

# Diving into Mastery – Diving

## Adult Guidance with Question Prompts

Children build upon the number bonds to ten from year 1 and revisit the fact families. They complete models to represent the fact family and write the associated calculations.

What is the whole quantity of fruit?

What are the parts?

How many apples?

How many pears?

What does each part of the bar model represent?

What does each circle of the part-whole model represent?

Can you write eight different calculations for this fact family?

Have you found them all?

How do you know?

Can you explain the relationship between addition and subtraction?

What is the meaning of the equals sign?

Does it matter which way round we add the parts?

Why not?

Can I write  $11 - 9 = 20$ ? Why not?

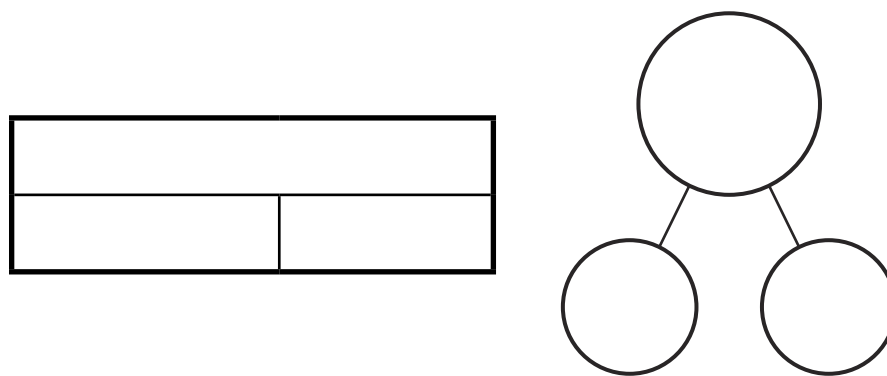
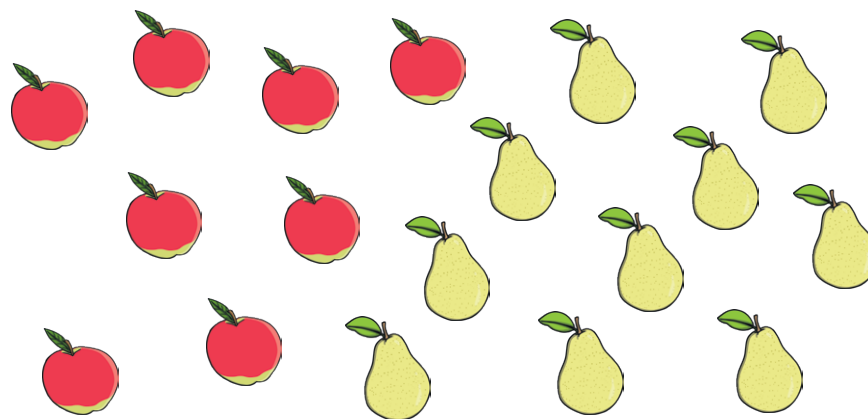
Select one of the calculations. Can you think of a different way to write it?  $18 = 10 + 8$ ,  $18 = 8 + 10$

## Addition and Subtraction Facts to 20



Complete the bar model and part-whole model to match this fruit picture.

Think about how many pieces of fruit there are overall and how many pieces there are of each kind of fruit.



Can you write 4 different calculations about the fruit?

# Diving into Mastery – Deeper

## Adult Guidance with Question Prompts

Children reason about the fact family represented by the bar model. They investigate to see if the calculations have been written correctly and explain their thinking.

What is the whole number represented by the bar model?

What are the parts of the whole number?

Has Rhiannon written eight different calculations? Can you see any that are the same?

Can you spot any mistakes?

Can you explain why she is wrong?

Has she repeated any calculations?

How could she have written it differently?

Are there any other mistakes?

Why is it wrong to write  $20 = 15 - 5$ ?

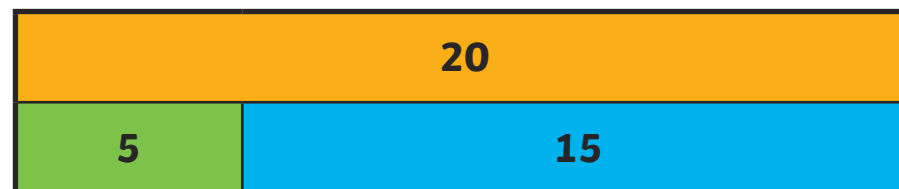
How about  $20 = 5 - 15$ ?

Which two subtractions should she have written?

## Addition and Subtraction Facts to 20



Rhiannon looked at this bar model:



She wrote these calculations:



$$5 + 15 = 20$$

$$20 = 15 + 5$$

$$5 + 15 = 20$$

$$20 = 5 + 15$$

$$20 - 5 = 15$$

$$20 = 15 - 5$$

$$20 - 15 = 5$$

$$20 = 5 - 15$$

Has she written the calculations correctly?

Why do you think that?

Correct any mistakes Rhiannon has made.

# Diving into Mastery – Deepest

## Adult Guidance with Question Prompts

Children find possible solutions to different problems and make deliberate mistakes for their partners to fix.

What is the whole number?

What could the parts of the whole number be?

Can you write eight different calculations to represent this fact family?

Can you draw a part-whole model to represent this fact family?

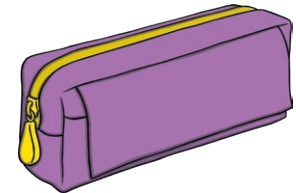
Can you spot the mistake and explain why it is wrong?

How could you change it to be correct?

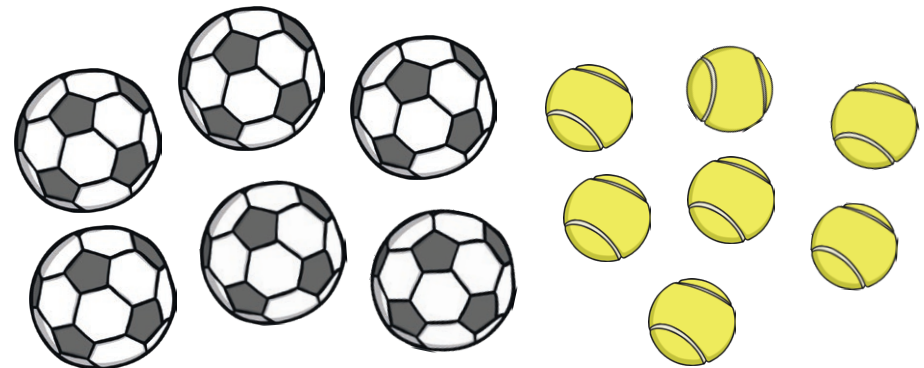
## Addition and Subtraction Facts to 20



Ravi has 17 felt tips. Some are in his spotty pencil case and some are in his purple pencil case.



Think of one way that the felt tips could be split between the pencil cases. Write 8 different calculations and draw a part-whole model to show this.



Now, write 8 different calculations and draw a part-whole model about this picture. Make a mistake on purpose! Can your partner spot and correct the mistake you have made?