

*Dr Fog Presents*

**Adding and  
Subtracting  
11 and 9**

Year 3 (National Numeracy Strategy)  
(Based on DFEE Sample Lessons)



# Resources

- Find a worksheet from [www.primaryresources.co.uk](http://www.primaryresources.co.uk) on Adding and subtracting 9 and 11.
- Individual 100-grids.



# Mental Learning Objective

- I can solve number puzzles.
- I can multiply by 10
- I can add together two-digit numbers to 100.



# Mental Learning Task

- Today we are going to start with a number problem.



# Mental Learning Task

- I need four children to each write a single-digit number into the number box on the board.

Number Box



# Mental Learning Task

- Get into pairs.
- You can use the digits as they are, or multiply them by 10.

Number Box



# Mental Learning Task

- You can add or subtract the numbers made., trying to get as close to 100 as possible.

Number Box



# Mental Learning Task

- Explain your adding and taking away methods to the rest of the class.

Number Box





# Mental Learning Objective

- I can solve number puzzles.
- I can multiply by 10
- I can add together two-digit numbers to 100.



# Main Learning Objective

- I can add and subtract 9 and 11 from any two-digit number.
- I can start to add and subtract numbers near to multiples of 10.



# Key idea

**I know how to  
mentally add  
and subtract.**



# Main Learning Task

- Today we are going to work on adding and subtracting 9 and 11.



# Main Learning Task

- We are going to start with some practise using numbers below 30.
- We will add 9 or 11 to them.
- We will take away 9 and 11 from these two-digit numbers.



# Main Learning Task

- How would we solve 15 add 11?



# Main Learning Task

- We start on 15 as it is the larger number.

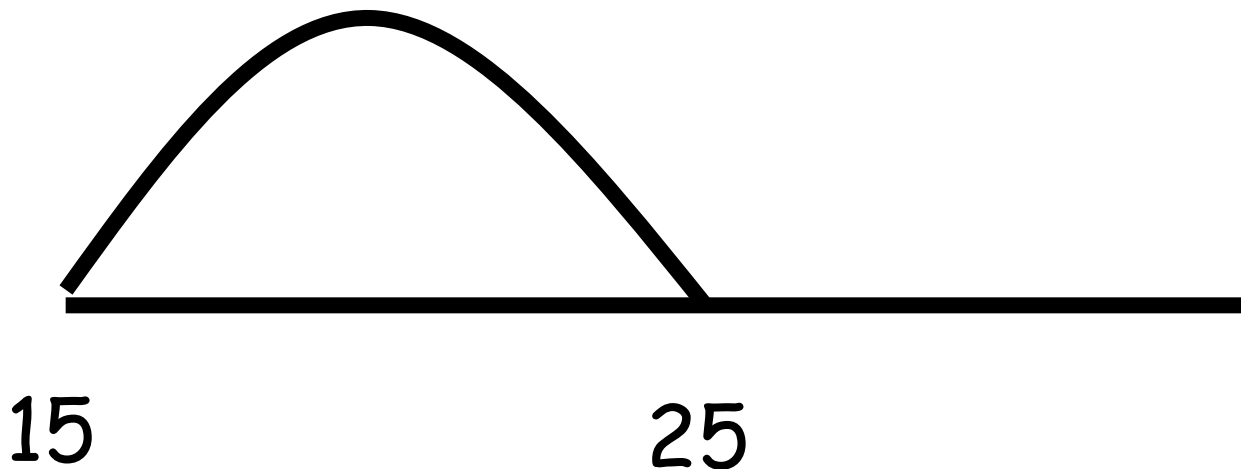
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15



# Main Learning Task

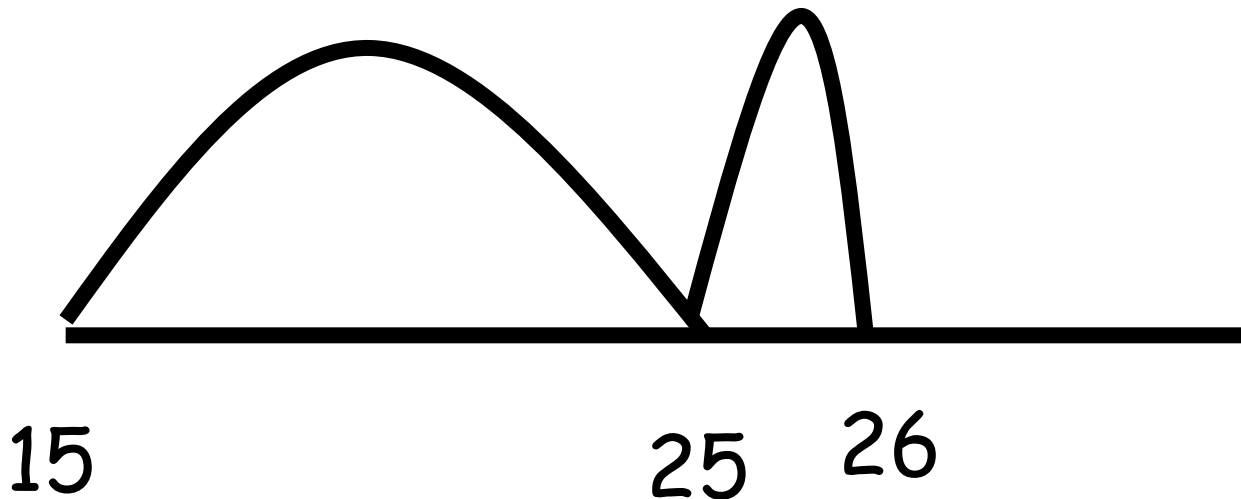
- We now add on 10.
- What does that make?





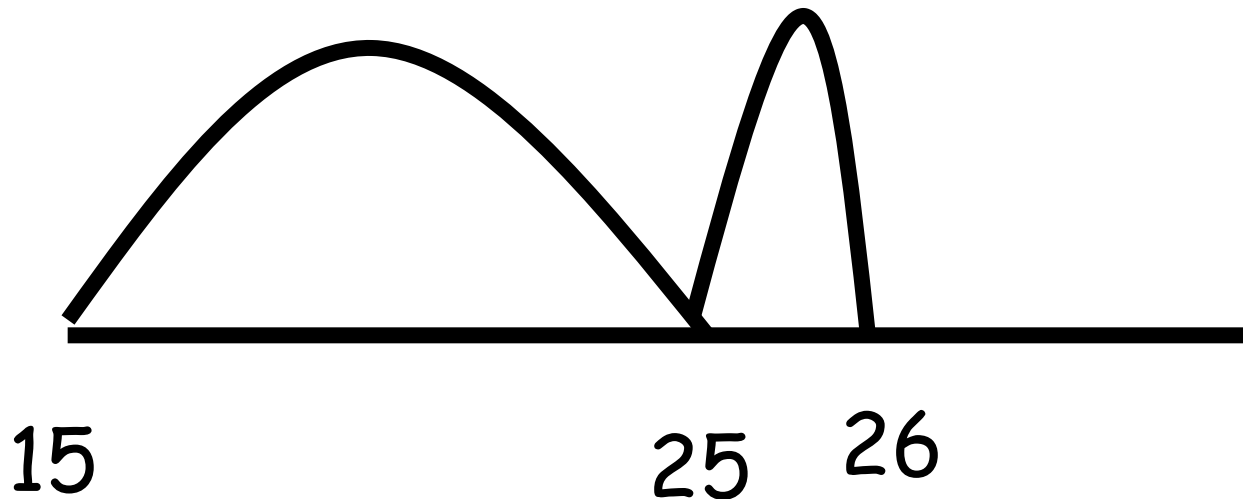
# Main Learning Task

- 25. Well done. What more do we need to add on?
- Another +1



# Main Learning Task

- The answer is 26.



# Main Learning Task

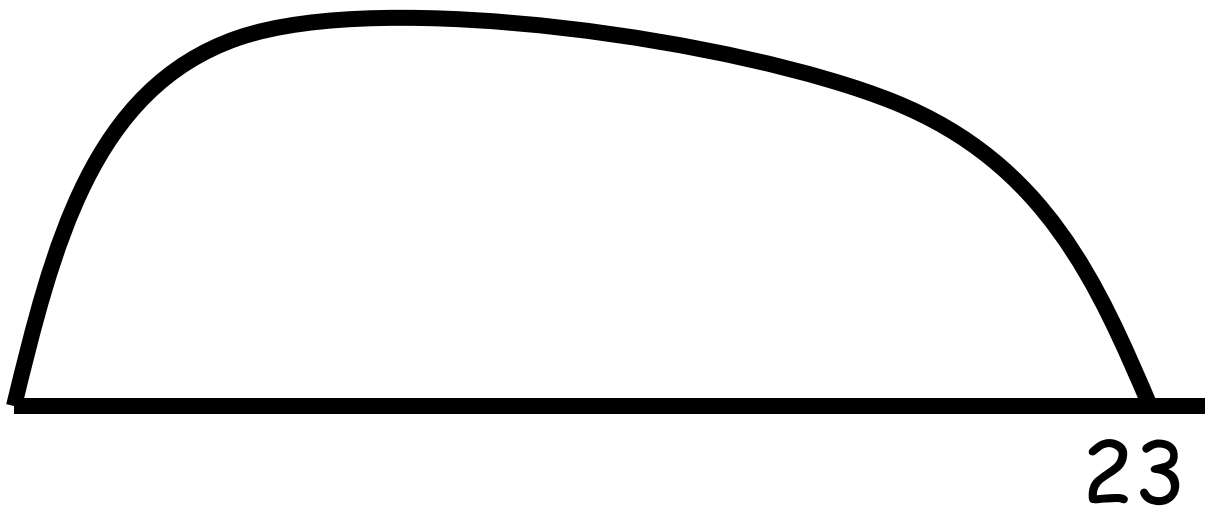
- Lets try a subtraction problem...
- $23 - 9 = ?$
- What do we start with?



# Main Learning Task

- We start with 23.
- How far back do we jump?

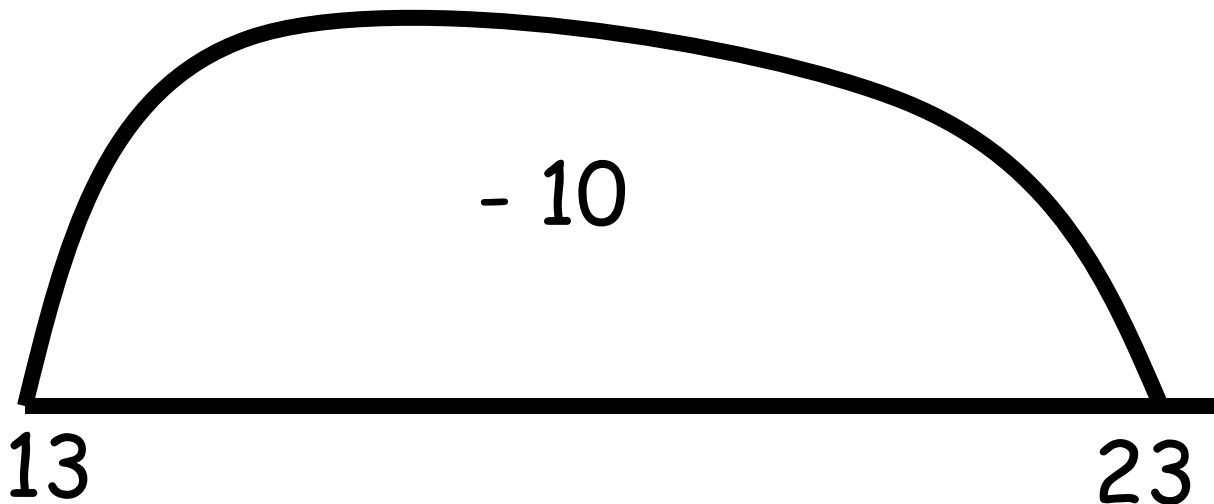
$$23 - 9 = ?$$



# Main Learning Task

- We jump back 10
- What do we land on?

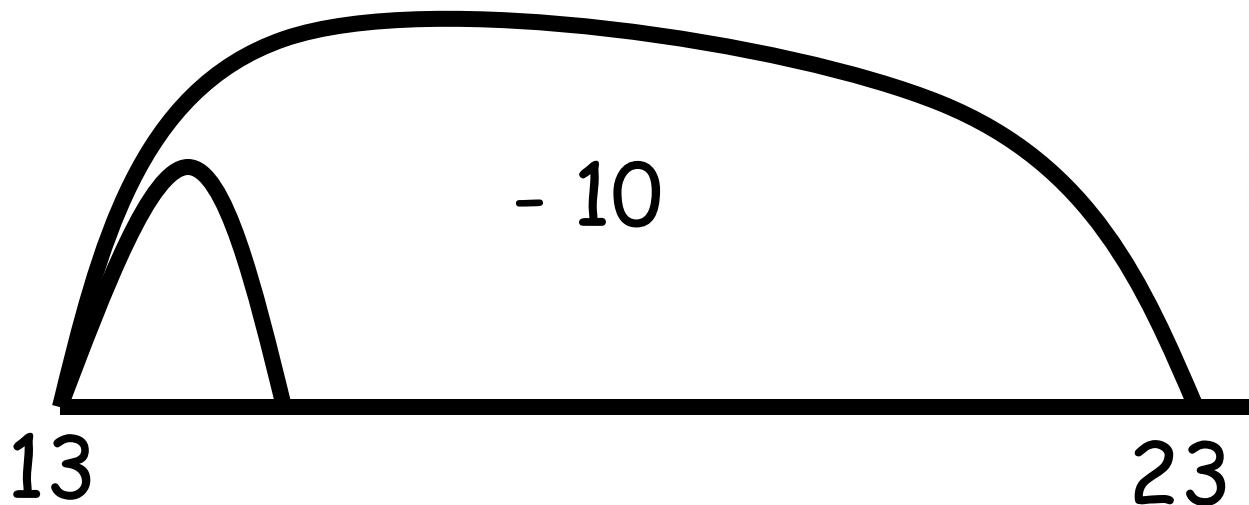
$$23 - 9 = ?$$



# Main Learning Task

- We land on 13
- How much do we need to jump forward?

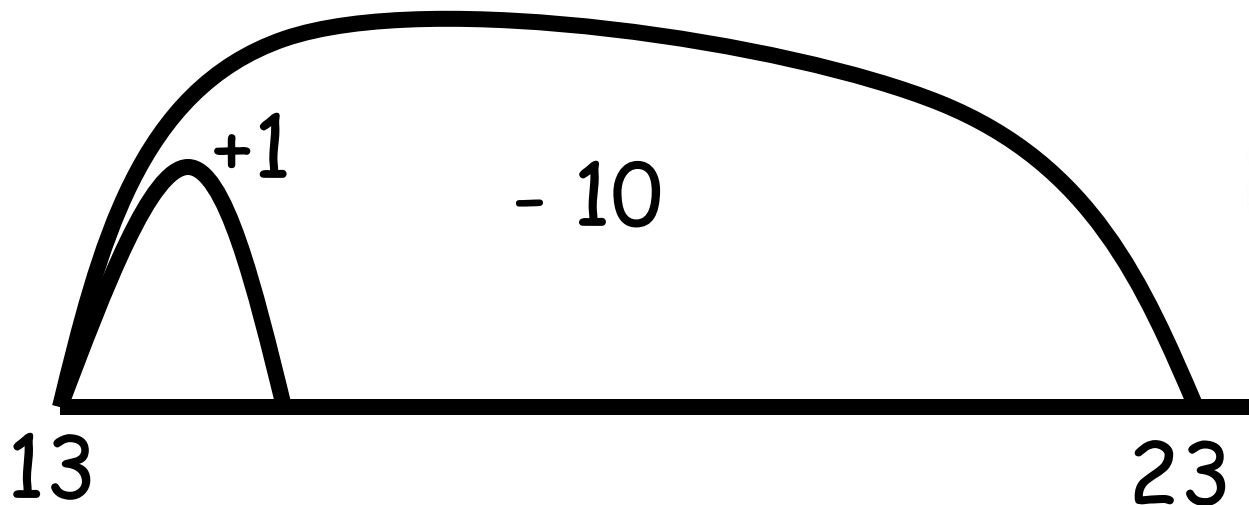
$$23 - 9 = ?$$



# Main Learning Task

- We subtracted 1 too many to jump back 10 instead of 9.
- We need to add +1 jump

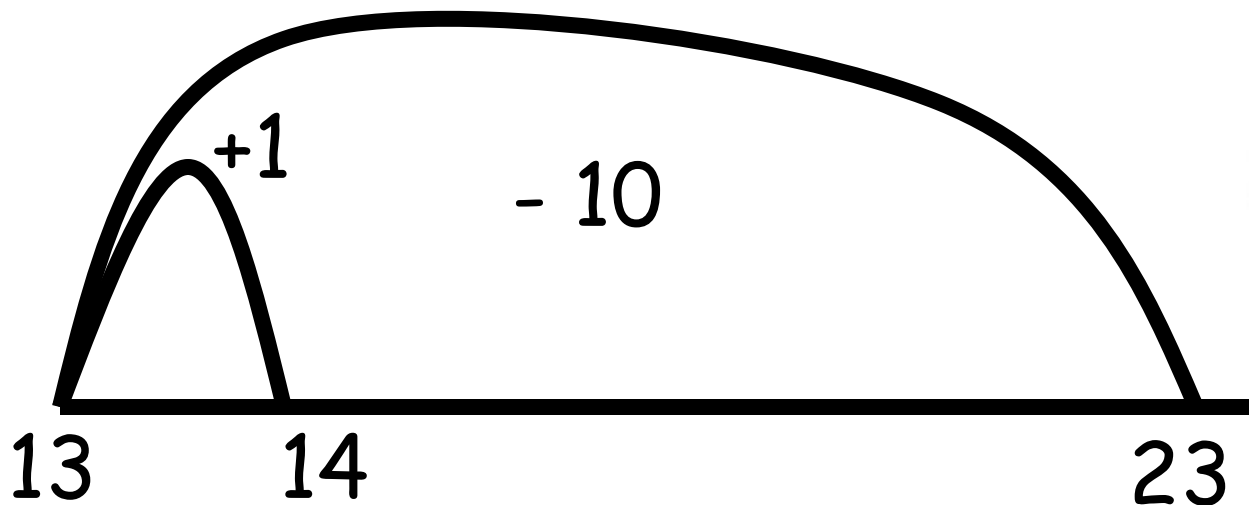
$$23 - 9 = ?$$



# Main Learning Task

- What do we finally land on?

$$23 - 9 = ?$$





# Main Learning Task

- See if you can work out these two sums on your own.....



# Main Learning Task

$$23 - 11 = ?$$



# Main Learning Task

$$23 + 9 = ?$$



# Main Learning Task

- Now we are going to add and subtract numbers near to a multiple of 10, such as 29, 31, 39, 41.
- The same method we have just learnt can be used.
- We add a multiple of 10 and then adjust up or down.



# Main Learning Task

- You all know how to add and subtract 11 and 9.
- What about 19 and 21?
- Do you think you could use the same methods with numbers like these?



# Main Learning Task

- Lets try adding 21 and 33.
- What do we start with?



# Main Learning Task

- Lets try adding 21 and 33.
- What do we start with?



# Main Learning Task

- We can add 20 by jumping on 20 to get...
- What do we get?





# Main Learning Task

- We jump to 53.
- We now need to jump one more.
- What do we land on?



# Main Learning Task

- We can then say...

$$33 + 21 = 33 + 20 + 1 = 54$$



# Main Learning Task

- We could also do this for adding 19.
- Lets add 19 to 43

$$19 + 43 =$$

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# Main Learning Task

- What number do we start on?
- We start on 43 because it is bigger.

$$19 + 43 =$$

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# Main Learning Task

- 19 is almost 20.
- So we add on 20.
- We then take off 1.

$$19 + 43 =$$

---



# Main Learning Task

- What do you make the answer  
 $19+43 = ?$

$$19 + 43 =$$

---



# Main Learning Task

- We could also do this for adding .
- Lets add 21 to 43

$$19 + 43 =$$

---



# Main Learning Task

- What number do we start on?
- We start on 43 because it is bigger.

$$19 + 43 =$$

---





# Main Learning Task

- 21 is almost 20.
- So we add on 20.
- We then add another 1.

$$19 + 43 =$$

---



# Main Learning Task

- What do you make the answer  
 $21+43 = ?$

$$19 + 43 =$$

---



# Main Learning Task

- Get the children to work out adding and subtracting 9 and 11 using a suitable worksheet.



# Main Learning Task

- Simplification.
- Suggest children use 100-grid to support their work.
- Discuss the patterns they can see.



# Main Learning Task

- Challenge:-
- Provide problems in adding or subtracting other near multiples of such as 28 and 29, 31 and 32, 41 and 42.
- Children can make up their own problems using 2-digit or 3-digit numbers. Talk to them about the method they use.



# Main Learning Objective

- I can add and subtract 9 and 11 from any two-digit number.
- I can start to add and subtract numbers near to multiples of 10.



# Plenary

- Discuss how the children tackled some of their problems on the worksheet.
- Invite children to write one of their calculations on the board and explain how they did it.



# Plenary

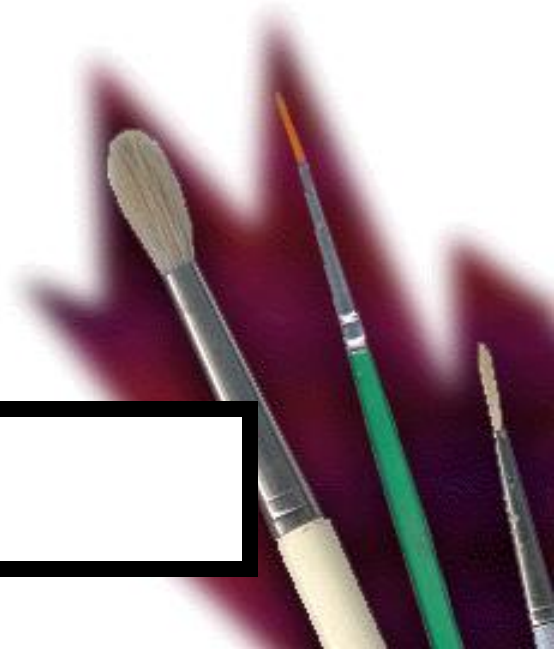
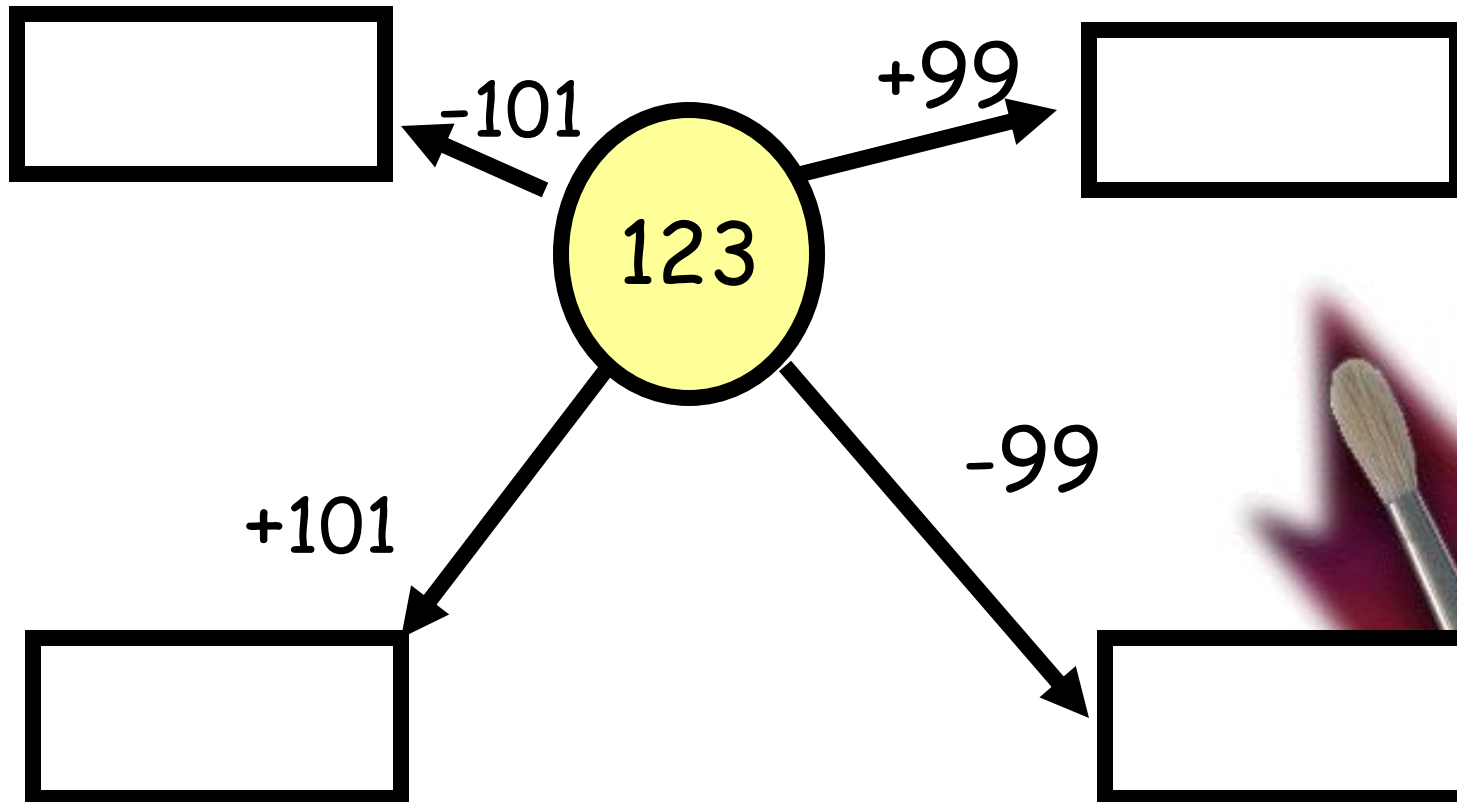
- Have different children used different methods?





# Plenary

- How would we solve this problem?



# Review of Key Idea

- I know how to mentally add and subtract.
- Did you learn this in this lesson?



# Where Can I Find More Resources Like This?

- You can now visit my teaching resource website at <http://www.DrFog.co.uk>
- You can [click here](#) to search for more of my teaching resources.
- [Click here](#) to visit my TES shop!

