

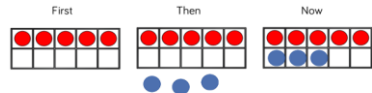


1. Adding by counting on

add and subtract one-digit and two-digit numbers to 20, including zero

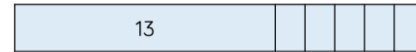
Fluency:

Use ten frames to complete the number story.

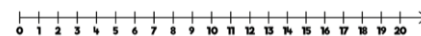


First there were ___ cars in the car park.
Then ___ more cars parked in the car park.
Now there are ___ cars in the car park.

Eva has 13 prize tokens.
She wins 5 more.
How many prize tokens does Eva have now?



Mo starts at 9 and counts on 6. $9 + 6 = \square$
Show his calculation on the number line.



Problem solving:

Mo and Jack are working out $11 + 7$

Mo says,

11, 12, 13, 14, 15, 16, 17

Jack says,

12, 13, 14, 15, 16, 17, 18

Use a number line to show who is correct.

Reasoning:

Ron starts at 9 and adds on 5
Alex starts at 5 and adds on 9
Show their calculations on the number lines.
What do you notice? Does this always happen?

Which method do you like best? Why?



2. Making number bonds

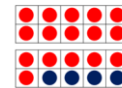
represent and use number bonds and related subtraction facts within 20

Fluency:

What number bond is represented in the pictures?

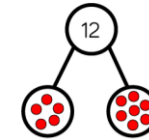


There are ___ red counters.
There are ___ blue counters.
Altogether there are ___ counters.
 $\square + \square = \square$ $\square + \square = \square$



There are ___ red counters.
There are ___ blue counters.
Altogether there are ___ counters.
 $\square + \square = \square$ $\square + \square = \square$

Continue the pattern to find all the number bonds to 12
How do you know you have found them all?



$12 = 12 + 0$
 $12 = 11 + \square$
 $12 = 10 + \square$

Problem solving:

Use equipment to represent each of the calculations below.

$$7 + 3 = 10$$

$$17 + 3 = 20$$

$$20 = 7 + 13$$

Reasoning:

True or false?

There are double the amount of numbers bonds to 20 than there are number bonds to 10

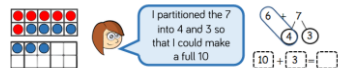
Prove it – can you use a systematic approach?

3. Add by making 10

add and subtract one-digit and two-digit numbers to 20, including zero

Fluency:

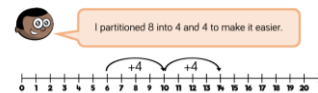
Rosie has used the 10 frames to calculate $6 + 7$



Use Rosie's method to complete:



Mo has used a number line to calculate $6 + 8$



Use Mo's method to calculate:

$$5 + 8 = \square \quad 9 + 4 = \square \quad 6 + 8 = \square$$

Problem solving:

Dexter uses ten frames to calculate eight plus six.



He says,

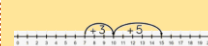
$$8 + 6 = 16$$

Do you agree?
Explain why.

Reasoning:

Teddy and Eva are adding together 7 and 8 using a number line.

Teddy shows it this way:



Eva shows it this way:



Who is correct?
Explain your answer.

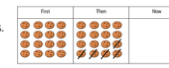
4. Simple subtraction

add and subtract one-digit and two-digit numbers to 20, including zero

Fluency:

There are 16 biscuits on a plate. Mo eats 5 of them.

Complete the sentences.
First there were ___ biscuits.
Then ___ were eaten.
Now there are ___ biscuits.
 $16 - 5 = \square$



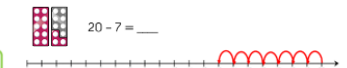
First there were 9 sheep. Then they all ran away.

How many sheep are left?
Use ten frames and counters to represent the sheep.



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

Use the number pieces and the number line to complete the number sentences.



Use this method to calculate:

$$20 - 8$$

$$18 - 6$$

$$19 - 4$$

Problem solving:

How many ways can you complete this number sentence?
Use the number line to help you.



$$\square - \square = 11$$

Reasoning:

Annie, Tommy and Alex are working out which calculation is represented below.



17 - 17 = 0
17 - 0 = 17
0 - 17 = 17

Can you work out who is correct?
Explain why.

Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers

Read, write & interpret equations containing +, - and = symbols, relate additive expressions and equations to real-life contexts



5. Subtraction – crossing 10

add and subtract one-digit and two-digit numbers to 20, including zero

Fluency:
First there were 13 jam tarts. Then 5 were eaten. Now there are 8 jam tarts.

Rosie has used the ten frames to calculate $12 - 5$

Use her method to complete:

$10 - \square = \square$ $\square - \square = \square$ $\square - \square = \square$

Problem solving:
Rosie is calculating $16 - 7$

Which of these methods is most helpful? Why?

Could you find a way to partition 16 to help you subtract 7?

Reasoning:
Use $<$, $>$ or $=$ to make the statements correct.

I can do this without working out any answers.

$17 - 5$ $12 - 5$
 $14 - 4$ $18 - 8$
 $11 - 7$ $11 - 4$

Is Whitney correct? Explain how you know.

6. Fact families

represent and use number bonds and related subtraction facts within 20

Fluency:
Complete the addition sentences.

$12 + 1 = 13$ $11 + \square = 13$ $\square + \square = \square$
Can you write a subtraction sentence for each?
 $13 - 1 = 12$ $13 - \square = \square$ $\square - \square = \square$

Complete:

$15 - \square = 3$
 $15 - 3 = \square$
 $3 + \square = 15$
 $\square + 3 = 15$

Complete and write addition and subtraction sentences for each model.

Can you use the numbers 8, 7 and 15 to make a bar model? Can you write addition and subtraction sentences for this bar model?

Problem solving:
Circle the addition and subtraction number sentences that match the ten frames.

$15 + 3 = 18$ $15 - 3 = 18$
 $3 + 18 = 15$ $18 - 15 = 3$
 $18 + 3 = 15$ $18 - 3 = 15$
 $18 = 3 + 15$ $15 - 18 = 3$

Reasoning:
Use the cards to write as many addition and subtraction sentences as you can.

7. Comparing number sentences

read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs

Fluency:
Which card completes the number sentence?

is more than
is less than
is equal to

$5 + 4$ $4 + 5$

Use $<$, $>$ or $=$ to compare the number sentences.

$3 + 8$ $8 + 3$
 $18 - 5$ 18
 $12 + 4$ $12 - 4$

Choose the correct digit card to make the number sentences correct.

$13 - 5 < 13 - \square$
 $16 - 4 = \square + 4$
 $9 + \square > 9 + 1$

$\square$ $\square$ $\square$

Problem solving:
Dexter is working out which symbol to use to compare the number sentences.

$14 - 5$ $14 + 5$

The missing symbol must be $=$ because all of the numbers are the same.

Do you agree with Dexter? Explain why.

Reasoning:

Any number less than 11 would make this correct.
 $7 + 11 < 7 + \square$

Do you agree with Alex?

Explain why.

Vocabulary

addition	finding the total of 2 or more numbers
count back	counting backwards from a number to solve a subtraction calculation
count on	counting forwards from a number to solve an addition calculation
difference	the difference in size between 2 numbers
less	subtracting from a number
more	adding to a number
number bonds	pairs of numbers which add together to make a number
partition	separating a number into parts
subtraction	to take away from a number
take away	subtracting
ten frame	2 by 5 rectangles which are used to shown numbers up to or equal to 10