Diving into Mastery – Diving

Adult Guidance with Question Prompts

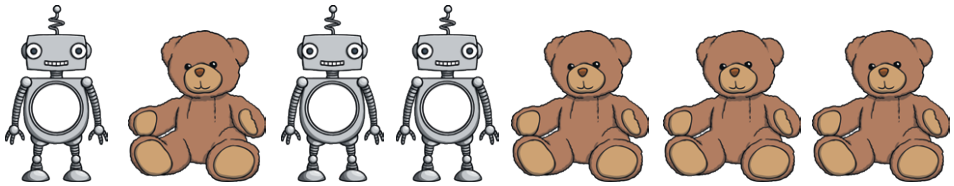
Children deal with addition and subtraction as inverses for the first time. They should use practical and pictorial representations to support the developing understanding of this relationship. Children could use counters or cubes in two colours to practically represent these pictures, especially with the subtraction calculations where mistakes are often made.

How many robots are there?
How many teddy bears?
How many toys are there in total?
What do you notice about the position of the = symbol in these two lists of calculations?
What do you notice about the position of the whole, seven, in each calculation?
Can you fill the gaps to make each of the eight calculations?

Look at the bar model. What is the whole?
What are the two parts?
Can you use the first example you've already done to help you write eight calculations to match?
Can you use cubes/counters to help you?

Fact Families – The 8 Facts

Complete the 8 calculations to match this toy picture.



3 + _____ = 7	7 = _____ + 3
_____ + _____ = 7	7 = _____ + _____
7 − _____ = 3	3 = 7 − _____
7 − _____ =_____	_____ = 7 − 3

Write 8 calculations to match this bar model:

Diving into Mastery – Deeper

Adult Guidance with Question Prompts

Children use equipment (cubes, counters, number line, etc.) to check these calculations, especially the subtraction ones.

How could we work this out sensibly so we don't miss any of the calculations out?

Where will you start?

How can you use equipment to help you check them?

Has Hannah made any mistakes?

What do you think she did wrong?

What should Hannah have written?

Fact Families – The 8 Facts

Hannah wrote these 8 facts:

10 + 4 = 6	10 = 6 + 4
4 + 6 = 10	10 = 4 + 6
10 − 4 = 6	4 = 10 − 6
4 − 6 = 10	10 = 6 − 4

Has she got them right?

How did you find out?

Can you prove it with equipment?

Can you correct her mistakes?

Diving into Mastery – Deepest

Adult Guidance with Question Prompts

First, children use number bonds to identify two different numbers that add to four. Then, they write eight calculations using these numbers. They find another possible solution. Finally, when they try two and two, they should realise there are only four possible calculations to be written.

What two numbers add together to make four?

Can you choose two numbers that are different to each other?

Can you write eight calculations using those numbers?

Have any of your friends chosen different numbers?

Can you write another eight calculations with a different pair of numbers making four?

What if we chose two numbers the same? What would they be?

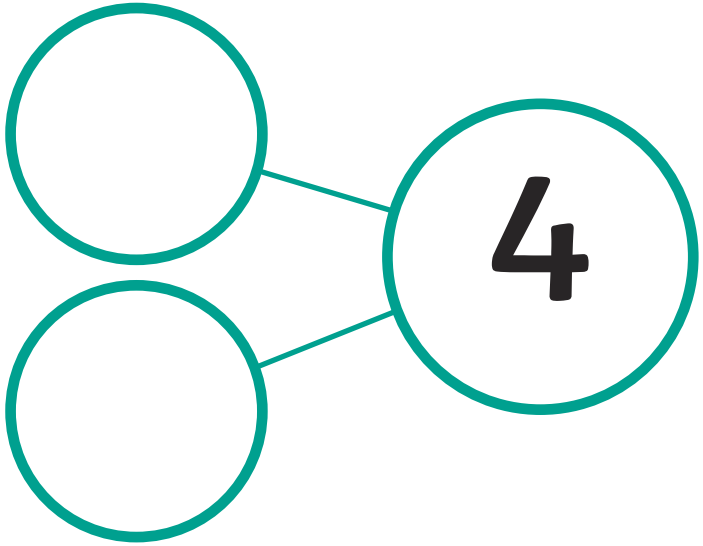
Can we still write eight calculations?

Why not?

How many can we write?

Fact Families – The 8 Facts

Complete the part-whole model by writing two different numbers that add up to make 4.



Write 8 calculations to match the part-whole model.

Now choose two different numbers and write another 8 calculations.

What happens if you choose two numbers that are the same?

How many calculations can you make then?