Diving into Mastery – Diving

Adult Guidance with Question Prompts

Children solve missing number puzzles using patterns rather than by calculating. For example, they know 5 + 2 is greater than 5 + 1 without calculating because they know that two is greater than one.

What do the signs > and < mean?

Can you look carefully at the numbers to work out which sign to use without calculating the answer?

Will 5 + 1 be greater than, less than or equal to 5 + 2? Why?

What is the same? What is different?

How can this pattern help you to choose a sign?

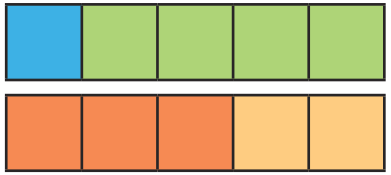
What other patterns can you see in these calculations?

Compare Number Sentences

Put the sign >, < or = in the middle to make these statements correct.

5 + 1		5 + 2
2 + 3		3 + 2
4 + 11		5 + 11
15 - 5		14 – 4
13 + 3		12 + 3
20 - 5		20 - 6

Complete this calculation to represent these bar models:



____ + ____ = ____ + ____

Draw two bar models to show that 6 + 2 = 3 + 5.

Diving into Mastery – Deeper

Adult Guidance with Question Prompts

Children use the pattern of ascending and descending numbers to complete the statements. They explain why this is the case, using equipment if necessary (e.g. sticks of cubes).

What do we know?

What do we need to find out?

What pattern can you see?

How can the pattern help us find the answer without calculating?

What comes next?

Why do you think that?

Can you prove it using equipment?

Compare Number Sentences

Mina thinks about this statement:

$8 + 1 = 7 + 2 = 6 + 3 = \_\_\_\_ + \_\_\_\_$

Is she wrong or right? How do you know?

What are the missing numbers here?

$10 - 1 = 11 - 2 = \_\_\_\_ - \_\_\_\_ = 13 - 4$

How do you know?

Diving into Mastery – Deepest

Adult Guidance with Question Prompts

Children use their knowledge of place value to put the digits in the correct places without calculating the totals.

What does the < sign mean?

Which are the greatest two numbers?

What do you notice about them?

Which are the smallest two numbers?

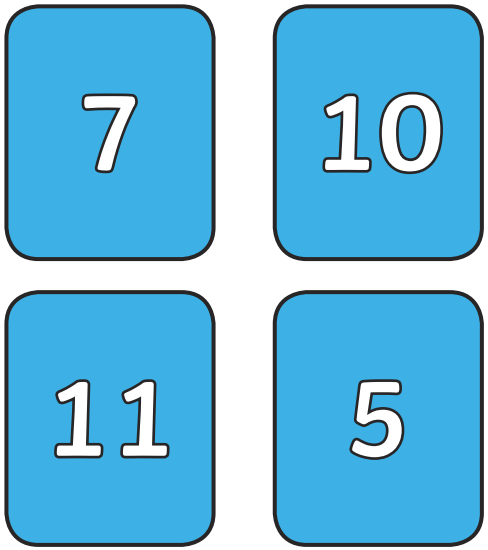
How could that help you?

How many different ways can you arrange the numbers to make the statement correct?

Explain how you know you have found them all.

Compare Number Sentences

Use these four cards to complete the statement correctly in as many different ways as you can. You can only use each card once.



_____ + _____ < _____ + _____

Have you found all the possibilities?
How do you know?

Choose another four numbers that are less than 20 and try again. Did you find more, less or the same amount of ways to complete it?
Why do you think this is?