

Maths Week 4

Addition and Subtraction

Lesson 1 - Fact Families

In this lesson we are looking at fact families.

A fact family is a group of number sentences made up of the same numbers.

For example:

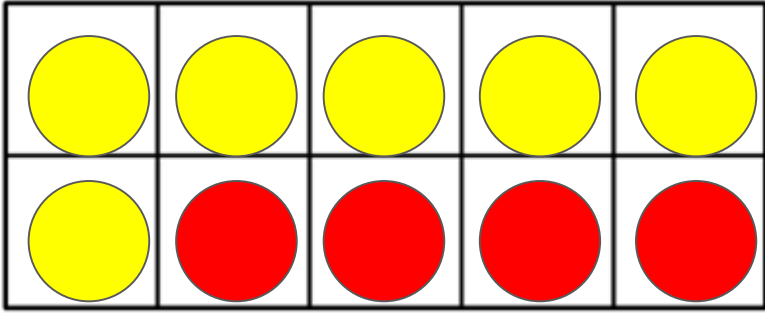
If you know that $2 + 3 = 5$ you also know $3 + 2 = 5$ $5 - 2 = 3$ and $5 - 3 = 2$

We will be using the same video resources as last week. The worksheets mentioned in the videos are attached but these are **optional**.

<https://vimeo.com/413876516>

There are also supporting videos on BBC bitesize. Please use this link and select appropriate videos <https://www.bbc.co.uk/bitesize/dailylessons>

What number is being represented in this 10 frame?
(If you have cubes or something similar at home you can use them to help)

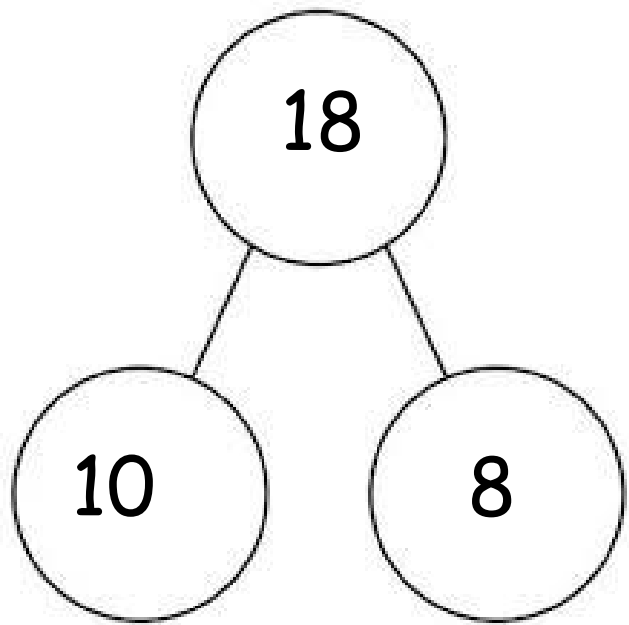


Can you write a number sentence to show this?

___ + ___ = ___

Once you've written a number sentence can you finish the rest of the fact family? (You should have 2 addition and 2 subtraction sentences).

We can also represent number sentences with the part-whole model.



Can you figure out the fact family for this part-whole model?

$$\underline{\quad} + \underline{\quad} =$$

$$\underline{\quad} + \underline{\quad} =$$

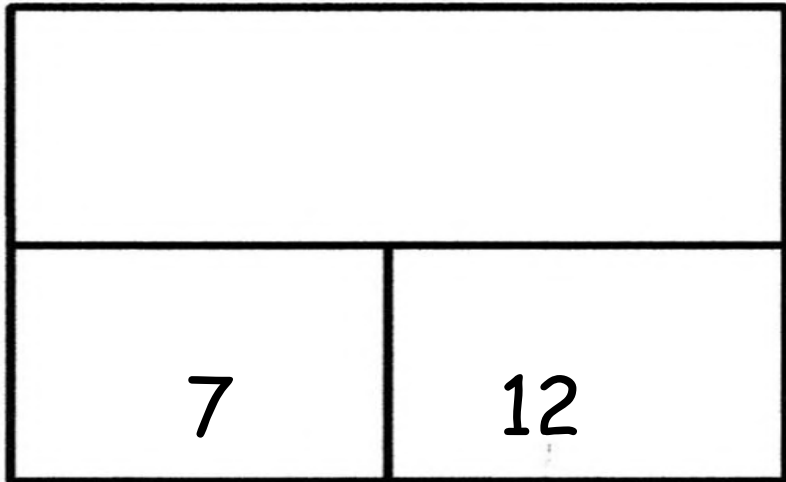
$$\underline{\quad} - \underline{\quad} =$$

$$\underline{\quad} - \underline{\quad} =$$

Are there anymore number sentences?
Maybe you could put the = sign in a different place.

There are 7 bananas in a bowl and 12 oranges. Can you complete the bar model to show the total amount of fruit in the bowl?

You can cut up each section of the bar model on a piece of paper and lay them out in different ways to help you.



Now try and finish the fact family.

Can you spot Burlington Bear's good mistake in his fact family?

$$13 + 8 = 21$$

$$8 + 13 = 21$$

$$21 - 8 = 13$$

$$13 - 8 = 21$$



Some of you might want to do the activity sheet now. You can print it off or do your working out on another piece of paper.

Fact families – addition and subtraction bonds to 20



- 1 What calculations are represented?
The first one has been done for you.

a) 
 $15 + 5 = 20$

b) 
 $\square + \square = \square$

c) 
 $\square + \square = \square$

- d) How many other number bonds to 20 can you make using counters and ten frames?



- 2 Complete the fact family.

a) $15 + 2 = 17$

$17 = 15 + 2$

$2 + 15 = \square$

$\square = \square + \square$

$17 - 15 = \square$

$\square = \square - \square$

$\square - \square = \square$

$\square = \square - \square$

- b)



$2 - 17 = 15$ should be in the fact family

Explain why Rosie is wrong.



Lesson 2 - Comparing number sentences

Today we are going to be comparing number sentences.

These activities can be made more interactive by using items from around your house to represent the number sentences.

<https://vimeo.com/413497019>

Mr Johnson baked 3 cookies and 4 muffins.



Burlington Bear baked 2 cookies and 3 muffins.



Who baked more things?

_____ baked more. I know this because _____

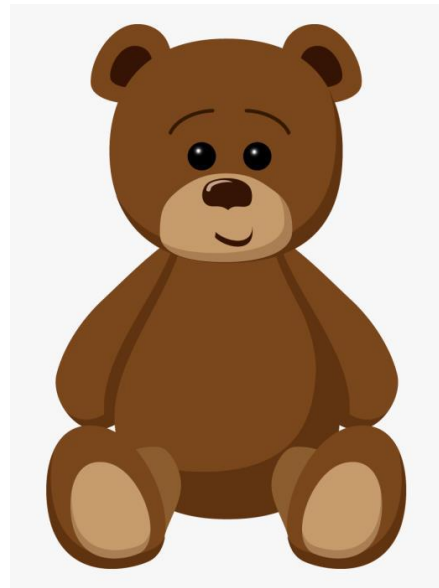
Mr Johnson baked more.

I know this because $3 + 4 = 7$ which is greater than $2 + 3$ which equals 5.

We would then write this as:

$$3 + 4 > 2 + 3$$

$3 + 4$ is greater than $2 + 3$



Optional activity

You will need someone to play this game with.

Go around your house and find several of 2 different objects.

For example, you might choose 2 bananas and 3 books.

Meet back up with your partner and figure out who has more objects.

You must say the full sentence:

_____ has more because _____ + _____ is greater/less than _____ + _____

You can do this one with any objects around your house or draw out the counters yourself.

Cross out counters to show $9 - 3$



Cross out counters to show $9 - 4$



Write $<$, $>$ or $=$ to make the statement correct.

$$9 - 3 \bigcirc 9 - 4$$

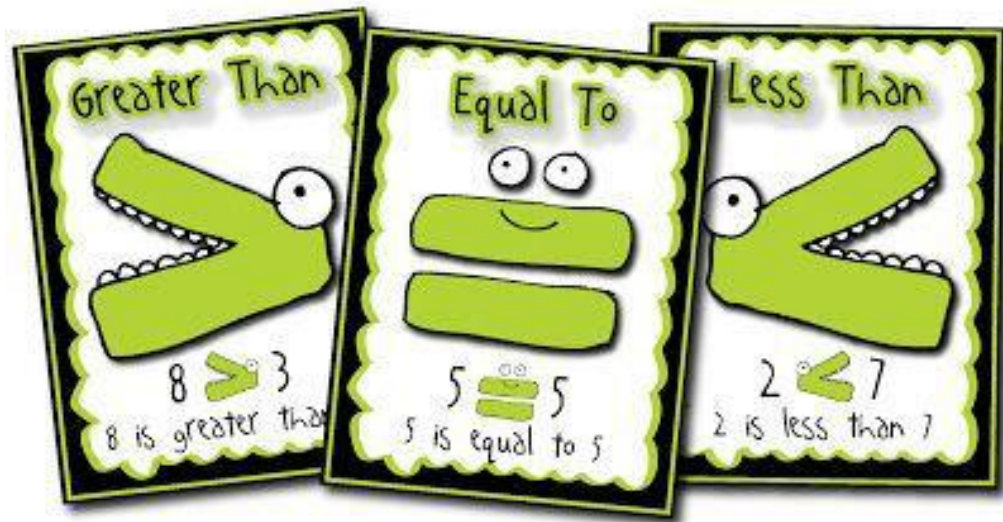
Can you make these statements correct using greater than, less than, or equal? $<$ $>$ $=$

$$5 + 8 \text{ ____ } 9 + 2$$

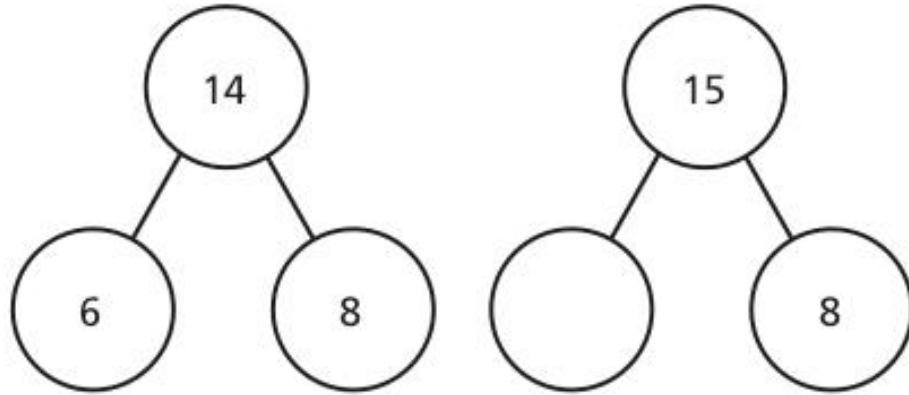
$$8 + 12 \text{ ____ } 13 + 4$$

$$2 + 11 \text{ ____ } 13 + 9$$

$$6 + 6 \text{ ____ } 5 + 7$$



★ Challenge! ★



Teddy knows what the missing number is without calculating.

Explain how Teddy knows this.

What is the missing number?

Some of you might want to do the activity sheet now. You can print it off or do your working out on another piece of paper.

Compare number sentences

White Rose Maths

1

Mo has 4 blue sweets and 3 pink sweets.



Rosie has 4 blue sweets and 5 pink sweets.

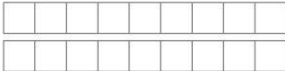


Who has more sweets? _____

Explain how you know. _____

2

Colour the bar models to show that $3 + 6 = 8 + 1$



Write one more calculation that gives the same answer. _____

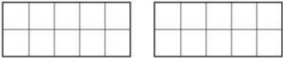
Compare answers with a partner.

3

Draw counters to show $9 + 3$



Draw counters to show $9 + 4$



Write $<$, $>$ or $=$ to make the statement correct.

$9 + 3$ $9 + 4$

4

Write $<$, $>$ or $=$ to make the statements correct.

a) $3 + 5$ $3 + 9$

b) $7 + 2$ $4 + 2$

c) $10 + 5$ $9 + 6$

© White Rose Maths 2019

Lesson 3 - Related Facts

Today we'll be looking at related facts.

This is one of the times when being really confident with your number bonds will help you.

For example:

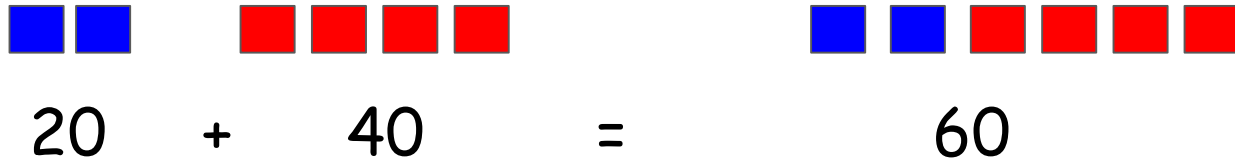
If you know that $3 + 4 = 7$, then you also know that $30 + 40 = 70$.

<https://vimeo.com/413568461>

Using my dienes I know that $2 + 4 = 6$



If I think of each diene as 10 instead of 1
then this can help me figure out $20 + 40 =$



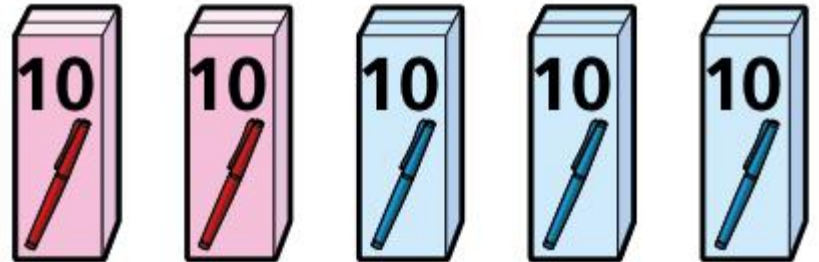
Try these 2 questions now. Think about what we just did with the dienes.

Eva has 2 red pens and 3 blue pens.



How many pens does Eva have?

Tommy has 20 red pens and 30 blue pens.



How many pens does Tommy have?

Try these now, drawing out your dienes to help you.

$$6 + 4 =$$

$$60 + 40 =$$

$$7 + 2 =$$

$$70 + 20 =$$

$$8 - 3 =$$

$$80 - 30 =$$

These problems use your related fact knowledge again. If you solve one then you know the other!

$$2 + 5 = \underline{\quad}$$

$$\underline{\quad} + 50 = 70$$

$$8 - 2 = \underline{\quad}$$

$$80 - \underline{\quad} = 60$$

$$\underline{\quad} + 4 = 9$$

$$50 + 40 = \underline{\quad}$$

Top tip!
Solve the easier part first (the smaller numbers)

★ Challenge! ★

6



If $3 + 1 = 4$,
then $30 + 10 = 400$ because
there are two zeros.

Do you agree with Dexter? _____

Explain your answer.

Some of you might want to do the activity sheet now. You can print it off or do your working out on another piece of paper.

Related facts

- 1 Use base 10 to show that $3 + 5 = 8$ and $30 + 50 = 80$
Draw your answer.

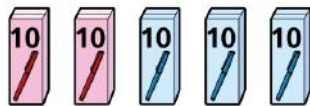
What is the same about your models?
What is different?

- 2 a) Eva has 2 red pens and 3 blue pens.



How many pens does Eva have?

- b) Tommy has 20 red pens and 30 blue pens.



How many pens does Tommy have?

- 3 Fill in the missing numbers in the related facts.

a) $1 + 2 = 3$

$10 + 20 =$

b) $7 + 2 = 9$

$70 + 20 =$

c) $4 + 5 =$

$+ 60 = 100$

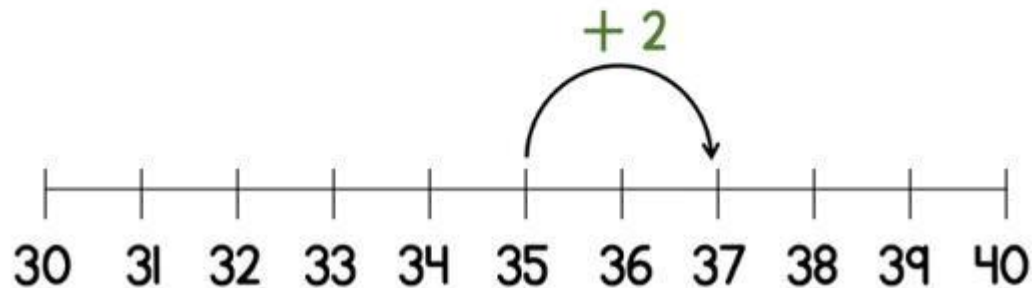
Lesson 4 - Adding and subtracting ones

This lesson involves looking at one more and one less and then moves onto adding and subtracting ones.

We also look at some missing number problems and how to solve these.

<https://vimeo.com/414671240>

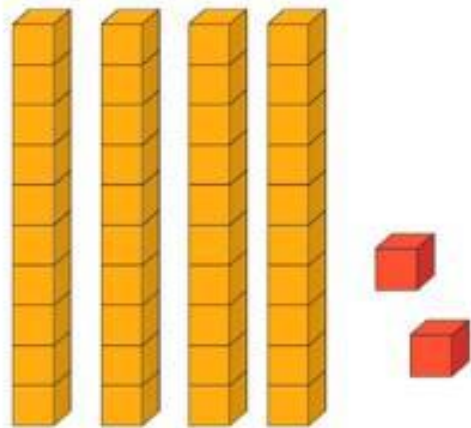
In the video we used a numberline to help us add.



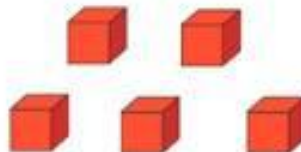
This shows $35 + 2 = 37$.
Can you explain why?

We can also draw dienes to help us add.

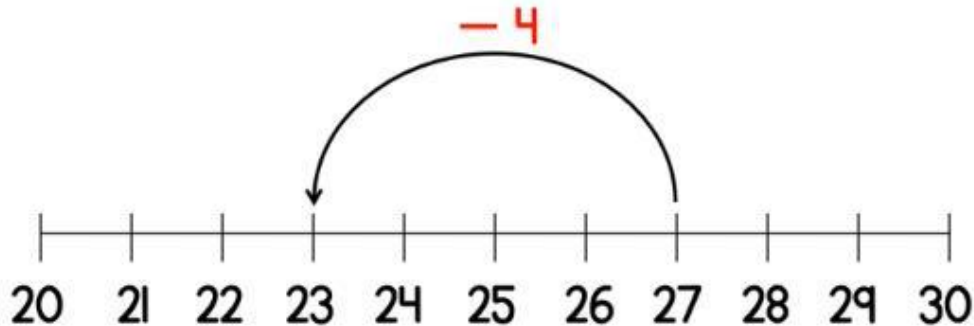
Work out $42 + 5$



Have a go



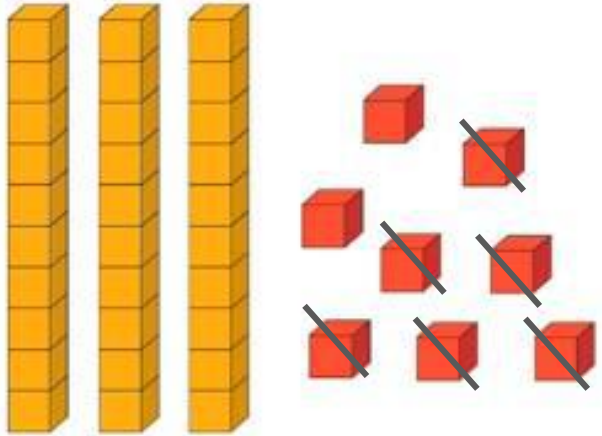
We can use a numberline to help us subtract.



What does this show?

We can use dienes to help us subtract.

Work out $38 - 6$



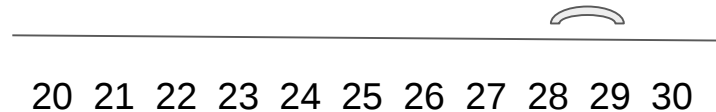
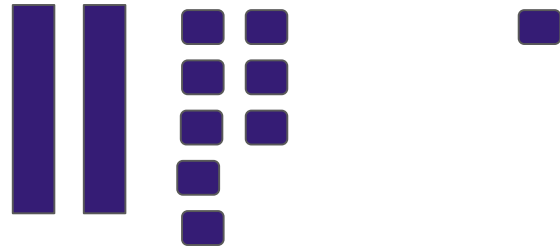
Mr Johnson has 28 books to mark.
He finds one more on another table.
How many books does he have to mark now?



Is this an addition or subtraction question?
Will you draw a numberline or dienes to help you solve it?

Mr Johnson has 28 books to mark.
He finds one more on another table.
How many books does he have to mark now?

$$28 + 1 =$$



Mr Johnson now has 15 books to mark.
He loses one of the books.
How many does he have left?

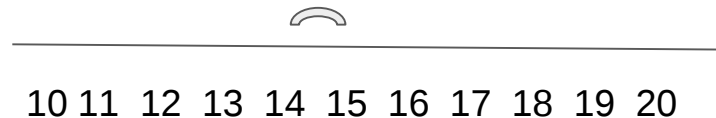


Is this an addition or subtraction question?

Will you draw a numberline or dienes to help you solve it?

Mr Johnson now has 15 books to mark.
He loses one of the books.
How many does he have left?

$$15 - 1 =$$



Complete the number tracks.

a)

21		23					
----	--	----	--	--	--	--	--

b)

47		45					
----	--	----	--	--	--	--	--

c)

				5					10
--	--	--	--	---	--	--	--	--	----

How could you make these harder?

a) $14 + 2 =$

e) $19 - 2 =$

b) $22 + 3 =$

f) $33 +$ $= 35$

c) $54 + 4 =$

g) $12 = 19 -$

d) $= 5 + 61$

h) $= 89 - 3$

Some of you might want to do the activity sheet now. You can print it off or do your working out on another piece of paper.

Add and subtract 1s



- 1 a) Jack has 6 cookies.



Annie gives him one more cookie.
How many cookies does he have now?

Jack has cookies now.

- b) Amir has 4 cookies.



He eats one of his cookies.
How many cookies does he have now?

Amir has cookies now.

- 2 Complete the number tracks.

a)

21		23					
----	--	----	--	--	--	--	--

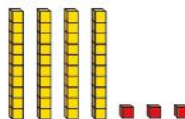
b)

47		45					
----	--	----	--	--	--	--	--

c)

				5				10
--	--	--	--	---	--	--	--	----

- 3 a) Filip has made a number using base 10



What number has Filip made?

- b) Rosie also makes a number using base 10
Rosie's number is one more than Filip's number.

What is Rosie's number?



Mental Maths

Halving to 30.

Think of an even number up to 30 and half it. How many can you do in 1 minute? Try this website for games <https://www.topmarks.co.uk/maths-games/hit-the-button>

Division facts for 2, 5, and 10.

How many division facts that include at least one of these numbers can you come up with in.

You could play this game:

<https://www.topmarks.co.uk/maths-games/hit-the-button>

