td><td>48</td><td>49</td><td>50</td></tr> </table> | 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 | <p>Complete the number track/number line by counting in ...s.</p> <table border="1"> <tr> <td>5</td> <td>10</td> <td>15</td> <td>20</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>  | 5 | 10 | 15 | 20 |  |  |  |  |
| 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 |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                   |   |    |    |    |  |  |  |  |
| 5                                                                                                                                                                                                                  | 10                                                                                                                                                                                                                                                     | 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20                                                                                                                                                                                                                                       |    |    |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                   |   |    |    |    |  |  |  |  |
| <p><b>Add equal groups</b><br/>(repeated addition)</p> <p>Children should be able to write a repeated addition to represent equal groups and to draw pictures or use objects to represent a repeated addition.</p> | <p>There are ... groups of ...<br/>There are ... altogether.</p>                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>What is the same? What is different?</p> <p><math>2 + 2 + 2 =</math></p> <p><math>5 + 5 + 5 =</math></p> <p><math>10 + 10 + 10 =</math></p> <p>Use objects or a drawing to represent the equal groups and find how many in total.</p> |    |    |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                                                                                                                                                                                                                                                                                                   |   |    |    |    |  |  |  |  |

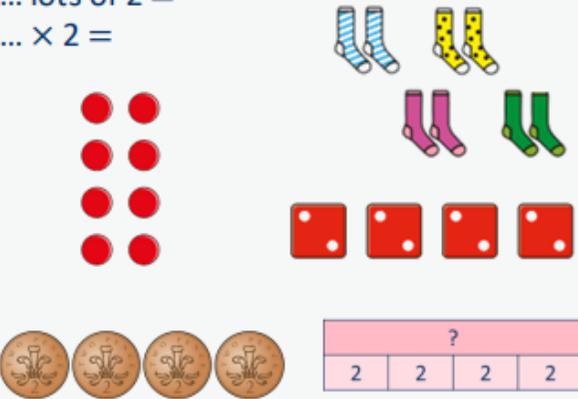
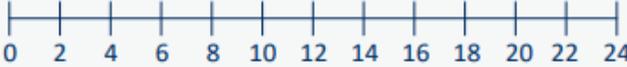
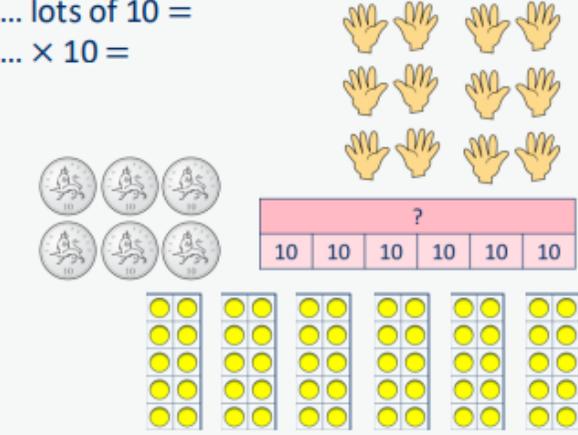
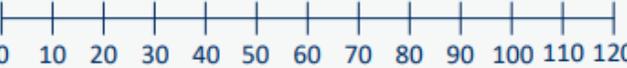
# Multiplication

| Progression of skills                                                                                                                                  | Key representations                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Make arrays</b></p> <p>Children use their knowledge of adding equal groups to arrange objects in columns and rows.</p>                           | <p>There are ... rows of ... There are ... altogether.<br/>There are ... columns of ... There are ... altogether.</p>  |
| <p><b>Make doubles</b></p> <p>Children understand that doubles are two equal groups. Children may begin to explore doubles beyond 20 using base 10</p> | <p>Double ... is ...<br/>... + ... = ...</p>                                                                          |

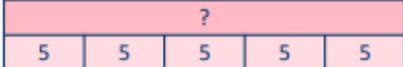
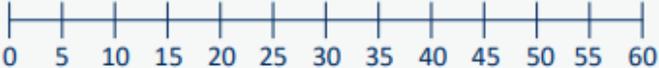
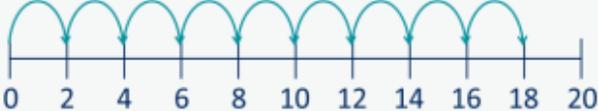
# Multiplication

|                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |  |   |   |    |  |  |  |   |   |   |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--|---|---|----|--|--|--|---|---|---|---|
| <p><b>Year 2</b></p>                                                                                                                             | <ul style="list-style-type: none"> <li>Recall and use multiplication facts for the 2, 5 and 10 multiplication tables.</li> <li>Calculate mathematical statements for multiplication within the multiplication tables and write them using the multiplication (<math>\times</math>) and equals (<math>=</math>) signs.</li> <li>Show that multiplication of two numbers can be done in any order (commutative).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |  |   |   |    |  |  |  |   |   |   |   |
| <p><b>Progression of skills</b></p>                                                                                                              | <p><b>Key representations</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |  |   |   |    |  |  |  |   |   |   |   |
| <p><b>Link repeated addition and multiplication</b></p> <p>Encourage children to make the link between repeated addition and multiplication.</p> | <p>There are ... equal groups with ... in each group.<br/>There are ... altogether.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <table border="1" style="border-collapse: collapse;"> <tr><td colspan="2" style="text-align: center;">6</td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">3</td></tr> </table> </div> <div style="text-align: left;"> <p><math>3 + 3 = 6</math><br/><math>2 \times 3 = 6</math></p> </div> </div><br><div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <table border="1" style="border-collapse: collapse;"> <tr><td colspan="4" style="text-align: center;">20</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">5</td><td style="text-align: center;">5</td><td style="text-align: center;">5</td></tr> </table> </div> <div style="text-align: left;"> <p><math>5 + 5 + 5 + 5 = 20</math><br/><math>4 \times 5 = 20</math></p> </div> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 6 |  | 3 | 3 | 20 |  |  |  | 5 | 5 | 5 | 5 |
| 6                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |  |   |   |    |  |  |  |   |   |   |   |
| 3                                                                                                                                                | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |  |   |   |    |  |  |  |   |   |   |   |
| 20                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |  |   |   |    |  |  |  |   |   |   |   |
| 5                                                                                                                                                | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 5 |  |   |   |    |  |  |  |   |   |   |   |
| <p><b>Use arrays</b></p> <p>Encourage children to see that multiplication is commutative.</p>                                                    | <p>There are ... rows with ... in each row.<br/>There are ... columns with ... in each column.</p> <div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">  <p>3 lots of 5 = 15<br/><math>5 + 5 + 5 = 15</math></p> <p>5 lots of 3 = 15<br/><math>3 + 3 + 3 + 3 + 3 = 15</math></p> </div> <div style="text-align: right;"> <p>I can see ... <math>\times</math> ... and ... <math>\times</math> ...</p> <p><math>3 \times 5 = 15</math><br/><math>5 \times 3 = 15</math><br/><math>3 \times 5 = 5 \times 3</math></p> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |  |   |   |    |  |  |  |   |   |   |   |
| <p><b>Double</b></p> <p>Encourage children to make links with related facts.</p>                                                                 | <p>Double ... is ...</p> <div style="display: flex; align-items: center;">  <span style="margin: 0 10px;">→</span>  </div> <p>Double 4 = 4 + 4<br/>Double 4 is 8</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>Double ... is ... so double ... is ...</p> <div style="display: flex; align-items: center;">  <span style="margin: 0 10px;">→</span>  </div> <p>Double 4 is 8</p> <div style="display: flex; align-items: center;">  <span style="margin: 0 10px;">→</span>  </div> <p>Double 40 is 80</p> |   |  |   |   |    |  |  |  |   |   |   |   |

# Multiplication

| Progression of skills                                                                                                                                 | Key representations                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |    |    |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
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| <p><b>The 2 times-table</b></p> <p>Encourage daily counting in multiples both forwards and back. Notice that all multiples of 2 are even numbers.</p> | <p>... lots of 2 =</p> <p>... <math>\times 2 =</math></p>     | <p>... times 2 is equal to ...</p> <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> </table> <p> <math>1 \times 2 = 2</math>    <math>2 = 1 \times 2</math><br/> <math>2 \times 2 = 4</math>    <math>4 = 2 \times 2</math><br/> <math>3 \times 2 = 6</math>    <math>6 = 3 \times 2</math> </p>                                                                                                                                         | 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 |    |    |    |    |    |    |    |    |    |    |
| 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 |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| <p><b>The 10 times-table</b></p> <p>Encourage daily counting in multiples both forwards and back. Notice the pattern in the numbers.</p>              | <p>... lots of 10 =</p> <p>... <math>\times 10 =</math></p>  | <p>... times 10 is equal to ...</p> <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> <tr><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td></tr> </table> <p> <math>1 \times 10 = 10</math>    <math>10 = 1 \times 10</math><br/> <math>2 \times 10 = 20</math>    <math>20 = 2 \times 10</math><br/> <math>3 \times 10 = 30</math>    <math>30 = 3 \times 10</math> </p>  | 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 |
| 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 |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

# Multiplication

| Progression of skills                                                                                                                   | Key representations                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |    |    |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
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| <p><b>The 5 times-table</b></p> <p>Encourage daily counting in multiples both forwards and back. Notice the pattern in the numbers.</p> | <p>... lots of 5 =</p> <p>... <math>\times 5 =</math></p>     | <p>... times 5 is equal to ...</p> <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> <tr><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td></tr> </table> <p> <math>1 \times 5 = 5</math>      <math>5 = 1 \times 5</math><br/> <math>2 \times 5 = 10</math>    <math>10 = 2 \times 5</math><br/> <math>3 \times 5 = 15</math>    <math>15 = 3 \times 5</math> </p>  | 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 |
| 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 |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| <p><b>Missing numbers</b></p> <p>Make links to known facts.</p>                                                                         | <p>... is equal to ... groups of ...</p> <p>18 socks, how many pairs? </p>                                                                                                                                                      | <p>... times ... is equal to ...</p> <p><input type="text"/> <math>\times 2 = 18</math></p> <p><math>18 = 2 \times</math> <input type="text"/></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |    |    |    |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

## Progression of skills - Division

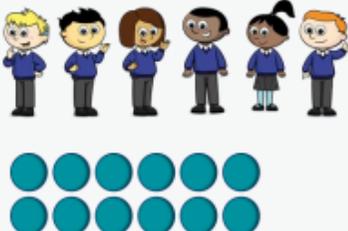
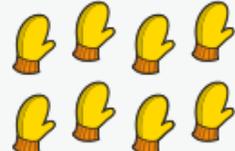
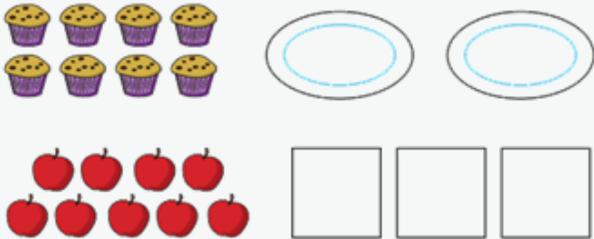
Year group

Skill

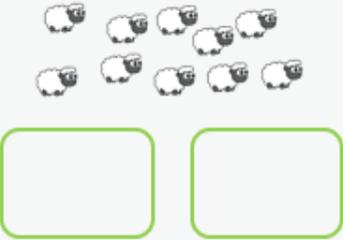
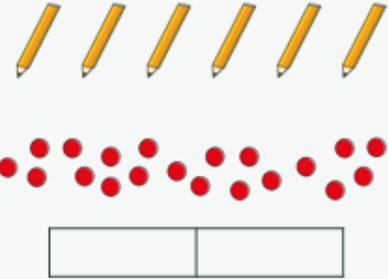
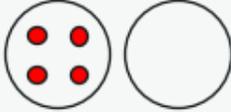
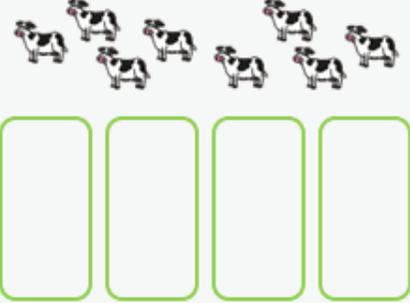
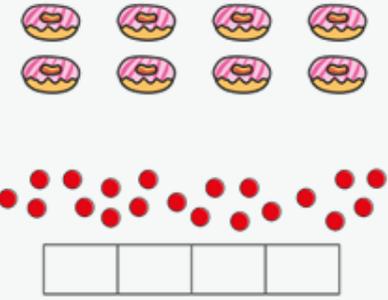
|           |                                                                                                                                                                                            |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reception | <ul style="list-style-type: none"><li>• Sharing</li><li>• Grouping</li></ul>                                                                                                               |
| Year 1    | <ul style="list-style-type: none"><li>• Make equal groups – grouping</li><li>• Make equal groups – sharing</li><li>• Find a half</li><li>• Find a quarter</li></ul>                        |
| Year 2    | <ul style="list-style-type: none"><li>• Divide by 2</li><li>• Divide by 10</li><li>• Divide by 5</li><li>• Missing numbers</li><li>• Unit fractions</li><li>• Non-unit fractions</li></ul> |

|                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Reception</b></p>                                                                                                                                                         | <ul style="list-style-type: none"> <li>• Have a deep understanding of number to 10, including the composition of each number.</li> <li>• Subitise (recognise quantities without counting) up to 5</li> <li>• Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 and some number bonds to 10, including double facts.</li> <li>• Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.</li> </ul> |
| <p><b>Progression of skills</b></p>                                                                                                                                             | <p><b>Key representations</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p><b>Sharing</b></p> <p>Provide practical activities such as sharing items during snack time. Encourage children to check whether items have been shared fairly (equally).</p> | <p>There are ... altogether.<br/>They are shared equally between ... groups.</p>                                                                                                                                                                                                                                                                                                                                                                    |
| <p><b>Grouping</b></p> <p>Provide opportunities to make equal groups when tidying up or during snack time. Encourage children to check that each group has the same amount.</p> | <p>There are ... groups of ...<br/>There are ... altogether.</p>                                                                                                                                                                                                                                                                                                                                                                                   |

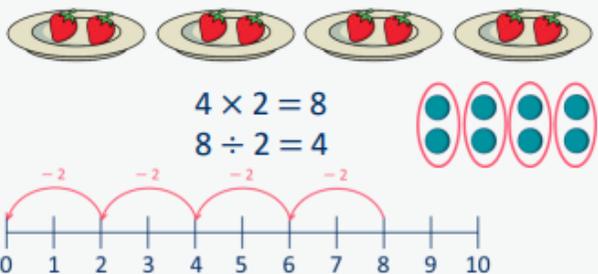
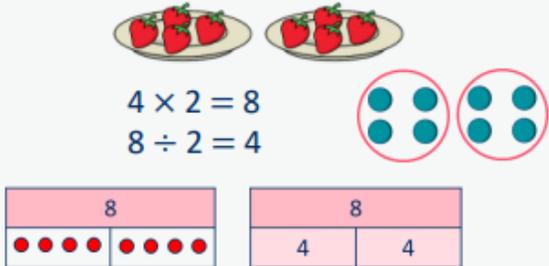
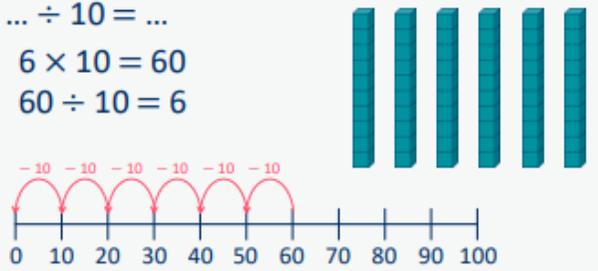
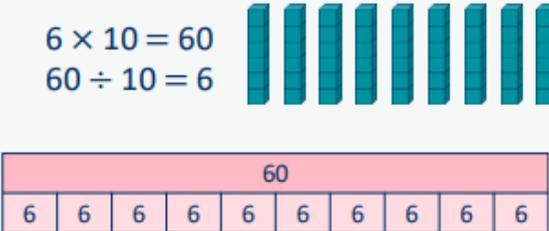
# Division

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| <p><b>Year 1</b></p>                                                                                                                                                      | <ul style="list-style-type: none"> <li>Solve simple one-step problems involving division, using concrete objects, pictorial representations and arrays with the support of the teacher.</li> <li>Recognise, find and name a half as one of two equal parts of a quantity.</li> <li>Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.</li> </ul> |                                                                                                                                             |                                                                                                                                                                             |
| <p><b>Progression of skills</b></p>                                                                                                                                       | <p><b>Key representations</b></p>                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                             |                                                                                                                                                                             |
| <p><b>Make equal groups - grouping</b></p> <p>Encourage children to physically move objects into equal groups. They can also circle equal groups when using pictures.</p> | <p>There are ... altogether.<br/>How many groups of ... can you make?</p>                                                                                                                                                                                                                                  | <p>Circle groups of 2<br/>There are ... groups of 2</p>  | <p>Take ... cubes.<br/>Make equal groups.</p>  <p>There are ... groups of ...</p>        |
| <p><b>Make equal groups – sharing</b></p> <p>Encourage children to check that the objects have been shared fairly and each group is the same.</p>                         | <p>... have been shared equally between...<br/>There are ... on/in each ...</p>                                                                                                                                                                                                                          |                                                                                                                                             | <p>Take ... cubes.<br/>Share them between ...</p>  <p>12 shared between ... is ...</p> |

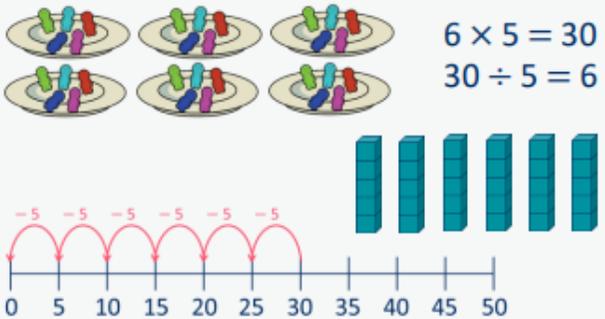
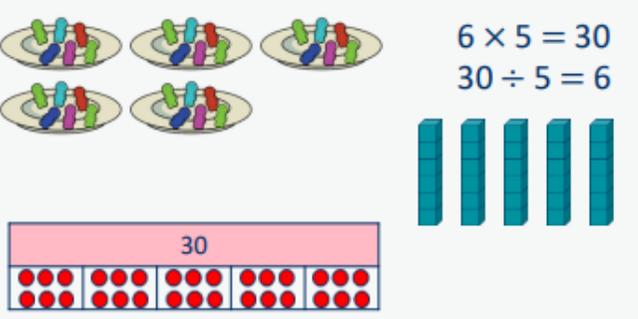
# Division

| Progression of skills                                                                                                                                                                                                    | Key representations                                                                                                                                                                    |                                                                                                                     |                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Find a half</b></p> <p>Start with practical opportunities to share a quantity into 2 groups. Progress to circling half of the objects in a picture and then to finding the whole from a given half.</p>            | <p>To find half, I need to share into 2 equal groups.</p>  <p>There are ... in each group.</p>       | <p>Half of ... is ...</p>        | <p>If ... is half, what is the whole?</p>  <p>4 is half of ...</p>                |
| <p><b>Find a quarter</b></p> <p>Start with practical opportunities to share a quantity into 4 groups. Progress to using pictures or bar models to find a quarter and then to finding the whole from a given quarter.</p> | <p>To find a quarter, I need to share into 4 equal groups.</p>  <p>There are ... in each group.</p> | <p>A quarter of ... is ...</p>  | <p>If ... is one quarter, what is the whole?</p>  <p>3 is one quarter of ...</p> |

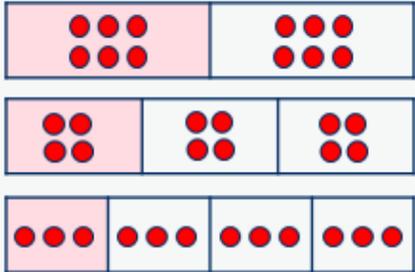
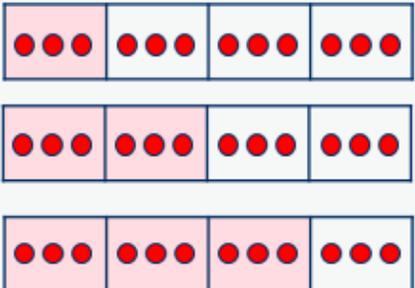
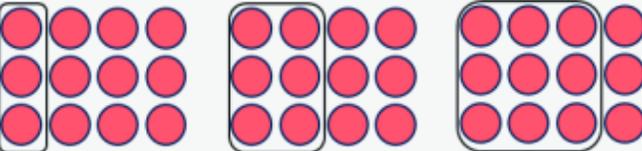
# Division

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| <p><b>Year 2</b></p>                                                                                                                                                 | <ul style="list-style-type: none"> <li>Recall and use division facts for the 2, 5 and 10 multiplication tables.</li> <li>Calculate mathematical statements for division within the multiplication tables and write them using the division (<math>\div</math>) and equals (=) signs.</li> <li>Recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a quantity.</li> </ul> |                                                                                                                                                                                                                                                            |
| <p><b>Progression of skills</b></p>                                                                                                                                  | <p><b>Key representations</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                            |
| <p><b>Divide by 2</b></p> <p>Encourage children to compare the grouping and sharing structures of division and to make links with times-table facts and halving.</p> | <p>There are ... equal groups of 2<br/>... <math>\div 2 = \dots</math></p>  <p><math>4 \times 2 = 8</math><br/><math>8 \div 2 = 4</math></p>                                                                                                                                                                                                                                              | <p>... shared equally between 2 is ...<br/>Half of ... is ...<br/>... <math>\div 2 = \dots</math></p>  <p><math>4 \times 2 = 8</math><br/><math>8 \div 2 = 4</math></p> |
| <p><b>Divide by 10</b></p> <p>Encourage children to compare the grouping and sharing structures of division and to make links with times-table facts.</p>            | <p>There are ... equal groups of 10<br/>... <math>\div 10 = \dots</math></p> <p><math>6 \times 10 = 60</math><br/><math>60 \div 10 = 6</math></p>                                                                                                                                                                                                                                       | <p>... shared equally between 10 is ...<br/>... <math>\div 10 = \dots</math></p> <p><math>6 \times 10 = 60</math><br/><math>60 \div 10 = 6</math></p>                 |

# Division

| Progression of skills                                                                                                                                    | Key representations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                       |   |    |    |    |   |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
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| <p><b>Divide by 5</b></p> <p>Encourage children to compare the grouping and sharing structures of division and to make links with times-table facts.</p> | <p>There are ... equal groups of 5<br/>... <math>\div 5 = \dots</math></p>  <p><math>6 \times 5 = 30</math><br/><math>30 \div 5 = 6</math></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p>... shared equally between 5 is ...<br/>... <math>\div 5 = \dots</math></p>  <p><math>6 \times 5 = 30</math><br/><math>30 \div 5 = 6</math></p> |   |    |    |    |   |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| <p><b>Missing numbers</b></p> <p>Bar models are useful to show the link between multiplication and division.</p>                                         | <p>... divided by 2/5/10 is equal to ...</p> <div style="display: flex; align-items: center; margin-bottom: 10px;"> <table border="1" style="border-collapse: collapse; text-align: center; width: 70px; height: 20px; background-color: #f8d7da;"> <tr><td>?</td></tr> <tr><td>10</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 70px; height: 20px; background-color: #f8d7da;"> <tr><td>10</td></tr> <tr><td>10</td></tr> </table> <span style="margin: 0 10px;">□ <math>\div 2 = 10</math></span> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;"> <table border="1" style="border-collapse: collapse; text-align: center; width: 180px; height: 20px; background-color: #f8d7da;"> <tr><td>?</td></tr> <tr><td>10</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 70px; height: 20px; background-color: #f8d7da;"> <tr><td>10</td></tr> <tr><td>10</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 70px; height: 20px; background-color: #f8d7da;"> <tr><td>10</td></tr> <tr><td>10</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 70px; height: 20px; background-color: #f8d7da;"> <tr><td>10</td></tr> <tr><td>10</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 70px; height: 20px; background-color: #f8d7da;"> <tr><td>10</td></tr> <tr><td>10</td></tr> </table> <span style="margin: 0 10px;">□ <math>\div 5 = 10</math></span> </div> <div style="display: flex; align-items: center;"> <table border="1" style="border-collapse: collapse; text-align: center; width: 320px; height: 20px; background-color: #f8d7da;"> <tr><td>?</td></tr> <tr><td>10</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 70px; height: 20px; background-color: #f8d7da;"> <tr><td>10</td></tr> <tr><td>10</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 70px; height: 20px; background-color: #f8d7da;"> <tr><td>10</td></tr> <tr><td>10</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 70px; height: 20px; background-color: #f8d7da;"> <tr><td>10</td></tr> <tr><td>10</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 70px; height: 20px; background-color: #f8d7da;"> <tr><td>10</td></tr> <tr><td>10</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 70px; height: 20px; background-color: #f8d7da;"> <tr><td>10</td></tr> <tr><td>10</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 70px; height: 20px; background-color: #f8d7da;"> <tr><td>10</td></tr> <tr><td>10</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 70px; height: 20px; background-color: #f8d7da;"> <tr><td>10</td></tr> <tr><td>10</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 70px; height: 20px; background-color: #f8d7da;"> <tr><td>10</td></tr> <tr><td>10</td></tr> </table> <span style="margin: 0 10px;">□ <math>\div 10 = 10</math></span> </div> |                                                                                                                                                                                                                                       | ? | 10 | 10 | 10 | ? | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | ? | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
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| 10                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                       |   |    |    |    |   |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 10                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                       |   |    |    |    |   |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

# Division

| Progression of skills                                                                                                                                                                                                                    | Key representations                                                                                                                                                                                       |                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Unit fractions</b></p> <p>In Y2 the focus is on finding <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math> and <math>\frac{1}{3}</math></p> <p>Bar models are useful to show the link between division and finding a fraction.</p> | <p>The objects have been shared fairly into ... groups.</p> <p><math>\frac{1}{\square}</math> of ... is ...</p>         | <p>There are ... equal parts.</p> <p>There is ... part circled.</p> <p><math>\frac{1}{\square}</math> is circled.</p>           |
| <p><b>Non-unit fractions</b></p> <p>In Y2 the focus is on finding <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math></p> <p>Prompt children to notice that <math>\frac{2}{4}</math> is equivalent to <math>\frac{1}{2}</math></p>     | <p>The objects have been shared fairly into ... groups.</p> <p><math>\frac{\square}{\square}</math> of ... is ...</p>  | <p>There are ... equal parts.</p> <p>There are ... parts circled.</p> <p><math>\frac{\square}{\square}</math> is circled.</p>  |