

Addition and subtraction: Represent and use number bonds and related subtraction facts within 20.

Learning focus

- ☑ Recognise and represent patterns in addition to 20 and talk about what has been done,
- ☑ find all the number bonds that equal the same answer

Greater Depth Challenge:

I'm thinking of a number.

I've subtracted 6 and the answer is 8.

What number was I thinking of?

Explain how you know.

Greater Depth Challenge:

I know that 6 and 4 is 10.

How can I find $7 + 4$?

How could you work it out?

Greater Depth Challenge:

Wes has written the following number sentences for number bonds to 6.

$$0+6=6$$

$$1+5=6$$

$$2+4=6$$

$$3+3=6$$

Has he found all addition number sentences for number bonds to 6?

Explain your answer.

Greater Depth Challenge:

I went to the shop with 20p to spend. These were the items I could buy:



If I spend 20p exactly which two items can I buy?

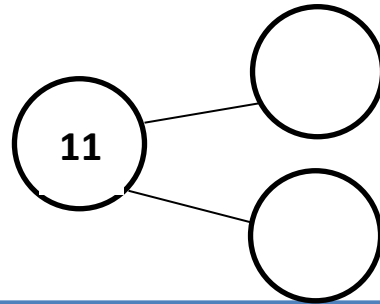
Can I buy more than two items? Show how you worked this out.

What is the largest amount of items I can buy?

Greater Depth Challenge:

Complete and write the addition number sentences using this model.

Is there another way you can represent this?

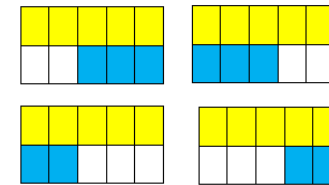


Greater Depth Challenge:

Mia has drawn 4 bar models to represent addition number sentences to 5.

She says "There are 4 addition number sentences I can write."

Is she correct? Explain your answer?



Greater Depth Challenge:

Which numbers could go in the boxes?

$$\square + \square = \square \quad 14$$

Is there more than one option?

Can you find all possibilities?

Convince me!

Greater Depth Challenge:

Tara has written the following number sentences:

$$5+3+0=8$$

$$0+3+5=8$$

$$5+0+3=8$$

$$3+0+5=8$$

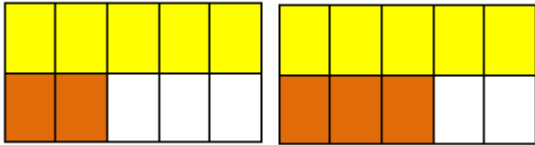
She says "If I write the number sentences again without the zeros in them I will be left with four different number sentences."

Is she correct? Explain your answer.

Learning focus

- ☑ Understand that the order of numbers in a subtraction sentence matters
- ☑ Find all related subtraction facts for a given number bond to 10

Greater Depth Challenge:



Dan and May have been using the bar models to write subtraction number sentences.

May has calculated answers to be 3 and 2.

Dan has calculated one of the answers to be 1.

Whose calculations are correct? Explain your answer.

Greater Depth Challenge:

Using only numbers to 10 how many different ways can you solve this equation?

$$\square = \square = \square 3$$

How many possibilities are there?

Convince me!

Greater Depth Challenge:

Tina has been looking at how + and – are related

$$3+4=7 \quad 4-3=1$$

$$4+3=7 \quad 7-3=4$$

Has she found all 4 related number sentences?

Explain your answer.

Greater Depth Challenge:

Using only numbers to 10 how many different ways can you solve this equation?

$$\square - \square = \square 4$$

How many possibilities are there? Convince me!

Learning focus

- ☑ Relate addition and subtraction, noticing the effect of adding a number and then subtracting the same number, e.g., $3 + 2 =$ and $5 - 2 = 3$.
- ☑ Make and understand number trio families by starting with a number bond, commuting the addition fact, and making two related subtraction facts, such as $7 + 10 = 17$, $10 + 7 = 17$, $17 - 7 = 10$, $17 - 10 = 7$

Greater Depth Challenge:

Using these numbers **once**, make an addition number sentence.

4 9 15

Now using the **same** numbers, make a subtraction number sentence.

Greater Depth Challenge:

Using your number bonds to 20, find the missing numbers.

$$13 + \text{●} = 20$$

$$20 - \text{●} = \text{●}$$

$$20 = \text{●} + \text{●}$$

$$\text{●} - 13 = \text{●}$$

What do you notice about these number sentences?

Greater Depth Challenge:

Convince me ...

$$6 + 14 = 20 \text{ is the same as } 20 = 14 - 6$$

Greater Depth Challenge:

Always, sometimes, never ...

You can use the same 3 numbers in any number bond to 20 to make 2 subtraction number sentences and 2 addition number sentences.

Addition and subtraction: Add and subtract one- digit and two-digit numbers to 20, including zero.

Learning focus	<ul style="list-style-type: none"> combine groups of objects Increase numbers by counting on, e.g., put 4 more bricks out / jump 4 forwards on the number line.
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Greater Depth Challenge:
Help Mr Piggy!

One little piggy wanted to build his house using bricks.

He had 4 bricks to build his house. His brother gave him 6 more bricks. But 2 of those bricks broke and so he couldn't use them.

Write 2 number sentences to find out how many bricks he had left.

Greater Depth Challenge:

Here a group of dienes. William believes that this group shows 15. Is he right or wrong? Explain your answer.



William is _____ because ...

Greater Depth Challenge:
Trial and Error

Mandy is thinking of 2 odd numbers between 0 and 20.

When she takes them away from each other, the answer is 6. What are the 2 odd numbers Mandy is thinking about?

Greater Depth Challenge:

Hundreds	Tens	Ones

Tas says this shows 23.

Is she right or wrong? Explain your answer.

Learning focus

- decrease numbers by removing concrete objects.
- decrease numbers by counting back, e.g., take 3 hops back on the number line.
- find the difference between two numbers by matching objects and counting 'extras'; and counting on a number line.

Greater Depth Challenge:

Miss Froggy can only leap in 2s on this number line. She started on 20 and leapt back 6 Miss Froggy leaps. Show this on a number line.

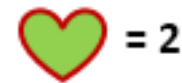
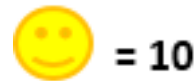


Finish off the number sentence to show Miss Froggy's journey.

Remember ...  = 2 leaps

Greater Depth Challenge:

Key



Using the key, show 26.

Now take away 3.

Which shapes are you left with?

Greater Depth Challenge:

What could it be?

I am thinking of 2 numbers.

When I take them away from each other, I get the answer 15.

What could the 2 numbers be?

Greater Depth Challenge:

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70

Using the hundred square, work out the following questions.

$58 - 10 =$ $14 - 1 =$ $33 - 10 =$ $54 - 10 =$ $49 - 10 =$

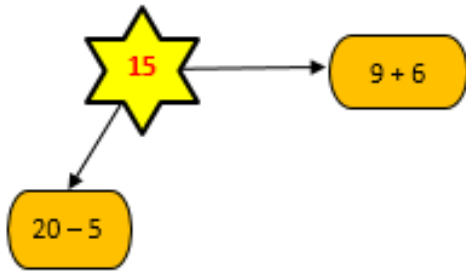
What was the **best** and **quickest** way to use a hundred square to work out these question?

Addition and Subtraction: Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs.

Learning focus	<ul style="list-style-type: none"> ☐ Understand which operation is required when interpreting the addition (+) and subtraction (−) symbols. ☐ Understand that each side of an equation must balance / be equal, i.e., the total on each side must be the same, e.g., $3 + 1 = 2 + 2$.
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Greater Depth Challenge:

Write 3 more subtraction facts and 3 more addition facts for the number 15.



Greater Depth Challenge:

Complete this part whole model.

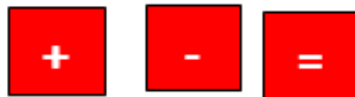
Now create your own for 13.



The blue side must be an addition sentence and the red side must be a subtraction sentence.

Greater Depth Challenge:

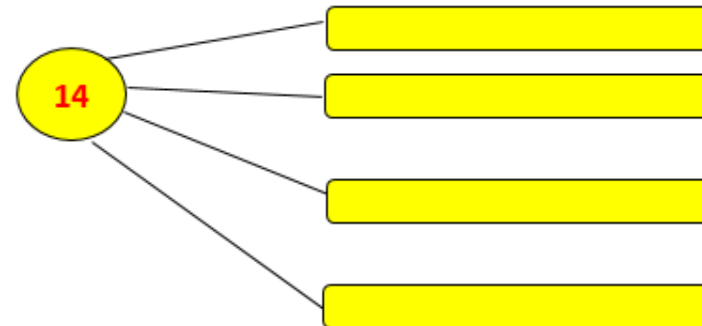
Fill in the missing symbols to make the sentence true.



$15 \square 6 \square 9 \square 0$

Greater Depth Challenge:

Write 2 subtraction sentences and 2 addition sentences for the number 14. You must use the same 3 numbers in each sentence,



Addition and Subtraction: Solve one-step problems that involve addition and subtraction,

Learning focus	<ul style="list-style-type: none"> 🔍 Solve one-step addition and subtraction problems using pictorial representations, e.g.: 🔍 Solve missing number problems and puzzles, e.g.: 🔍 Present problem findings in own way with concrete objects, drawings and number sentences.
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Greater Depth Challenge:

At the park there are **bikes with 2 wheels** and **scooters with 4 wheels.**

Lilly has counted 16 wheels.

How many bikes can she see?

How many scooters can she see?

Greater Depth Challenge:

Complete:

$$4 + \square + 3 = 9$$

$$5 + \square + 4 = 10$$

$$8 + 2 + \square = 12$$

$$1 + 10 + \square = 11$$

Is there more than one way of completing this?

Greater Depth Challenge:

Together Mike and Bill have 15 football cards.

Mike has 7 cards. How many cards does Bill have?

Write a number sentence you could use to solve the problem.

Greater Depth Challenge:

Lula went to the shop to spend her 20p pocket money.



5p



3p

She bought two teddies each costing 5 p and a yoyo for 3p.

If she used a 20p coin to pay, how much change will she get?

What number sentences could you use to solve the problem?

Can you write one addition and one subtraction number sentence?