

Week 1

Focus + Resources	Lesson Notes
<p><b>Lesson 1</b></p> <p><b>Main Focus</b> Know bonds to 10 and multiple of 10 bonds to 100, use to solve additions and subtractions and recognise subtraction undoes addition</p> <p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>• Use number facts to 10 to solve problems including word problems</li> <li>• Add several 1-digit numbers</li> <li>• Know the multiple of 10 bonds to 100 and start to use this to answer further maths questions</li> </ul> <p><b>Key Vocabulary</b> multiple; number bonds; number facts</p> <p><b>Prior Learning</b> Recognise and know number bonds to 10</p> <p><b>Resources</b></p> <ul style="list-style-type: none"> <li>• Clock face from WES Maths Kit</li> <li>• Number cards made from cards in WES Maths Kit</li> <li>• Y3 Workbook 1 (Y3 Wbk 1)</li> <li>• Y3 Answer Book 1</li> <li>• Small whiteboard (supplied by WES)</li> </ul>	<p><b>Starter - Telling the time</b></p> <ul style="list-style-type: none"> <li>• Give your child the clock from the WES Maths Kit. Ask her what the numbers represent (hours, minutes and seconds) and what the short hand and long hand show. Count round the numbers. Say a time for her to make on the clock - say 6 o'clock. Model this on the clock to confirm - <i>the hour hand points to the six and the minute hand (long hand) points straight up to the 12</i>. Repeat for 11 o'clock, 1 o'clock and 7 o'clock.</li> <li>• Repeat with times showing half past the hour: <i>Half past two, half past five, half past three, half past twelve, half past ten</i>. Clarify that the hour hand lies halfway between the hours and that the minute hand points down to 6, halfway round the clock.</li> <li>• Finally say four 'quarter past' times, again clarifying the position of the hands, then four 'quarter to' times clarifying that the hour hand is closer to the hour and the minute hand is three quarters of the way round the clock showing 15 minutes to the hour. If your child finds this difficult, make a note to review at the end of the lesson.</li> </ul> <p><b>Main Teaching – number bonds to 10, and 10 multiples to 100</b></p> <ul style="list-style-type: none"> <li>• Ask your child to write two numbers that add together to make 10, eg <math>5 + 5</math>, etc on the whiteboard and then to add further pairs of numbers that add to 10.</li> <li>• Look at the list and write the pairs in order: <math>0 + 10, 1 + 9, 2 + 8, 3 + 7, 4 + 6, 5 + 5</math> demonstrating <math>8 + 2 = 2 + 8</math>. Remind your child that addition can be done in any order; the answer is the same.</li> <li>• Ask your child to come and write subtractions from 10 on the whiteboard using her knowledge of bonds to 10, eg <math>10 - 6 = 4</math>, etc.</li> <li>• Confirm that when you know addition bonds to 10 you also know all the related subtractions and more.</li> <li>• Explain that if <math>5 + 5 = 10</math>, then <math>50 + 50 = 100</math>. Ask your child to think of two more number bonds to 100. Then ask her to write a list of multiple of 10 bonds to 100, eg <math>90 + 10, 80 + 20, 70 + 30</math>, etc (on whiteboard or on paper).</li> <li>• Ask - <i>How many bonds to 100 have you written?</i> Discuss how there are six pairs but they may have written more. Encourage your child to explain that <math>30 + 70 = 70 + 30</math>.</li> <li>• Write pairs of multiples of 10 which total 100 on the whiteboard (or a sheet of paper) alongside the corresponding number bond to 10, eg <math>2 + 8 = 10, 20 + 80 = 100</math>.</li> <li>• Explain your child can use her knowledge of bonds to 10 or multiple of 10 bonds to 100 to answer other maths questions, eg <math>7 + 5</math>: if you know <math>7 + 3 = 10</math>, then you know <math>7 + 5 = 12</math>, 2 more. Or <math>40 + 50</math>: <math>40 + 60 = 100</math> so <math>40 + 50 = 90</math>, ten less. Discuss: <i>Why should we learn bonds to 10 by heart? What is 100 subtract 50? What goes with 9 to total 10? So what adds to 90 to make 100? How does knowing bonds to 10 help us?</i></li> <li>• Ask your child to complete Worksheet 1 from Y3 Wbk 1. Go through the answers with your child, continue with <b>Support</b> activity or <b>Extension</b> activity (see Teaching Tips).</li> </ul>

<p><b>Week 1 Lesson 1 cont/</b></p>	<p><b>Plenary</b>          Explain that you will play a game where you call out a number, either a number 0-10 or a multiple of 10 from 0-100 and your child either writes the corresponding bond to 10 or bond to 100 on the whiteboard or holds up the appropriate number card eg call out 8 – child holds up 2; call out 60 – child holds up 40.</p>
<p><b>Lesson 2</b></p> <p><b>Main Focus</b>          Learn to work out any multiple of 5 bond to 100</p> <p><b>Objectives</b>          Know the multiple of 10 bonds to 100 and use to derive the multiple of 5 bonds to 100</p> <p><b>Key Vocabulary</b>          addition; bonds to 100; matching; multiples; multiple of 5; multiple of 10; number bonds</p> <p><b>Prior Learning</b>          Recognise and know number bonds to 10 and multiple of 10 bonds to 100</p> <p><b>Resources</b></p> <ul style="list-style-type: none"> <li>• Calculator; dice; small whiteboard</li> <li>• Bead string</li> <li>• Y3 Textbook 1 (Y3 TB1)</li> <li>• <a href="#">Resource Sheets 1, 2 plus Textbook Answers from Y3 Answer Book 1</a></li> <li>• Y3 Workbook 1 (Y3 Wbk1)</li> </ul>	<p><b>Starter - Bonds to 10</b>          Write <math>10 - 6 =</math> on the whiteboard and ask your child to show the answer using fingers. If correct ask her to write the corresponding bond to 10, eg <math>4 + 6 = 10</math>. Rub out and repeat with <math>10 - 0 =</math>; <math>10 - 3 =</math>; <math>10 - 5 =</math>.</p> <p><b>Main Teaching</b></p> <ul style="list-style-type: none"> <li>• Ask your child to remind you of the multiple of 10 bonds to 100 and pairs of 10s numbers that total 100, calling out multiples of 10 bonds to 100. Write them on the whiteboard as she calls them out eg <math>60 + 40</math>, <math>50 + 50</math>, <math>90 + 10</math>, etc.</li> <li>• Go through the list and point out <math>60 + 40</math> and <math>40 + 60</math> are the same, reminding your child that addition can be done in any order. Ask your child to complete page 4 in Y3 TB1. (Answers in Y3 Answer Book 1). She does not need to use a bead string but can count the beads on the page but provide this if needed.</li> <li>• Explain that today you are going to use your knowledge of these bonds to 100 to work out multiple of 5 bonds to 100.</li> <li>• Ask your child to count in 5s to 20 and then if she is confident, to carry on to 100 (if necessary count with her). Ask what she notices about the list of multiples of 5. (All the numbers end in a 5 or a 0.) Explain the numbers ending in 0 are also multiples of 10 as 10 is a multiple of 5, so every other multiple of 5 (two 5s) is also a multiple of 10.</li> <li>• Ask your child to choose a multiple of 10 and then ask her to say the number that adds to this number to total 100, eg child chooses 70, they have to say 70 and 30 make 100. Continue with one or two further multiples of 10.</li> <li>• Now work out the other multiple of 5 bonds to 100. Write <math>25 + = 100</math> on the whiteboard. Explain and model working out the right answer. Ask what adds to 5 to make 10? 5. So all multiple of 5 bonds to 100 will end in 5, eg <math>25 + \_5 = 100</math>. If needed let your child count in fives along the number square. Establish that the answer is 75. Explain how when we work out the bonds to 100 using 2-digit numbers ending in 5, the 10s numbers add to 90 because an extra 10 is added on from both the 5s.</li> <li>• Write multiples of 5 bonds on the whiteboard, discussing how to work out the answer, eg <math>55 + \_ = 100</math>: <math>55 + 45 = 100</math> as <math>50 + 40 = 90</math> and <math>5 + 5 = 10</math>. Ask: <i>Why should we learn bonds to 100 by heart? What is 100 subtract 35? What goes with 15 to total 100? How does knowing bonds to 10 help us?</i></li> <li>• Play a game asking your child to take a card from a pile of number cards 0-100 (include multiples of 5 only) and say the corresponding number to make 100. Encourage her to answer as fast as she can. Extend to taking a card and writing a subtraction from 100 and the answer, eg child takes 65, they write <math>100 - 65 =</math>. They then work out the answer.</li> </ul>

<p><b>Week 1 Lesson 2 cont/</b></p>	<ul style="list-style-type: none"> <li>Give your child Worksheet 2 from Y3 Wbk 1. Remind her to use her bonds to 10 knowledge to answer the questions. Let her answer the questions she finds easiest first, ie do the multiples of 10 then the numbers ending in 5. Discuss the answers when she has finished and make sure any mistakes are understood.</li> </ul> <p><b>Plenary</b></p> <p>Take out the number square (Resource Sheet 2). Ask your child to put a counter on a multiple of 5 ending in 5, eg 15. Let her move the counter to count on in 10s to 95 (the bottom line) and then add the 5 on to generate the bond to 100 so <math>15 + 80 = 95 \rightarrow +5 = 100</math> so <math>15 + 85 = 100</math>. Repeat starting with a different number. Demonstrate using the same strategy to subtract a multiple of 5 from 100 - putting the counter on 100, counting back in 10s to the nearest multiple of 10 and then subtracting 5 from that number.</p>
<p><b>Lesson 3</b></p> <p><b>Main Focus</b> Use mental strategies to add several small numbers, add several numbers using strategies such as spotting bonds to 10, doubles, and adding 9 or 11 by adding 10 and correcting, etc.</p> <p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>Add several 1-digit numbers</li> <li>Add and subtract multiples of 10 to and from a 2-digit number</li> </ul> <p><b>Key Vocabulary</b> 1-digit; doubling; even; multiples; near double; number bonds; number facts; odd</p> <p><b>Prior Learning</b> Recognise and know number bonds to 10</p> <p><b>Resources</b></p> <ul style="list-style-type: none"> <li>Whiteboard</li> <li>Y3 Textbook 1 (Y3 TB1)</li> <li>Number cards</li> <li>Resource Sheet 3</li> <li>Y3 Answer Book 1</li> </ul>	<p><b>Starter - Double numbers 1-12</b></p> <p>Play 'Bingo' with your child. Each of you draws five circles on a sheet of paper and writes an even number between 2 and 24 in each of the circles. Make sure your child is clear what an even number is. Put the number cards 1 to 12 into a bag. Explain that you will pull numbers out at random and you have to double these numbers. If either of you has the double in one of their circles they cross it out. The first one to cross out all their numbers calls 'Bingo!' and wins the game. Remind your child she needs to know these doubles (and halves) by heart.</p> <p><b>Main Teaching</b></p> <ul style="list-style-type: none"> <li>Explain to your child that today she will be adding sets of small numbers; you want her to really use her skills and knowledge of numbers to help.</li> <li><u>Write</u> <math>7 + 8 + 3 =</math> on the whiteboard, and ask your child to add this up in her head. If your child had the correct answer, ask her to explain what she did. Model <math>7 + 3 = 10</math> and <math>10 + 8 = 18</math>. Reinforce the idea that this addition could be solved with no counting on, just by knowing and spotting the bond to 10 and knowing <math>10 + 8 = 18</math>.</li> <li>Remind your child that adding 10 to other 1-digit numbers, eg <math>10 + 3 = 13</math>, <math>10 + 6 = 16</math>, etc are 'no-work' or 'easy' sums! Look at <math>6 + 7 + 5 =</math> and ask your child to work it out. Discuss the answer and method used.</li> <li>Model using near doubles, eg <math>5 + 6</math> is one more than double 5, or <math>6 + 7</math> is one more than double 6. <math>13 + 5 = 18</math> as we know <math>5 + 3 = 8</math>, or <math>11 + 7 = 18</math> as we know <math>7 + 1 = 8</math>. Look at <math>11 + 6 + 9 =</math>. Ask your child to solve and discuss answers and methods. Discuss: <i>Why should we learn bonds and doubles by heart? What facts help you to answer the question?</i></li> <li>Ask your child to complete Y3 TB1 page 7 and page 8 (Bonds to 10 and 20 and Doubles). Check the answers together.</li> </ul> <p><b>Plenary</b></p> <p>Write <math>6 + 3 + 4 + 6 =</math>, on the whiteboard and ask your child to answer this in her head and then explain what she did. Discuss how you can use double 6 is 12 then add 3 to get 15 then add 4 to get 19, so <math>6 + 6 + 3 + 4 = 19</math>. Or use <math>6 + 4 = 10</math>, and <math>6 + 3 = 9</math> so <math>6 + 4 + 6 + 3 = 19</math>. Discuss how there are loads of ways of answering it.</p>

<p><b>Week 1</b> <b>Lesson 4</b></p> <p><b>Main Focus</b> Add and subtract 1-digit numbers to and from 2-digit numbers using number patterns (<math>7 + 5 = 12</math>, <math>37 + 5 = 42</math>; <math>12 - 5 = 7</math>, <math>32 - 5 = 27</math>, etc) and bridging ten</p> <p><b>Objectives</b> Add 1-digit to 2-digit numbers, bridging 10 and using known facts</p> <p><b>Key Vocabulary</b> 1-digit; 2-digit; add; method; number bonds; number facts; ones; patterns; subtract; tens</p> <p><b>Prior Learning</b> Know number facts including bonds of all numbers up to 10; count on and back</p> <p><b>Resources</b></p> <ul style="list-style-type: none"> <li>• Y3 Textbook 1</li> <li>• Resource Sheets 2, 4 and 5 from Term 1 Appendix</li> <li>• Y3 Answer Book 1</li> </ul>	<p><b>Starter - Bonds to numbers up to 12</b></p> <p>Discuss what number facts you used yesterday: bonds to 10, doubles, etc. Explain that recognising bonds for all numbers up to 20 will help even more. <i>We know loads anyway!</i> Ask your child to tell you pairs of numbers that make 2, 3, 4, 5 and then 6. Show her how this is set out on Resource Sheet 4 (covering the column showing 7 and 8). Then ask her to write the bonds for 7 and 8 on a sheet of paper. Give one minute to complete this. Check answers using the Resource Sheet. Either do the same, or work together, to write bonds for 9, 11 and 12. Check answers from Resource Sheet 5.</p> <p><b>Main Teaching</b></p> <ul style="list-style-type: none"> <li>• Tell your child she will be adding and subtracting small numbers 1–9 to and from 2-digit numbers. Ask her to choose a 2-digit number from the 100-square and to write it on the whiteboard. Ask how many tens and how many ones.</li> <li>• Then ask your child to add 7 to this number, and to explain the method she used. Encourage her to use her knowledge of bonds, eg <math>34 + 7 = 41</math> because <math>4 + 7 = 11</math>. Model additions of other numbers with the same ones digit plus 7, eg <math>54 + 7</math>, <math>24 + 7</math>, <math>94 + 7</math>. Emphasise the repeating pattern. <math>54 + 7 = 61</math>, <math>24 + 7 = 31</math>, etc. Relate back to bonds. We know <math>4 + 7 = 11</math> so we know anything <u>  </u><math>4 + 7 =</math> <u>  </u><math>1</math>.</li> <li>• Repeat this process, asking your child to choose a different 2-digit number (units greater than 2) and add 8 to it. Create a repeating pattern using the bond, eg since we know <math>4 + 8 = 12</math>, we know that <math>44 + 8 = 52</math>, <math>84 + 8 = 92</math>, etc.</li> <li>• Then ask your child to choose a new 2-digit number from the 100-square. Ask her to write it and this time ask her to <u>subtract</u> 5. Again remind her to use knowledge of bonds. Discuss answers, modelling and writing on the whiteboard, eg <math>49 - 5 = 44</math> because we know <math>4 + 5 = 9</math> so <math>9 - 5 = 4</math>. Ask your child to subtract 5 from two more numbers ending in the same digit and again write them on the whiteboard so you can see the pattern, eg <math>69 - 5</math> and <math>29 - 5</math>.</li> <li>• Do another set of three subtractions again asking your child to choose 2-digit numbers and subtract 6. Model the knowledge needed and write them out, eg <math>29 - 6 = 23</math>, <math>99 - 6 = 93</math>, <math>19 - 6 = 13</math> because <math>6 + 3 = 9</math>.</li> <li>• Discuss how you can we learn the number bonds by heart. (Make posters or mini cards, sing them in the shower, play bond pairs card game, etc.) <i>If <math>68 - 2 = 66</math>, what is <math>48 - 2</math>, <math>478 - 2</math>, <math>9488 - 2</math>, etc?</i></li> <li>• Ask your child to complete the exercise on page 10 in <i>Y3 TB1</i> (Adding and subtracting 1-digit numbers). Check the answers together (from <i>Y3 Answer Book 1</i>). Continue with page 11.</li> </ul> <p><b>Plenary</b></p> <p>Finish the lesson by playing one of the number games described in Teaching Tips for this lesson. If your child needs reinforcement, play the game suggested in the <b>Support</b> section. If she is confident with the work of this lesson, play the game in the <b>Extension</b> section.</p>
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<p><b>Week 1</b> <b>Lesson 5</b></p> <p><b>Main Focus</b> Add and subtract a 1-digit number to and from a 2-digit number, identify patterns and begin to predict addition and subtraction answers based on knowledge of bonds</p> <p><b>Objectives</b> Add 1-digit to 2-digit numbers, bridging 10 and using known facts</p> <p><b>Key Vocabulary</b> 1-digit; 2-digit; add; addition; method; number bonds; number facts; ones; patterns; subtract; subtraction; system; tens</p> <p><b>Prior Learning</b> Know number facts including bonds of all numbers up to 10; count on and back</p> <p><b>Resources</b></p> <ul style="list-style-type: none"> <li>• Whiteboard</li> <li>• Calculator (optional)</li> <li>• Number bond Resource Sheets from Term 1 Appendix</li> <li>• Y3 Workbook 1</li> <li>• Y3 Answer Book 1</li> </ul>	<p><b>Starter - Bonds to numbers up to 20</b></p> <p>Remind your child that yesterday we worked out bonds to all numbers to 12. Ask your child to tell you 4 bonds to 12 very quickly. Explain we are now going to do the numbers from 13 to 20. Put the number cards 13-20 in a bag and ask her to pick one out and then quickly write out the pairs of numbers that total their number, eg 14: <math>0 + 14</math>, <math>1 + 13</math>, <math>2 + 12</math>, <math>3 + 11</math>, etc. Remind her that we do not need to write <math>6 + 8</math> and <math>8 + 6</math> as they are the same, we just need to know 6 and 8 total 14. If your child enjoys competitions, set a time and let her see how fast she can find all the pairs of numbers. Repeat with two or three other numbers.</p> <p><b>Main Teaching</b></p> <ul style="list-style-type: none"> <li>• Explain to your child that she will be doing additions and subtractions just as she did yesterday, adding or subtracting 1-digit numbers to and from 2- and 3-digit numbers using number facts to help. Rehearse how number bonds help. Write <math>5 + 7 = 12</math> on the whiteboard and challenge her to write an addition that uses this bond. Work together to write some examples on the whiteboard, eg <math>35 + 7 = 42</math>, <math>95 + 7 = 102</math>. Repeat for a subtraction, eg <math>15 - 7 = 8</math>. So <math>45 - 7 = 38</math>, <math>75 - 7 = 68</math>, etc.</li> <li>• Explain that you want your child to spot patterns in adding 1-digit numbers to larger numbers and in subtracting 1-digit numbers from larger numbers and to try and explain the patterns she finds.</li> <li>• Write the digit 6 on the whiteboard. Ask your child to begin by adding 1. Write up three additions using numbers ending in 6 on the whiteboard as an example, eg <math>26 + 1 = 27</math>, <math>56 + 1 = 57</math>. <i>What will <math>96 + 1 =</math>?</i> Ask her to tell you the pattern. Then write a 3-digit number addition, eg <math>346 + 1 = 347</math>.</li> <li>• Ask your child to do three additions on paper, adding 2, still using numbers ending 6, eg <math>26 + 2</math>, <math>56 + 2</math>, <math>96 + 2</math> and to write a 3-digit number addition to match. Then to do three additions adding 3, then three additions adding 4, etc up to 9. Ask her to tell you what the pattern is and write the bond being used, eg <math>46 + 4 = 50</math>, <math>16 + 4 = 20</math>, <math>56 + 4 = 60</math> (<math>6 + 4 = 10</math>). Ask your child to complete Worksheet 3 in <i>Y3 Wbk 1</i>. Check the answers making sure your child has written them in the form <math>3 + 6 = 9</math> (first answer).</li> <li>• If your child is comfortable with additions work together to do the same thing using subtraction. Work first with a ones digit of 7, subtracting 1, 2, 3, 4 and 5 from several two-digit numbers and one 3-digit number. Then suggest you choose a ones digit less than 4, eg 1, which will generate subtractions that cross a multiple of ten, eg <math>41 - 3 = 38</math>, <math>51 - 3 = 48</math>, etc.</li> <li>• Discuss: <i>How can we be sure the answer will always end in ...? How can I be sure that <math>587 + 6 = 593</math>? (because <math>7 + 6 = 13</math>).</i></li> </ul> <p><b>Plenary</b></p> <p>Discuss what your child has found out and ask her to explain the rule she has used. Ask her to demonstrate the rule with numbers ending in 8. Then discuss that when you add 9 to a number the answer has a ones number one less than the original number so: <math>53 + 9 = 62</math>, this can be proved by showing it many times including with an enormous number like <math>23\,416 + 9 = 23\,425</math>. Let your child choose 5 really large numbers and show how the rule for adding 9 works for each.</p>
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## Week 1 Additional Teaching Points

### Preparation

You have a large supply of blank small cards in the WES Maths Kit. You will be using a full set of 1-100 cards over the term and also several sets of the one-digit numbers. You and your child may enjoy marking up the whole 100-set at the start of term and then adding others as needed, or you may prefer to mark up the cards as they are needed for each lesson. In this first week you will need cards for 0-20 plus a further 4 sets of 1-9, plus multiples of 5 and 10 from 0-100.

### Teaching Tips

- During this first week of the term you and your child will be establishing understanding of the work completed in Year 2 and starting to extend this. As there have been changes in the Maths curriculum, there may be areas that your child will be expected to have covered but which are not yet familiar. Familiarity with number bonds and mental recall of number facts is now given greater emphasis than previously and children are encouraged to do simple calculations quickly and confidently without the need for apparatus or for pencil and paper. If your child is relying on either of these, then start each lesson with a quick recall of number facts, starting with pairs of numbers to ten and moving on to multiples of ten.
- Your child will be using her Maths exercise book every week and you will be referring to Y3 Answer Book 1 in each week's lessons. These are not listed in the Resources after this week but should be to hand for each Maths lesson. Your child should also have a 'jotter' or other notebook for rough working available in each lesson. The whiteboard supplied by WES will be used in most lessons. You will find this listed in Resources for the first two weeks but should continue to have it available for every lesson after that.
- Your child may enjoy a video clip which reviews the inverse operations of addition and subtraction of some simple numbers. Follow this link: <http://www.bbc.co.uk/learningzone/clips/addition-and-subtraction-inverse-operations/3134.html>

### Lesson 1

This lesson starts with a quick review of clock times. You may wish to tailor this to your child's own knowledge. If she is already confident with clock times to quarter to and quarter past, try adding some other times on the clock for her to recognise. If she is not yet confident to this stage, then restrict the times to the hour and half hour and spend a short while at the end of the lesson going over the quarter hours.

### Use of the textbook

Your child has been using workbooks in Years 1 and 2 but will now have an Abacus textbook for each term. The books are bright and accessible but you will need to monitor your child's use of these. Answers to the textbook activities should be written in your child's Maths exercise book. She should write the date, page number and heading of the exercise at the top of each page and be encouraged to keep her work neat and tidy. There is usually a worked example on each page of exercises and you will need to talk this through with your child before she starts. The lesson notes will guide you where some further explanation is needed.

### Support

Work with your child to play a game where she takes a 0-10 number card and says the corresponding number to make 10. Encourage her to answer as fast as she can. As she gains confidence extend to using multiple of 10 cards (0-100) and ask her to say the corresponding number that makes a total of 100. Extend to play the game with subtractions, eg child takes a card with 60 on it. They write  $100 - 60 = 40$ , etc.

### Extension

Your child chooses a number card from a 0-10 pile. She should then write as many number facts as she can including an addition bond to 10, then to 100 using the multiples of 10, and four subtractions, eg child chooses a 7. She writes  $7 + 3 = 10$ ,  $70 + 30 = 100$ ,  $10 - 7 = 3$ ,  $10 - 3 = 7$ ,  $100 - 30 = 70$ ,  $100 - 70 = 30$ . Repeat choosing another number card.

### Lesson 2

Make sure your child is confident in mental recall of number bonds to 10 and multiples of 10 to 100 before starting the lesson. Play games with the number cards to reinforce, holding up two number cards for an instant response. Reinforce for a few minutes if your child is hesitant and make a note to repeat this at the end of the lesson.

### Support

Provide Resource Sheet 1 and the number square when your child is working so that she can refer to number bonds and multiples.

### Extension

Play a game with your child where one of you rolls a dice and writes the number down then writes a 5 to generate a two-digit number ending in 5, eg child rolls a 4 so they write 45. Their partner has to write the number that adds to this to total 100. They then reverse the digits of the first number, eg 45 to 54. Can they work out the matching number to 100? How many pairs like this can they generate?

### Lesson 3

**Starter** – if you are working with more than one child, the Bingo game can be played with each child having a 'number board' and you showing the number cards – or writing numbers on the whiteboard.

- In this lesson in particular you need to be sure that your child is not counting on using fingers (or looking out for apparatus to use). This means she has to be on the look-out for bonds to 10, doubles or near doubles, add 9 by adding 10 and counting back 1, etc. Do quick mental practice of doubling numbers (from 1-10) at the start of the lesson if this is not yet firmly established. Repeat at the end of the lesson and the start of Lesson 4.
- Discuss which number facts we can use and why it is crucial that we know not just the bonds to ten, but bonds of all numbers from 5 to 20. We also need to know all doubles up to 20.

### Support

- To support doubling work, let your child refer to [Resource Sheet 3](#)
- Practise bonds to 10 and doubles to 12. Then give your child additions of three small numbers, eg  $7 + 8 + 3$  and model different methods of solving them. Show spotting bonds to 10 ( $7 + 3 = 10$ ), using doubles ( $7 + 7 = 14$ , so  $7 + 8$  is one more than 14).

### Extension

Work as a partner with your child. Shuffle the number cards 1-20 and deal four cards to each of you. See who can add their numbers fastest. Encourage your child to do the addition or do it in her head. If the answer is correct the fastest scores 10 points. Take back the cards, shuffle and play again. You may find your child is faster than you. If not, make sure she has a chance to 'win' on a number of occasions. If you are working with more than one child, let the children play and you check the answers.

## Lesson 4

In this lesson your child will be adding two-digit numbers that 'bridge ten', in other words where the tens digit will increase as a number is added to the units (eg  $24 + 37$ ). If your child has understood the pattern of addition established in the last lesson she should be able to use this pattern in mental calculations.

**Support**

Work with your child as a partner in this game (unless you are working with more than one child, in which case children can play together). Shuffle five sets of 1-9 cards and deal out five cards each. The rest of the cards should be placed face down in a spare-card pile. Each player looks at their cards but does not show the other. Players take turns to place a pair of cards down saying the bond, eg  $5 + 3 = 8$  or  $7 + 3 = 10$ . They should replenish their two cards each round with two more cards from the spare-card pile. For the rest of the game each player takes a turn to place their cards in pairs, making one of the totals already made and putting their cards in the same pile as that total. All pairs should be placed face up. The game continues until as many pairs as possible have been laid out.

**Extension**

Work with your child as a partner in this game unless you are working with more than one child. One player chooses a 2-digit number, writing this on the whiteboard, the other takes a number card 3-9, at random. Both players write the subtraction based on their numbers, eg  $83 - 5 = 78$ . They then each do another subtraction using a different 2-digit number but the same 1-digit number, eg if they had  $83 - 5$ , they could then do  $13 - 5$ ,  $23 - 5$ ,  $33 - 5$ , etc. Remove the 1-digit number card from the pack and repeat the process until all the one-digit cards have been used.

## Lesson 5

Your child will now be starting to use her knowledge of number bonds in adding single digits to 3-digit numbers. She may say that these are 'easy sums' if she has done such work before but the emphasis here is on the mental calculation, using knowledge of number patterns and quick recall of number bonds. Encourage her always to use the methods suggested (and not to rely on apparatus or pencil and paper methods).

**Support**

Give your child Resource Sheets 4 and 5 to help in learning and remembering number bonds. Include some quick-fire questions on the number bonds – let your child ask you questions as well. She will need to know the answers to know if you are right or not!

**Extension**

If your child is confident with number bonds let her begin to write rules, eg *When you add 5 to a number ending in 4 the answer always ends in 9*. Encourage her to begin to think of how she can prove the rules. Let her use a calculator to try really big numbers and see if the predictions work.

## Worksheet 1

## Bonds to 10 and 100

Hint: Use your bonds to 10 to work out bonds to 100.

1.  $10 - 5 = \underline{\quad}$

2.  $10 - 8 = \underline{\quad}$

3.  $10 - 3 = \underline{\quad}$

4.  $10 - 10 = \underline{\quad}$

5.  $100 - 30 = \underline{\quad}$

6.  $40 + \underline{\quad} = 100$

7.  $100 - 90 = \underline{\quad}$

8.  $20 + \underline{\quad} = 100$

9.  $\underline{\quad} - 10 = 90$

10.  $\underline{\quad} + 70 = 100$

11.  $40 + 70 = \underline{\quad}$

12.  $110 - 50 = \underline{\quad}$

13.  $90 + \underline{\quad} = 90$

14.  $30 + 80 = \underline{\quad}$

15.  $90 - \underline{\quad} = 40$

16.  $120 - 60 = \underline{\quad}$



17. Find different ways to complete the calculation  $100 - \underline{\quad} = \underline{\quad}$

## Worksheet 2

## Bonds to 100 using multiples of 5

1.  $50 + \underline{\quad} = 100$

2.  $\underline{\quad} + 20 = 100$

3.  $45 + \underline{\quad} = 100$

4.  $\underline{\quad} + 75 = 100$

5.  $95 + \underline{\quad} = 100$

6.  $\underline{\quad} + 30 = 100$

7.  $65 + \underline{\quad} = 100$

8.  $\underline{\quad} + 90 = 100$

9.  $85 + \underline{\quad} = 100$

10.  $\underline{\quad} + 60 = 100$

11.  $5 + \underline{\quad} = 100$

12.  $\underline{\quad} + 25 = 100$

13.  $15 + \underline{\quad} = 100$

14.  $\underline{\quad} + 35 = 100$

15.  $55 + \underline{\quad} = 100$

16.  $\underline{\quad} + 80 = 100$



## Worksheet 3

## Write the number bond

$43 + 6 = 49$ $13 + 6 = 19$ $33 + 6 = 39$ <hr/>	$23 + 3 = 26$ $43 + 3 = 46$ $63 + 3 = 66$ <hr/>
$25 + 4 = 29$ $45 + 4 = 49$ $15 + 4 = 19$ <hr/>	$61 + 7 = 68$ $21 + 7 = 28$ $91 + 7 = 98$ <hr/>
$84 + 3 = 87$ $34 + 3 = 37$ $54 + 3 = 57$ <hr/>	$43 + 2 = 45$ $23 + 2 = 25$ $73 + 2 = 75$ <hr/>
$72 + 4 = 76$ $42 + 4 = 46$ $22 + 4 = 26$ <hr/>	$53 + 1 = 54$ $33 + 1 = 34$ $83 + 1 = 84$ <hr/>
$25 + 2 = 27$ $75 + 2 = 77$ $95 + 2 = 97$ <hr/>	$92 + 1 = 93$ $12 + 1 = 13$ $72 + 1 = 73$ <hr/>