

# Diving into Mastery - Diving

## Adult Guidance with Question Prompts

Find bonds to 100 using only multiples of 10. Emphasise the relationship between number bonds to 10 and number bonds to 100. Children represent bonds to 100 using ten-frames and counters.

What pattern do you notice when you look at the number bonds to 10 and the number bonds to 100?

What is the same?

What is different?

How can you use the number bonds to 10 to help you work out the number bonds to 100?

Why does it help to work systematically, following the pattern of the numbers?

Look at the ten-frames.

If these frames represent 100, what is the value of each counter?

How do you know?

Which number bond to 100 is represented by each one?

How do you know?

Can you make it with your ten-frame?

Can you make all the other number bonds to 100 using your ten-frame and counters?

## Bonds to 100



Fill the gaps below. Make sure that you follow the pattern of the numbers.

$0 + 10 = 10$

$0 + 100 = \square$

$1 + 9 = 10$

$10 + \square = \square$

$2 + \square = 10$

$\square + 80 = \square$

$\square + 7 = 10$

$\square + 70 = \square$

$\square + \square = 10$

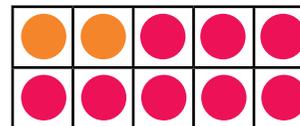
$\square + \square = 100$

$\square + \square = \square$

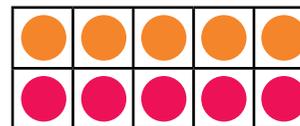
$\square + \square = \square$

Can you use a ten-frame to represent these number bonds?

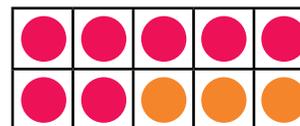
Match each ten-frame to its number bond.



$50 + 50 = 100$



$70 + 30 = 100$



$20 + 80 = 100$

Make the other number bonds to 100 using your ten-frame and counters in two colours.

# Diving into Mastery - Deeper

## Adult Guidance with Question Prompts

Children recognise number bonds to 90 for multiples of 10. They use different representations of number and the number bonds to nine that they know.

What number bonds do we know that could help us with this?

Can you write all the number bonds to nine?

Why does it help us to work systematically, following the pattern of the numbers?

Which of these pictures represents a number bond to 90?

Which one does not?

How do you know?

Can you prove it?

What other ways could we use to represent the number bonds to 90?

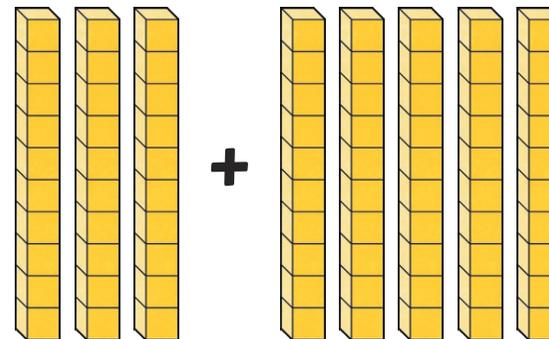
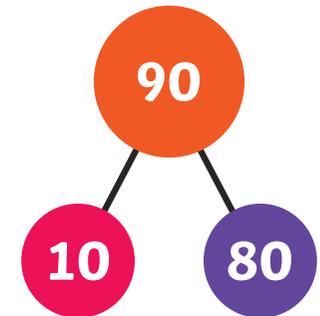
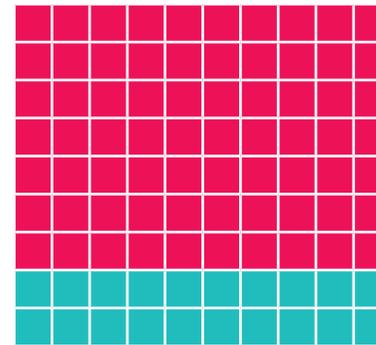
## Bonds to 100



Find the odd one out. Which one does not represent a number bond to 90?



three tens  
and six tens



$20 + 70$

How many other ways can you think of to represent the number bonds to 90 using multiples of 10?

# Diving into Mastery - Deepest

## Adult Guidance with Question Prompts

Encourage systematic working and the use of number bonds to eight. Children will also need to use number bonds to other numbers less than eight to help with the final questions.

What number bonds do you know that could help you with this?

Can you write those in a list systematically, following the pattern of the numbers?

Why does it help us to work systematically?

How can you use the number bonds to eight to help you with this problem?

If Fred bought an apple, what else could he buy?

Could he buy apple juice and crisps? Why not?

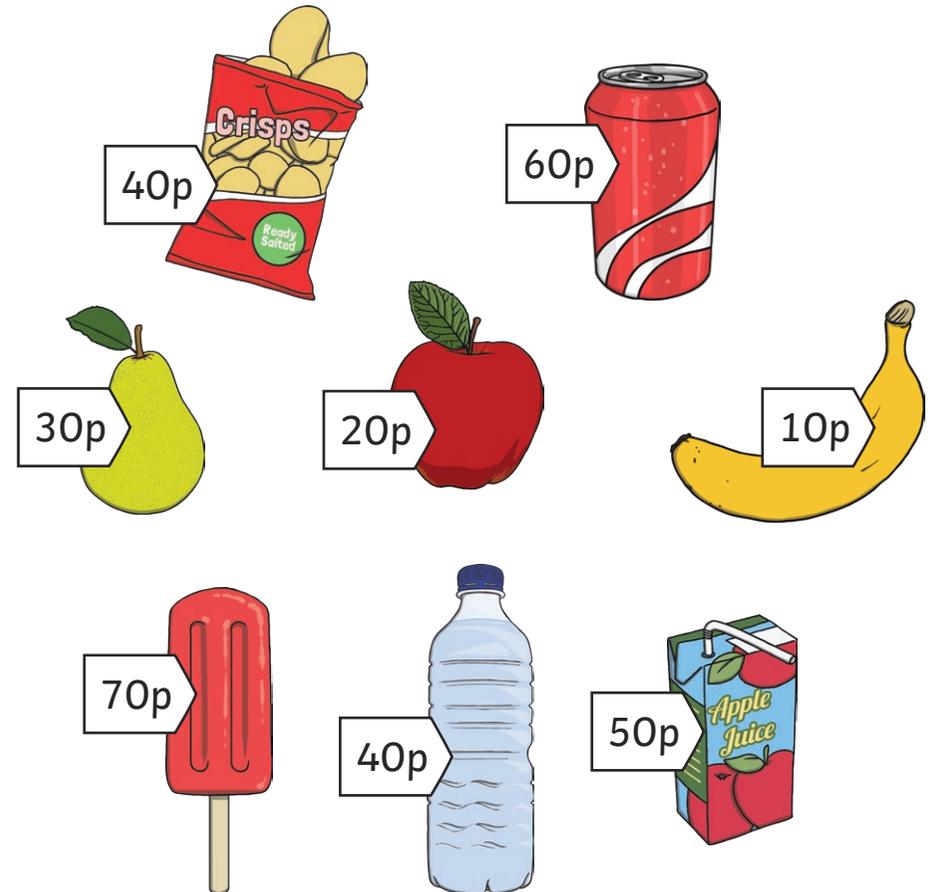
If Fred didn't spend all his money, what two things could he buy?

How much money would he have left over?

## Bonds to 100



Fred has 80p to spend from his pocket money. He buys 2 things from the shop. Which 2 things could he buy if he wanted to spend all his money? Find all the possibilities.



Find other ways of buying 2 items that cost less than 80p.