

## Can I add or subtract a one-digit number to or from a two-digit number (bridging through a multiple of ten)?


### Teaching guidance

#### Key vocabulary

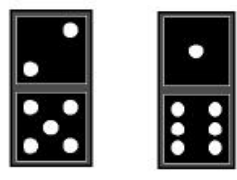
add, subtract, take away, partition/split, multiple of ten, one-digit number, two-digit number

#### Models and images, resources and equipment

**Practically partitioning a one-digit number in different ways**




8 is 5 and 3 more  
 $8 = 5 + 3$

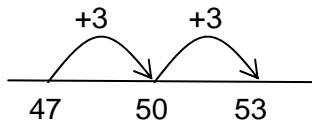



$2 + 5 = 7$      $1 + 6 = 7$

**100-bead string and number line to visualise bridging through a multiple of ten when adding and subtracting a one-digit number**

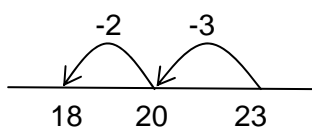


$47 + 6 = 53$  can be visually seen as  $47 + 3 + 3 = 53$  and could be recorded as:

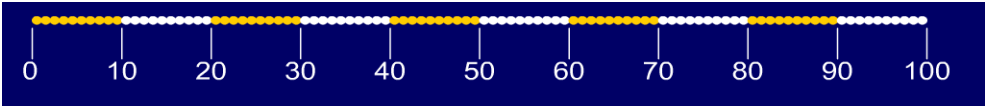
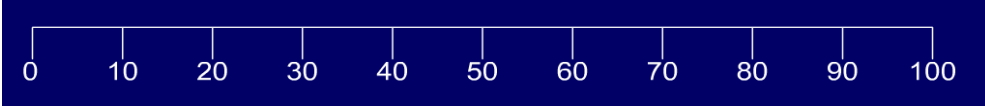




$23 - 5 = 18$  can be visually seen as  $23 - 3 - 2$  and could be recorded as:



### Teaching tips

- When children are adding and subtracting one-digit numbers to or from a two-digit number they will need to develop strategies that move them beyond counting forwards and backwards in ones. When bridging through a multiple of ten, children will need to draw on experience of partitioning a one-digit number (see the 'Can I partition one and two-digit numbers in different ways?' section of this resource) and being able to say what needs to be added to a two-digit number to make the next multiple of ten (see the 'Can I say what needs to be added to a two-digit number to make the next multiple of ten?' section of this resource).
- Bead strings can be used to help children visualise how a one-digit number can be partitioned to bridge the multiple of ten. For example:
  - Show 27 beads on the bead string. Say that you are going to add on 5 beads. Slowly slide the whole group of 5 beads along to join them. Ask children questions such as: What do you notice? What is the next multiple of ten after 27? Can you see the three beads joining 27 to make 30? And what is 30 add 2? How do the colours of the beads help? Repeat with  $37 + 5$ ,  $47 + 5$  and  $57 + 5$ .
  - Show 32 beads on the bead string. Say that you are going to subtract 5 beads. Slowly slide a group of 5 beads away from the remaining beads. Ask children questions such as: What do you notice? What is the multiple of ten before 32? How many beads did we subtract to make 30? And then how many were subtracted? And what is 30 subtract 3? Repeat with  $42 - 5$ ,  $52 - 5$  and  $62 - 5$ .
- Help children to record the steps on a number line. This could be:
  - a number line that forms a visual representation of the bead string;
 
  - a number line with only the multiples of ten marked and labelled;
 
  - an empty number line with none of the numbers marked and labelled.
- Write the following calculations on the board:  $38 + 7$ ,  $49 + 7$ ,  $55 + 7$ ,  $46 + 7$ ,  $37 + 7$ ,  $58 + 7$ ,  $76 + 7$ ,  $24 + 7$ ,  $35 + 7$ . Discuss how you would partition 7 to make the addition easier, and why. What pair to ten would you use to help you to find each answer?
- Write the following calculations on the board:  $33 - 7$ ,  $42 - 7$ ,  $54 - 7$ ,  $46 - 7$ ,  $31 - 7$ ,  $55 - 7$ ,  $72 - 7$ ,  $23 - 7$ ,  $34 - 7$ . Discuss how you would partition 7 to make the subtraction easier, and why.
- Write some calculations on the board, for example,  $42 + 3$ ,  $54 - 6$ ,  $47 + 5$ ,  $33 - 4$ ,  $65 - 3$ ,  $40 + 3$ . Ask the children to identify those calculations where partitioning the one-digit number might help. Now ask the children to discuss how they could solve each, including what number facts they could use to help. Ask children to work in pairs to solve them. Which was the easiest? Why? Which were harder? Why?
- A video clip of a teacher explaining her approach to teaching children to add and subtract numbers can be found on the NCETM website: [www.ncetm.org.uk/Default.aspx?page=13&module=res&mode=100&resid=9453](http://www.ncetm.org.uk/Default.aspx?page=13&module=res&mode=100&resid=9453)