Year 1

Small Steps Guidance and Examples

Block 2: Addition and Subtraction

White Rose Maths

Overview

Small Steps

- Part whole model
- Addition symbol
- Fact families – Addition facts
- Find number bonds for numbers within 10
- Systematic methods for number bonds within 10
- Number bonds to 10
- Compare number bonds
- Addition: Adding together
- Addition: Adding more
- Finding a part
- Subtraction: Taking away, how many left? Crossing out
- Subtraction: Taking away, how many left? Introducing the subtraction symbol
- Subtraction: Finding a part, breaking apart
- Fact families – The 8 facts
- Subtraction: Counting back
- Subtraction: Finding the difference
- Comparing addition and subtraction statements a + b > c
- Comparing addition and subtraction statements a + b > c + d

NC Objectives

Represent and use number bonds and related subtraction facts within 10

Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.

Add and subtract one digit numbers to 10, including zero.

Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.

Part Whole Model

Notes and Guidance

Before beginning to add numbers and look at number bonds, children need to understand that a number can be partitioned into two or more parts.

Here, we introduce the part whole model to show this concept clearly.

Children should understand the language part, part, whole.

Mathematical Talk

Which number is the whole?

Which numbers are the parts?

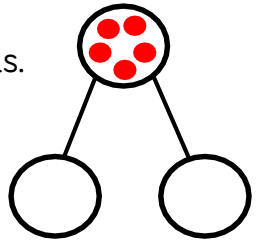
Can we partition a number into more than two parts?

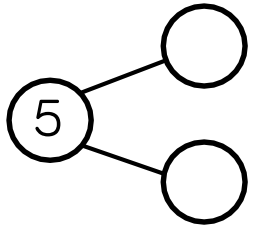
Have you included zero?

Can you prove that you have found all the possible answers?

Varied Fluency

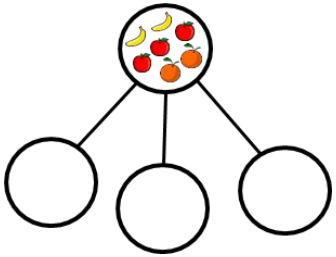
1 Complete the part whole models by drawing the counters then writing the numerals.





2 Here are seven pieces of fruit.

Put the fruit into a part whole model.



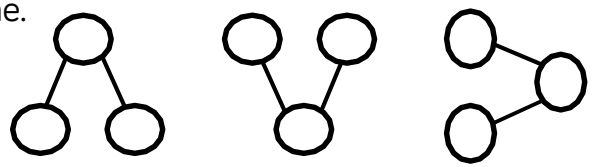
Complete the sentences.

…….. is the whole.

…….. is a part, …….. is a part and …….. is a part.

3 4 is the whole.

Complete all the part whole models using different numbers for the parts each time.



Part Whole Model

Reasoning and Problem Solving

There are 6 children.

How many different ways can you sort the children?

Complete a part whole model for each way.

Can you partition the children into more than 2 groups?

Possible answers:

Children sorted into boys and girls.

Children sorted into wearing white, wearing red.

Children sorted into children with white shoes and children with non-white shoes.

Work in groups of up to eight children.

Can you split yourselves into different groups?

Think of different ways to group yourselves: hair colour, eye colour, gender, shoe size etc.

Can you partition into more than 2 groups?

Children may split themselves into groups in many different ways.

E.g. hair colour, month of birth, shoe size, gender etc.

The Addition Symbol

Notes and Guidance

Children are introduced to the addition symbol (+) for the first time. They combine this with the equal to symbol (=) to create their first number sentences e.g. 3 + 2 = 5
At this stage, children focus on a specific order to the number sentence (a + b = c). They focus on the language associated with this number sentence.
For example, 7 apples plus 3 apples is equal to 10 apples.

Mathematical Talk

What does the 3 represent?

What does the 4 represent?

What does the 7 represent?

Is there only one way to write the number sentence?

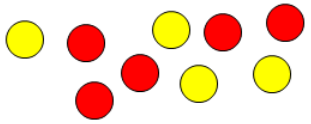
Varied Fluency

1 Show that 3 green cubes plus 4 red cubes is equal to 7 cubes.

Write this as a number sentence.

☐ + ☐ = ☐

2 Here are some counters.



Group the counters by colour.
Fill in the gaps in this sentence and say it out loud.

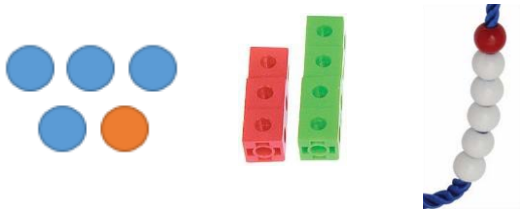
…… red counters plus …… yellow counters is equal to …… counters.

Complete the number sentence.

☐ + ☐ = ☐

The Addition Symbol

Reasoning and Problem Solving



..... + ... = 6

Which of the images could help to complete the number sentence?

Explain why.

Can you think of a number sentence for each of the other two images?

Bead string as there are 6 beads in total, 5 white and 1 red.

So 5 + 1 = 6

Counters

4 + 1 = 5

Cubes

3 + 4 = 7

Using the numbers 0 – 9 how many ways can you fill in the boxes to make the calculation correct?

You can only use each number once.

□ + □ = □

How many different calculations are there?

Answers will be in the following style with repeated calculations ignored.

1 + 8 = 9
2 + 7 = 9
3 + 6 = 9
4 + 5 = 9
~~5 + 4 = 9~~
~~6 + 3 = 9~~
~~7 + 2 = 9~~
~~8 + 1 = 9~~

Etc.

There are 16 in total.

Children could explore the possibilities if a number could be repeated.

Fact Families - Addition

Notes and Guidance

Once children have shown understanding of the initial number sentence, they build on this looking at addition fact families. Here children see that the order of the addition sentence can be varied and they begin to discover that addition is commutative.

E.g. $3 + 2 = 5$ $2 + 3 = 5$

$5 = 3 + 2$ $5 = 2 + 3$

Mathematical Talk

Is the equal sign always at the end of a number sentence?

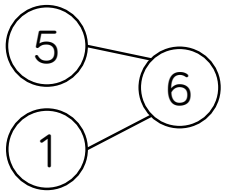
What is the same about the four addition sentences?

What's different about the four addition sentences?

If two of the numbers in the part whole model are the same, can we still write four addition sentences? Prove it.

Varied Fluency

1 Fill in the missing numbers.



$1 + \square = 6$

$\square + 1 = 6$

$\square = \square + 1$

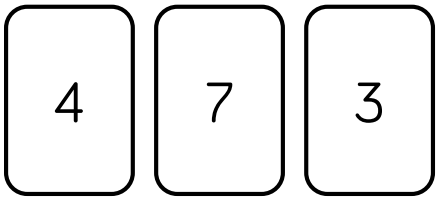
$6 = \square + \square$

2 Complete the number sentences.

$\square + \square = 7$ $7 = \square + \square$

$\square + \square = 7$ $7 = \square + \square$

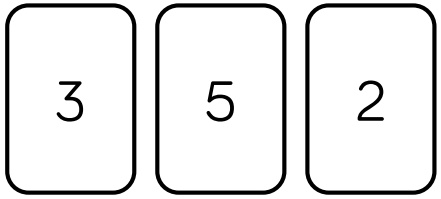
3 Use the number cards to make 4 addition sentences.



Fact Families - Addition

Reasoning and Problem Solving

Kim has 3 number cards.



She has written two number sentences.

$3 + 5 = 2$ $3 = 5 + 2$

Explain what Kim has done wrong.

Correct her number sentences and complete the fact families.

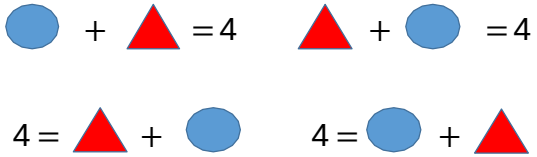
Kim has placed the numbers in the order she was given them, rather than moving them to make the number sentence correct.

$3 + 2 = 5$

$2 + 3 = 5$

$5 = 3 + 2$

$5 = 2 + 3$



What could the ● and the ▲ be worth?

Possible answers:

● = 2

▲ = 2

● = 3

▲ = 1

● = 1

▲ = 3

● = 0

▲ = 4

● = 4

▲ = 0

Number Bonds within 10

Notes and Guidance

Children combine their knowledge of the part-whole model and addition facts, to explore number bonds within 10.

Starting with the whole, children break numbers into parts and explore how many different ways a number can be partitioned.

e.g. $5 = 3 + 2$

$5 = 4 + 1$

Mathematical Talk

Does the whole always stay the same?

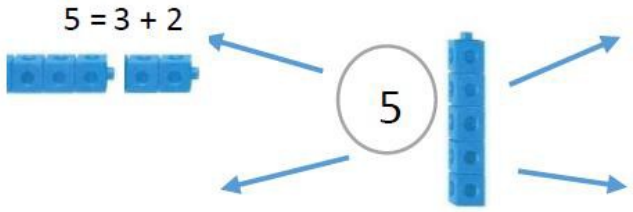
Do the parts stay the same or change?

If 8 is the whole, what could the parts be?

Varied Fluency

1 Here are 5 cubes.

Break them apart in different ways to find all the number bonds to 5.
One is done for you.



2 Use seven double sided counters.

How many different ways to make 7 can you find?
Record your findings in number sentences.

3 If 9 is the whole, what could the parts be?

Show your findings in part whole models.
Can you write an addition sentence for each part whole model?

Number Bonds within 10

Reasoning and Problem Solving

All the dots have fallen off 2 toad stools.

How many different ways can you put them back on?

There are 9 altogether.

Children could put:
8 + 0 or 0 + 8,
7 + 1 or 1 + 7,
6 + 2 or 2 + 6,
5 + 3 or 3 + 5,
4 + 4

Always, sometimes, never?

The bigger the number, the more number bonds it has.

Sometimes, children can prove this by comparing the number bonds for a few numbers.
5 has 5 + 0, 4 + 1, 3 + 2
6 has 6 + 0, 5 + 1, 4 + 2, 3 + 3
7 has 7 + 0, 6 + 1, 5 + 2, 4 + 3
6 has more bonds than 5, 7 has the same number of bonds as 6

Which number bond is the odd one out?

3 + 4 5 + 2 6 + 1 3 + 5

Explain your answer.

3 + 5 is the odd one out because all the other number bonds are equal to 7

Systematic Number Bonds

Notes and Guidance

Building on the previous step, children partition a number, starting with the whole and work through systematically.

e.g. $7 + 0 = 7$

$6 + 1 = 7$

$5 + 2 = 7$

$4 + 3 = 7$

This is supported through the use of equipment, for example, cubes, bead strings, double sided counters.

Mathematical Talk

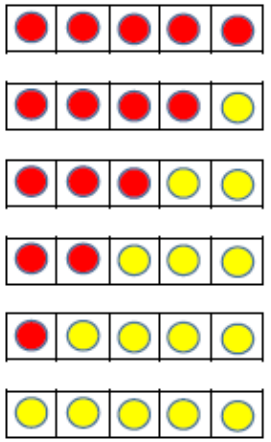
How do the number bonds change each time?

Can you see a pattern in the numbers?

Does the amount of number bonds change as the number gets bigger or smaller?

Varied Fluency

1 Complete the number sentences.



$5 = 5 + 0$

$4 = 4 + 1$

…… = …… + ……

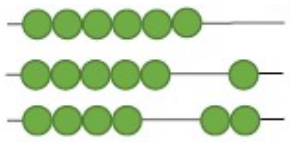
…… = …… + ……

…… = …… + ……

…… = …… + ……

2 Can you use a ten frame to show all the number bonds to 7? Remember to be systematic.

3 Complete the next beads strings in the sequence.



$6 = 6 + 0$

$6 = 5 + 1$

$6 = 4 + 2$

Have you found all of the number bonds?

Systematic Number Bonds

Reasoning and Problem Solving

Continue the pattern.

0 + 8 = 8

1 + 7 = 8

□ + 6 = 8

3 + □ = □

□ + □ = □

Can you make a similar pattern for 10?

0 + 8 = 8

1 + 7 = 8

2 + 6 = 8

3 + 5 = 8

4 + 4 = 8

0 + 10 = 10

1 + 9 = 10

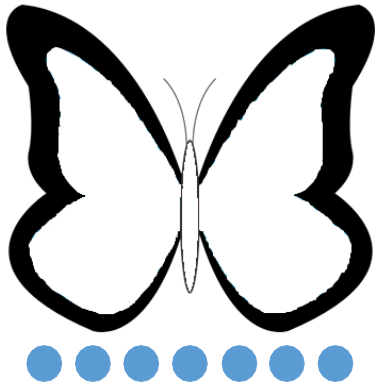
2 + 8 = 10

3 + 7 = 10

4 + 6 = 10

5 + 5 = 10

A butterfly's spots have fallen off.
How many different ways can you put the spots back on?



Possible Answers:

 0 + 7 = 7

 1 + 6 = 7

 2 + 5 = 7

 3 + 4 = 7

Children may choose to use:
7 + 0 = 7
6 + 1 = 7
5 + 2 = 7
4 + 3 = 7

Number Bonds to 10

Notes and Guidance

Focusing on the number 10, children use a variety of representations to explore number bonds to 10 systematically e.g. ten frames, bead strings, fingers.

Mathematical Talk

How many more do I need to make 10?

How many number bonds can I make if 10 is the whole?

Can I order the number bonds systematically?

True or False: Number bonds to 10 only contain one digit numbers.

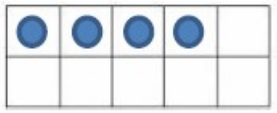
Always, sometimes, never: Number bonds to 10 contain two different numbers added together.

Varied Fluency

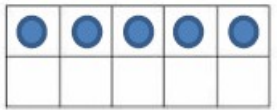
1 Sam shows a number on his fingers.

How many fingers are needed to make 10?

2 Use the ten frames to complete the number bonds to 10.



$4 + \square = 10$



$5 + \square = 10$

Can you make the ten frame that comes before in the sequence? Can you make the ten frame that comes next in the sequence?

3 All the ladybirds should have 10 spots.
Some of the ladybirds have lost their spots. Complete the spots and the number sentences.

$4 + \square = 10$

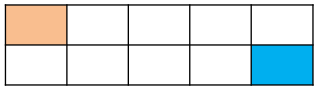
$2 + \square = 10$

Number Bonds to 10

Reasoning and Problem Solving

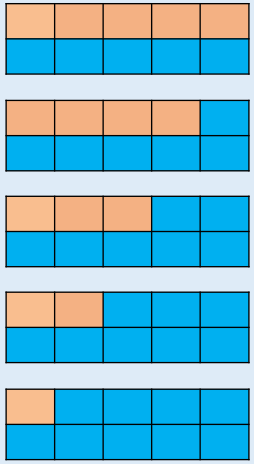
Beth needs to colour in the boxes in two different colours.

One box of each colour has been coloured.



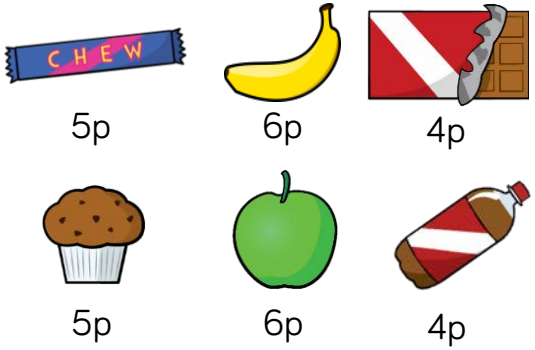
How many different ways can she colour the boxes?

Possible answers:



This can also be the other way where there are 9 oranges and 1 blue, 8 oranges and 2 blues, 7 oranges and 3 blues, 6 oranges and 4 blues.

I have 10p to spend.



Which two items could I buy?

How many different ways can you do it?

Possible answers:

A chew bar and a muffin.

A banana and a chocolate bar.

A banana and a bottle of pop.

An apple and a bar of chocolate.

An apple and a bottle of pop.

Etc.

Compare Number Bonds

Notes and Guidance

Drawing on their place value and number bonds knowledge, children compare using symbols and language.

e.g. 5 + 5 = 10 so 5 + 5 is greater than 8

5 + 5 = 8 + 2

Mathematical Talk

Can you use equipment to prove that the number bonds are equal?

Can you find more than one way to complete the comparison?

Do I have to solve both sides to see if the number bonds are equal?

Varied Fluency

1 Match the number bonds that are equal.

4 + 5	7 + 1
2 + 6	6 + 3
4 + 2	3 + 3

2 Compare using <, > or =

5 + 5 ◯ 10

5 + 5 ◯ 8

2 + 5 ◯ 5 + 3

3 Complete the number sentences.

5 + 3 = 4 + ☐

7 + 3 > ☐ + 2

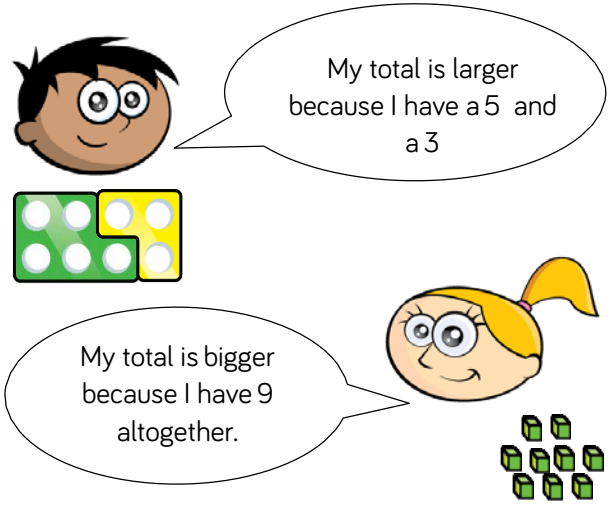
Compare Number Bonds

Reasoning and Problem Solving

How many different ways can you complete the number sentence?

$3 + \_\_ < 3 + \_$

Max and Stacey have both created their own number bonds.



Who do you agree with?
Explain your answer.

$3 + 1 < 3 + 2$

$3 + 2 < 3 + 3$

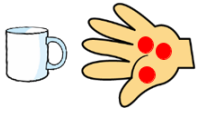
$3 + 3 < 3 + 5$

Any combination where the number on the right is larger than the number on the left.

Stacey is right because 9 ones is greater than 3 ones and 5 ones (8 ones).

Tim has 5 counters in his hand and some in a cup.

Max has 3 counters in his hand and some in a cup.



They have the same amount altogether.

They each have less than 10 counters.

How many counters could be in Tim's cup?

How many counters could be in Max's cup?

Possible answers:

Tim has 1, Max has 3
Tim has 2, Max has 4
Tim has 3, Max has 5
Time has 4, Max has 6

Adding Together

Notes and Guidance

Once children have shown an understanding of how to use a part whole model they will be able to apply this to understand the concept of addition. Children would have already seen the addition symbol when working with number bonds, so this is developed at this stage. Language such as: total and altogether is introduced within this small step. The equals sign is shown at both ends of the calculation to recap what it means.

Mathematical Talk

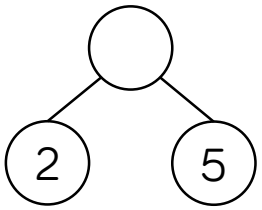
What does each circle represent on a part whole model?

What else can we use to represent the cars? Can we only use counters and ten frames?

How does the ten frame help us when finding the total? Did we need 2 ten frames for 5 and 4? Why?

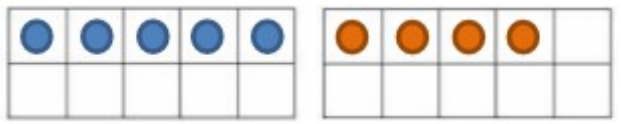
Varied Fluency

1 If 2 is a part and 5 is a part, what is the whole?



□ + □ = □

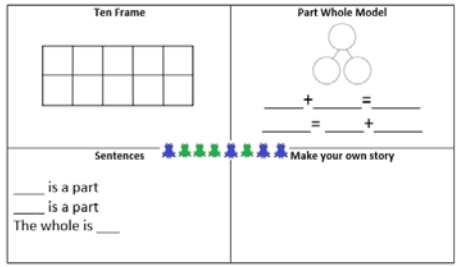
2 There are 5 red cars and 4 blue cars. How many cars are there altogether?



□ + □ = □

□ = □ + □

3 Complete the table to represent the toads.

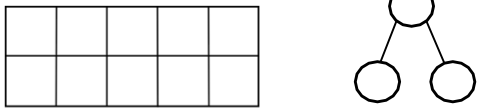


Adding Together

Reasoning and Problem Solving

There are 8 cubes. Some are red and some are yellow.

How many different ways can you make a total of 8?



You could show your working on a part whole model or a ten frame.

Could be: 8 red and 0 yellow, 1 red and 7 yellow, 2 red and 6 yellow etc.

There are 9 sweets altogether.
3 have a red wrapper and 7 have a blue wrapper.

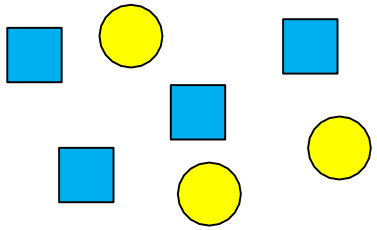
Is this correct?

Explain how you know.

What can you use to help you show your thinking?

Children could use cubes/ten frame to represent the problem a possible answer could be 'this is wrong because the total of 3 and 7 is 10

Which sentence is correct?



A: 5 is a part, 2 is a part and the whole is 7

B: 4 is a part, 3 is a part and the whole is 8

C: 4 Is a part, 3 is a part and the whole is 7

What mistakes have been made in the incorrect sentences?

A is wrong because the parts are not right.

B is wrong because the whole should be 7 not 8

C is correct.

Adding More

Notes and Guidance

Children need to move from counting all to counting on. The aim is for children to develop a mental strategy rather than relying on counters and number tracks/lines. It is important that children are exposed to calculations given them in a different order, for example, the smallest number first. This will lead to children understanding that addition can be done in any order.

Mathematical Talk

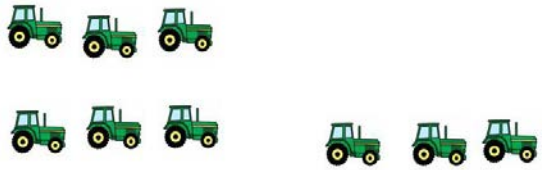
What if I start from the smallest number? Will I get the same total? Why?

What could another story for the calculation be?

Do we have to be shown both numbers to help us count on?

Varied Fluency

1 How many tractors are there in total?



6 + ☐ = ☐

There are ….. tractors.

2 How many aeroplanes are there altogether?

☐ + ☐ = ☐

There are ….. aeroplanes.

3 There are four pennies in a bag and I add two more. How many do I have now?

☐ + ☐ = ☐

There are ….. pennies.

Adding More

Reasoning and Problem Solving

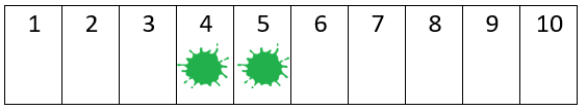
True or false? Explain why.

'If I add 0 to a number, the number stays the same'

Can you use a number line or counters to help you explain your answer?

True because when you add 0 you are not adding any more.

Tom has used the number track to complete 4 + 2
He thinks the total is 5



What mistake has he made?
How could Tom use the track to find the correct answer?

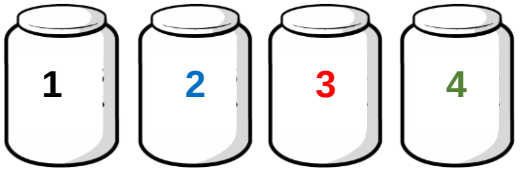
He has included his starting number.

The two ways he could have used the track are:

- Start at 2 and count 4 more.
- Start at 4 and count 2 more.

Sid has two bean bags.

He is throwing them into jars.



What is the highest score he can get?

What is the lowest score he can get?

Explain why he can't get a total of 9

The highest score is 8 if he gets two 4s

The lowest score is 0 if he misses all jars..

He can't get 9 because the highest is 4 and two 4s make 8 so that's the highest.

Finding a Part

Notes and Guidance

At this stage, children should apply their understanding of number bonds to solve missing number problems. To build on from counting on, children should start from the given part and count on to the whole, to find the missing part. Children should also be exposed to problems with one part and the whole being the same so they understand the role of zero.

Mathematical Talk

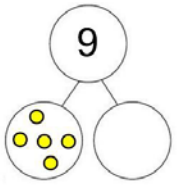
How can we count on to find the missing part?

Where will the numbers from the word problem go in the part whole model?

My story is there are 9 sweets. 6 of them are purple and 3 of them are yellow. What could your story be?

Varied Fluency

1 Complete the part whole model.

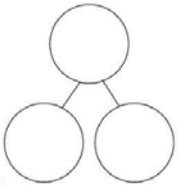


□ + □ = □

□ = □ + □

5 is a part,
..... is a part.
The whole is 9

2 There are seven cars in total. Seven of them are green. How many of them are yellow?

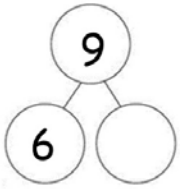


□ + □ = □

□ = □ + □

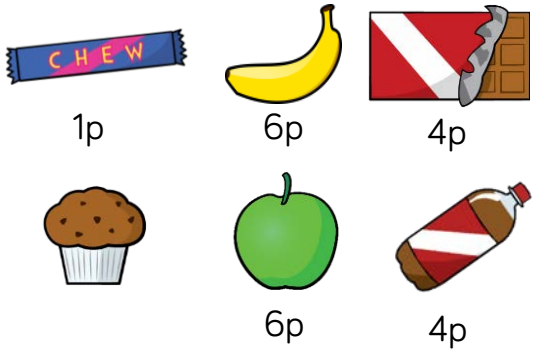
7 is a part,
..... is a part.
The whole is 7

3 Write your own story to complete the part whole model.



Finding a Part

Reasoning and Problem Solving



I spend 10p on a chocolate bar and something else. What else could I have bought? Explain how you know.

Banana or apple because 4 + 6 = 10

Tom spent 6p on a chocolate bar and something for his sister. What did he buy for his sister? Explain how you know.

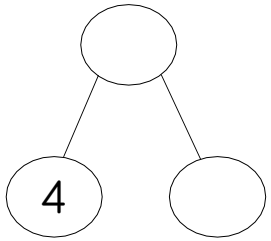
Two chew bars because 1 + 1 = 2 and 4 + 2 = 6

Ellie spent 9p on a banana and a muffin.
How much is the muffin?
Explain how you know.

It cost 3p because 6 + 3 = 9

Using the digits 0 – 9, how many part whole models can you complete?

One of the parts always has to be 4



You can only use each digit card once.

Explain why you can't use 0

What other digits can't you use and why?

It could be:

- 4, 1 and 5
- 4, 2 and 6
- 4, 3 and 7
- 4, 5 and 9

We would have to use 4 twice if we used 0
Can't be 4 because it would be repeated, or 8 because we would need another 4

How Many Left (1)

Notes and Guidance

Within this small step, the language of subtraction is introduced, rather than the subtraction symbol being explored straight away.

'Taking away' is used in a range of real life contexts such as flying away and eating.

The use of zero is important so children know that when nothing is taken away the start number remains the same.

Mathematical Talk

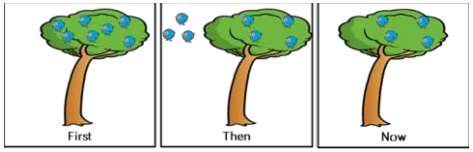
How many objects were there to start with? Do we need to count all or can we count on?

What could the story be? How many did we start with?

What number can we use to show that nothing has gone away/been taken away?

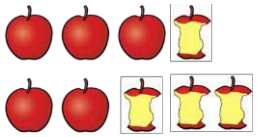
Varied Fluency

1 There were 7 birds in a tree and 3 fly away.



At first there were____birds in the tree. Then____flew away. Now there are____birds in the tree.

2 Complete the sentences to create a story and draw a part whole model.



At first there were _____.

Then_____were eaten.

Now there are_____.

3 Complete the sentences and draw the missing horses required.

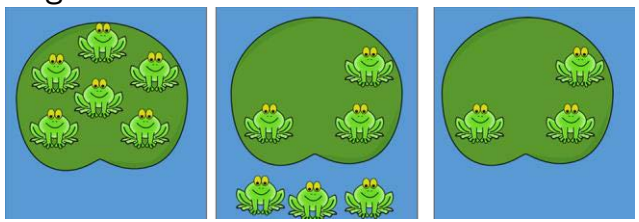
First there were ____ horses in the barn. Then ____ galloped away.

Now there are ____ horses in the barn.

How Many Left (1)

Reasoning and Problem Solving

Some frogs are on a lily pad.
Three frogs jumped off and there are three frogs left on.



First Then Now

Complete the sentences:

At first there were_.
Then _____.
Now there are ___.

In the 'then' picture, do the 3s show the same thing? Why not?

What if 4 jumped off, what would the start number be?

Explain how you know.

At first there were 6 frogs. Then 3 jumped off. Now there are 3 frogs left.

No, the 3 on the lily pad show how many are left. The 3 in the water show how many were taken away.

If 4 jumped off the start number would have been 7 because 4 and 3 make 7

Some cakes have been eaten.

There are 2 cakes left.

How many cakes could there have been, and how many could have been eaten to be left with 2?

Explain your reasons.

I could have had 10 and eaten 8, 9 and eaten 7. Children might use cubes/ten frame etc. to help them get two left.

How Many Left (2)

Notes and Guidance

Once pupils understand the concept of taking away, the symbol can be introduced. It is still important for children to create stories about the calculation so they can deepen their understanding of subtraction.

Mathematical Talk

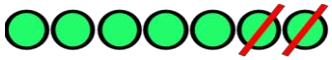
How many counters at first? How many were taken away? How many are left? Can you draw an image to show this?

What can we use to represent the cars? How many will you start with? Why? How many will you take away? Why?

What is the same and what is different about the calculations?

Varied Fluency

1 Complete the number sentence



7 - 2 = ☐

Create a story to represent the calculation.

2 Tom has 9 toy cars. He gives 5 of them away. How many does he have left?

☐ - ☐ = ☐

3 At first there were 10 monkeys. Then 7 run up a tree. How many are left?

Use counters/cubes to help you solve this and complete:

☐ - ☐ = ☐

☐ - ☐ = ☐

How Many Left (2)

Reasoning and Problem Solving

Which calculations match?

Explain your reasons.

One has been done for you.

$7 = 9 - 2$	$9 = 10 - 1$
$10 - 1 = 9$	$9 - 2 = 7$
$3 - 3 = 0$	$0 = 3 - 3$

$10 - 1 = 9$ and $9 = 10 - 1$ because they are both equal to 9

$3 - 3 = 0$ and $0 = 3 - 3$ because they are both equal to 0

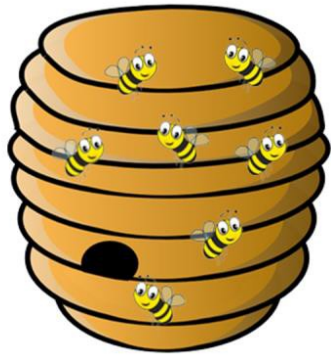
How many ways can you get an answer of 0?

$\square + \square = 0$

What is the rule?

10 - 10
9 - 9
8 - 8 etc.
To get zero you have to take away the same number you started with.

How many calculations can you complete?



$\square = 7 - \square$

Why can't the digits 8 or 9 be used?

Children could write

$6 = 7 - 1$

$5 = 7 - 2$

Etc.

You can't use 8 or 9 because there are only seven bees.

Subtraction – Breaking Apart

Notes and Guidance

Once pupils understand the concept of taking away, the symbol can be introduced. It is still important for children to create stories about the calculation so they can deepen their understanding of subtraction.

Mathematical Talk

How many counters at first? How many were taken away?

How many are left? Can you draw an image to show this?

What can we use to represent the cars?

How many will you start with? Why?

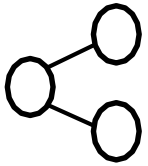
How many will you take away? Why?

What is the same and what is different about the calculations?

Varied Fluency

1 How many dogs do not have spots?

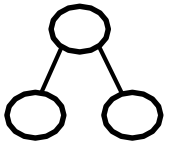
6 - 2 = ☐



There are___dogs that do not have spots.

2 There are 9 party hats altogether. 4 of them are red. The rest are blue. How many are blue?

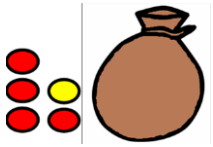
9 - ☐ = ☐



There are___blue party hats.

3 In total there are 8 counters. How many are in the bag?

Show this in a part whole model and as a calculation.



Subtraction – Breaking Apart

Reasoning and Problem Solving

Think of two questions to ask your friend about the image.

Represent them about the calculation.

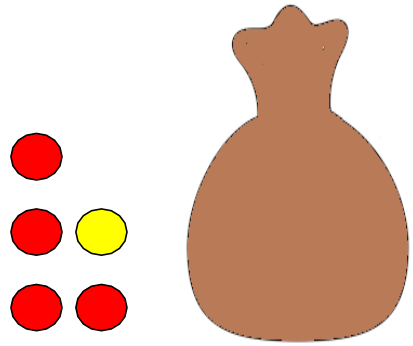
There are 9 sheep in total. 5 of them are outside the barn. How many are inside?

There are 9 sheep in total. 4 of the are inside the barn. How many are outside?

9 – 5 = 4 and

9 – 4 = 5

There are no more than 10 counters in total.



How many counters could be in the bag?

Why can't it be six?

There could be 5, 4, 3, 2, 1 or 0

It can't be six because then there would be more than 10 in total

Fact Families – 8 Facts

Notes and Guidance

This is the first time children have linked addition and subtraction facts. It is important that children are able to show and understand this relationship.

This step recaps the idea that the equals sign can be positioned at the start or end of a calculation. It is important that children are exposed to the use of zero. Children can struggle with getting four calculations for subtraction e.g. 7 = 9 – 2 and 2 = 9 - 7

Mathematical Talk

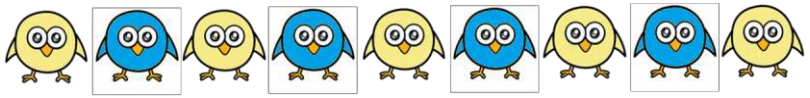
How many counters at first? How many were taken away? How many are left? Can you draw an image to show this?

How many will you start with? Why? How many will you take away? Why?

What is the same and what is different about the calculations?

Varied Fluency

1 Using the image, how many calculations can you create?



□ + □ =	□ = □ - □
□ + □ =	□ = □ - □
□ - □ =	□ = □ + □
□ - □ =	□ = □ + □

2 There are 6 hats on a shelf. 5 of them are yellow and 1 is red.

Complete 8 number sentences.

3 There are 10 ducks in a pond. 10 of them fly away.

Complete 8 number sentences.

Fact Families – 8 Facts

Reasoning and Problem Solving

Explain the mistakes that have been made.

5 + 2 = 7	7 = 5 + 2
2 + 5 = 7	7 = 2 + 5
7 – 2 = 5	7 = 5 – 2
7 – 5 = 2	7 = 2 – 5

The last two should be

2 = 7 – 5

and

5 = 7 – 2

Explain the mistakes that have been made.

8 + 0 = 8	8 – 0 = 8
0 + 8 = 8	0 = 8 – 0
8 = 0 + 8	8 – 8 = 0
8 = 8 + 0	0 = 8 – 8

0 = 8 – 0 should be 0 = 8 – 8

Counting Back

Notes and Guidance

To build on counting forwards to add, children can now apply this to count backwards when subtracting. It is an important step to help the children work in the abstract.

Common misconceptions could be that the children count the starting number e.g. 5 – 3; 5, 4, 3- therefore giving the wrong answer. It is vital to model how to count backwards by 'putting the start number in our head and counting backwards'.

Mathematical Talk

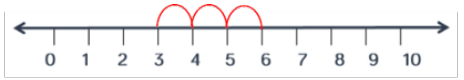
What number comes before 6? What number should we start on?

Which calculations do you know match straight away?

How do you know this?

Varied Fluency

1 Complete:



6 – 3 = ☐

4 – 4 = ☐

2 Use the number line to count back and match the calculations.

7 – 3 = ☐	6 – 6 = ☐	10 – 6 = ☐
5 – 0 = ☐	9 – 4 = ☐	4 – 4 = ☐

3 Can you think of any other number sentences which could match to them?
I count backwards from 9. How many steps does it take me to get to two? Complete the number sentence:

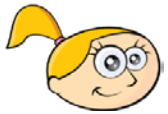
☐ – ☐ = ☐

Counting Back

Reasoning and Problem Solving

Tami is calculating 7 – 2 and does this by counting backwards on a number line.

She gets an answer of 6



What mistake has she made?

Tami has included 7 when taking away, rather than counting 6, 5

The answer is 2

How many ways can you get to this by counting backwards on a number line to 10?

10 – 8

9 – 7

8 – 6 etc

GAME: Race to zero!

Start at 10 on a number line.

Roll a dice and subtract this amount.

What would you like to roll? Why?

Why would you not want to roll a 1?

Find the Difference

Notes and Guidance

Once children are secure with subtraction as take away, finding the difference can be introduced. Children often struggle with this concept because both quantities are shown.

Children could use their skills on counting back and counting on to help them find the difference. Alternatively, they can make both amounts and visually see how many more/less a number is.

Mathematical Talk

Who has more? How do you know? How many more does Beth have?

What does the difference mean? Which is most? How do you know? What strategy can we use to help us find the difference?

What image/resource can we use to show this?

How can we complete the sentences?

Varied Fluency

1 How many more cakes does Beth have than Stephen?

Beth 

Stephen 

Beth has_____more cakes that Stephen.

2 What's the difference between 10 and 6?

The difference between 10 and 6 is ___

10 – 6 =

3 Rob has 7 sweets and Kylie has 3 sweets.
How many more sweets does Rob have?
How can you show this using cubes, counters or as an image?
Rob has___more sweets than Kylie.
The difference between 7 and 3 is _____

7 – 3 = __

Find the Difference

Reasoning and Problem Solving

Two numbers have a difference of 4

The larger number is less than 10

What could the two numbers be?

9 and 5

8 and 4

7 and 3

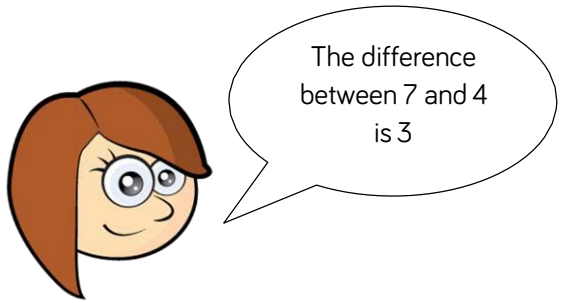
6 and 2

5 and 1

4 and 0

True or false?

Ann says;



Can you show this in more than one way?

Children could show this by representing both numbers using cubes, bead strings, straws etc. or relating it back to counting backwards on a number line.

Compare Statements (1)

Notes and Guidance

Within this small step, children will recap the use of inequality symbols <, > and =. It is important that 'equal to' is also recapped at this stage with the correct language used.

Children should be encouraged to use concrete manipulatives and draw images to help them complete the statements.

Mathematical Talk

What does greater than mean?

How do we know___+__is greater than___? What else can it be greater than?

What does less than mean? How do we know that __+ _is less than___?

What language is missing? What steps do we need to take to help us complete the problem?

Varied Fluency

1 Complete the sentences.

3 + 1 is greater than 2
3 + 1 is greater than __
3 + 1 is less than 6
3 + 1 is less than __

2 One hen lays 3 eggs. Another lays 2 eggs.

Complete the sentence using greater than, less than or equal to.
2 and 3 is _____6

3 Complete the number sentences.

□ + □ is equal to 7

□ + 4 is less than 9

5 + □ _____ 2

Compare Statements (1)

Reasoning and Problem Solving

Would you rather have 6 sweets and 2 more sweets, or 8 sweets?

Explain your answer.
Use cubes or draw an image to help you.

I don't mind because I know that 6 and 2 is equal to 8

Using the numbers 0-10, how many different ways can you complete the boxes?

$\square + 7 = \square$

$\square + \square > 4$

$\square + \square < 9$

Possible answers:

$3 + 7 = 10$

$1 + 4 > 4$

$1 + 1 < 9$

What signs are missing?

$7 + 3 \square 10$

$9 \square 3 + 7$

$9 > 10 \square 3$

Explain how you know.

$7 + 3 = 10$ because I know that 7 and 3 is equal to 10

$9 < 3 + 7$ because I know that 9 is less than 10

$9 > 10 - 3$ because I know that 9 is greater than 7

Compare Statements (2)

Notes and Guidance

Once children are able to compare simple statements they should begin to directly compare two calculations. Children should be exposed to both addition and subtraction calculations, and the symbols <, = and >.

It is important that children know what the equals sign means and that we can use it to show that two calculations are equal.

Mathematical Talk

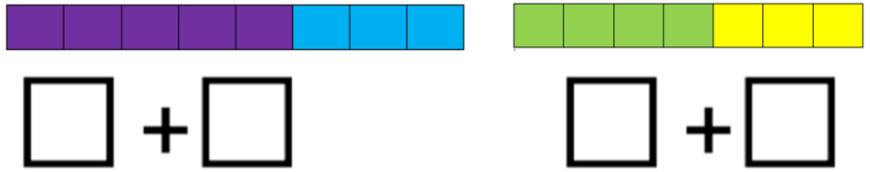
Do we need to look at each calculation as a whole or not?

Which symbol should be used?

How can we prove that they are equal?

Varied Fluency

1 Complete the following using <, > or =



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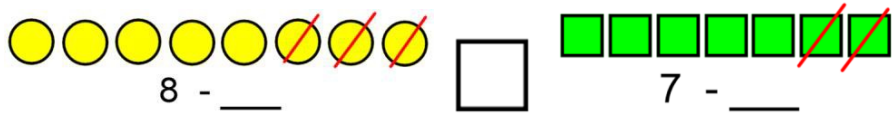


3 Sarah has 8 sweets and eats 4 of them.
Charlotte has 7 sweets and eats some of them.
Complete the number sentence below to show that they now have the same amount of sweets.

8 – 4 ☐ 7 –

8 – 4 is equal to 7 – ___

Compare Statements (2)

Reasoning and Problem Solving

Jeff says:

Is he correct?

Explain your answer.

No because

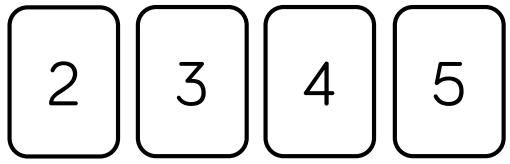
$5 + 2 = 7$

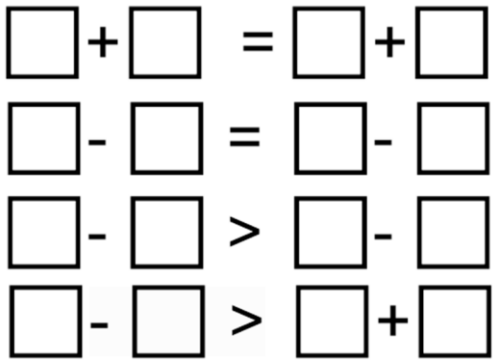
$4 + 4 = 8$

and

$7 < 8$

Use the digit cards to complete the sentences.





Can you write any more number sentences using these cards?

Possible answers:

$5 + 2 = 4 + 3$

$5 - 4 = 3 - 2$

$5 - 3 > 4 - 2$

$5 - 2 < 4 + 3$

Etc.