Diving into Mastery – Diving

Adult Guidance with Question Prompts

Children build on subtraction strategies from the autumn term by subtracting using their fingers, number lines, drawings and practical equipment. Check that children are not including the starting number when counting back using their fingers. Model putting the starting number 'in their head' (touching their head may be helpful) when counting back on their fingers.

Encourage children to circle the starting number on a number line and count back in jumps of one, keeping track of how many they have counted back by saying the numbers to themselves.

Can you circle the number you are starting from?

How many do you need to count back?

How do you know?

Did you do the right amount of jumps?

How can you check?

How many sweets has Freddie got left?

Which method will you use to find out?

Can you cross some of the sweets out to show how many he has lost?

How can you show Freddie's sweets in a part-whole model?

Use the number lines to count back and find the answers.

19 − 3 = ☐

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

17 − 6 = ☐

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Freddie had 18 sweets. He lost 6.

Now he has ____ sweets.

Show Freddie's sweets in different ways:

part

whole

part

____ − ____ = ____
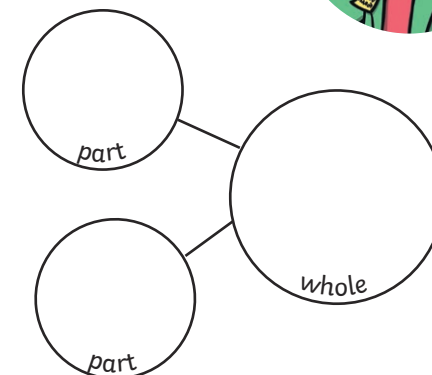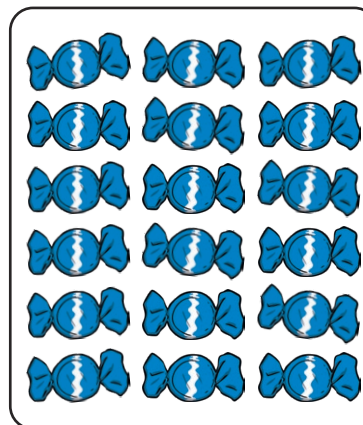
Diving into Mastery – Deeper

Adult Guidance with Question Prompts

Children explain why Freddie has made a mistake when counting back. It is a common error to include the starting number when counting back and therefore get the incorrect answer. This activity uses that misconception as a teaching point.

At what number did Freddie start counting back?

Was that the correct choice?

Why not?

How should he have started counting back?

What number should he have put 'in his head'?

Can you show me how to count back six from 20?

What number did you finish on?
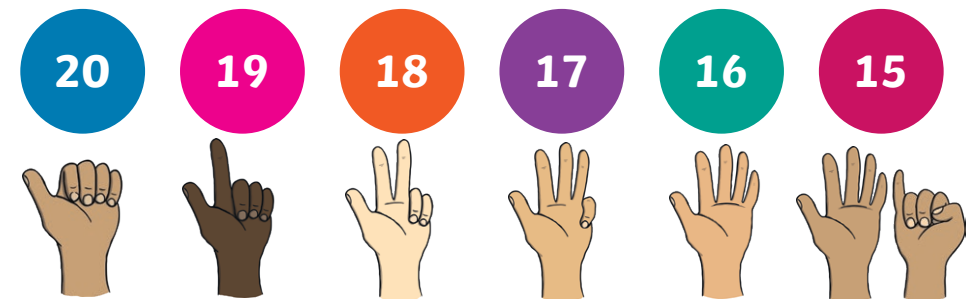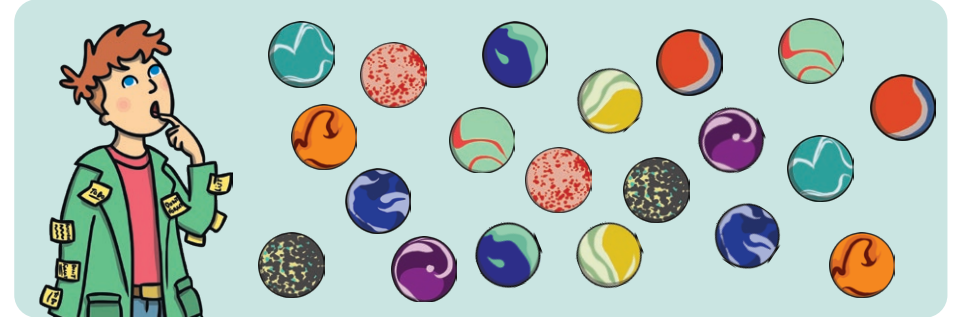
How many marbles did Freddie have left?

How could we write this as a calculation?

Can you represent the calculation on a number line?

Subtraction – Not Crossing 10

Forgetful Freddie had 20 marbles. He lost 6.

20 19 18 17 16 15

He counted back on his fingers and got to 15.

What mistake did he make?

How many marbles did he really have left?

Show Freddie's marbles in different ways.

_____ - _____ = _____

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Diving into Mastery – Deepest

Adult Guidance with Question Prompts

Children solve a 'find all possibilities' problem by writing all the calculations that represent Freddie's socks that have blown off the washing line. Children could use practical equipment such as number shapes to help with this problem or they could also act out the problem with socks and a washing line.

Which number do we need to start on each time?

How many shall we count back first?

Can you write a calculation to describe what you have done on the number line?

How will being systematic, following the pattern of the numbers, help us to find all the possible answers?

What if all the socks have blown away?

How many will he have left?

Have you found all the possible ways?

How can you be sure?

I hung my socks on the line. Some have blown away.

How many socks could be left? Find all the different possibilities using the number line.

Write a calculation for each one.

0 1 2 3 4 5 6 7 8 9 10

$8 - \boxed{} = \boxed{}$

How many different subtraction calculations have you written?