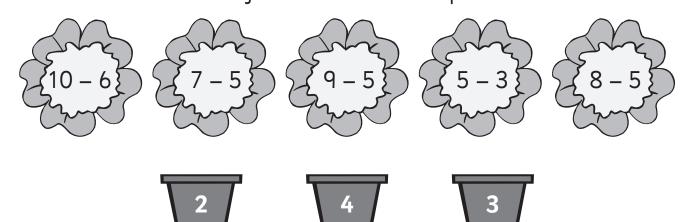


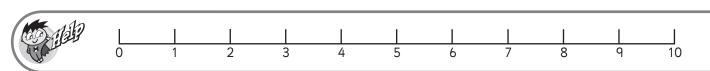
Subtraction – facts to 10 review

1 Finish these number facts.

2 Add the missing numbers to make these number facts true.

3 Draw stems to match the flowers to the correct pots.





Subtraction – take away

When we subtract, we "take away" one number or amount from another.

Look at this subtraction story.

The Smiths' cat had 7 kittens. They gave 5 away.

How many kittens did they have left? They had 2 left.

We write this number fact as 7 - 5 = 2

1 We use different words for "subtract."

See if you can finish these subtraction words.

m



find the d

2 Write the number fact to match the story and picture.

Stacy cooked 8 muffins. She gave 4 to her friend. How many muffins did Stacy have left?

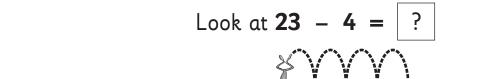




3 Write a subtraction story that would fit this picture story. Finish the matching number fact.



Counting back is a helpful strategy to use when we only have to subtract a small number. Number lines can help us do this.





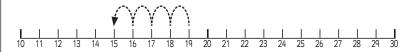
We start at 23. We jump back 4 spaces to 19.

$$23 - 4 = 19$$

1 Use the number line above and count back to solve these subtraction problems.

2 Look at these number lines. What subtraction fact does each show?





3 Would you use the counting back strategy to solve this problem? Why or why not?

We know that addition and subtraction can undo each other. This means we can use the addition strategy of **counting on** to solve subtraction problems.

We use counting on when the difference between the numbers is small.

24 - 19 = ?

We count on from the smaller number of 19 until we get to 24.

19 20 21 22 23 **24**

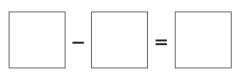
We counted 5 more numbers.

24 - 19 = 5

1 Solve these problems. Circle the smaller number. Count on until you get to the bigger number. How many numbers did you count?

2 Use counting on to solve these problems. Write the number facts.

a Jackson saved \$27. He spent \$22 during a trip to the mall. How much money does he have left?



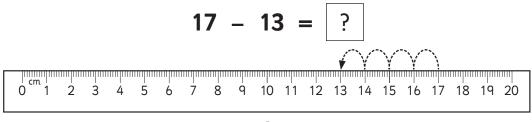
b Lara caught 28 fish. She put 26 back. How many did she keep?





Rulers can help us count on and back.

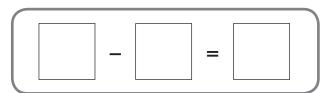
We count the jumps or the spaces between the two numbers.



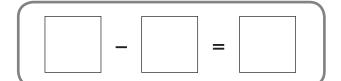
$$17 - 13 = 4$$

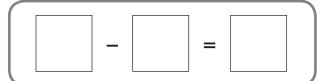
1 Use your ruler to help solve these problems. Decide if it is easier to use counting on or counting back.

2 You will need a ruler. Choose two numbers on the ruler. Write the numbers in a fact box below, and put the bigger number first. Decide if you want to use counting on or back and count the jumps to finish the fact.









If we can count back by 1, 2, or 3, then we can count back by 10, 20, and 30.

Look at 65 - 20 = ?

We start at 65 and count back \$\dagger\$ by 10s.

20 is 2 tens.

$$65 - 20 = 45$$

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

1 Use the number grid to help solve these problems.

2 Can you find patterns to help you complete these sets of facts?

Subtraction – relating addition and subtraction

Because addition and subtraction are related, we can use our addition strategies to help us solve subtraction problems.

Look at
$$16 - 8 = ?$$

We know the doubles fact 8 + 8 = 16, so we can use it to quickly work out that 16 - 8 = 8

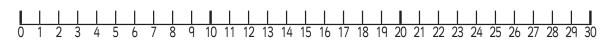
1 Use your doubles addition strategies to solve these subtraction problems.

2 Solve these.

a Lucy is **4** years older than Marcus. Marcus is **4**. How old is Lucy?

b Mohammed ate **14** strawberries. Sara ate **double** that amount. How many more strawberries did Sara eat than Mohammed?

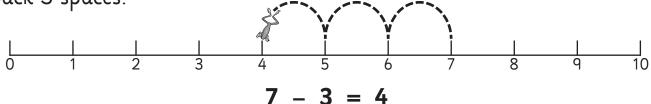




Subtraction – difference

"I am thinking of 2 numbers. They have a difference of **3**. The **bigger** number is **7**."

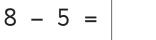
We know the bigger number is 7. To find the difference, we jump back 3 spaces.



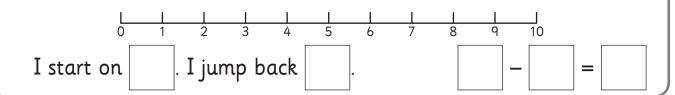
- **1** Show the jumps and solve the problem.
 - a I am thinking of 2 numbers. They have a difference of 5.The bigger number is 8.



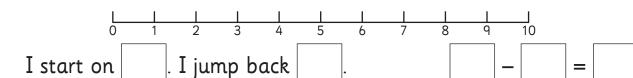
I start on S | I jump back |



b I am thinking of 2 numbers. They have a difference of **2**. The **bigger** number is **4**.



c I am thinking of 2 numbers. They have a difference of **3**. The **bigger** number is **7**.



Subtraction – exploring subtraction problems

Sometimes in subtraction stories, we know the ending but we don't know all of the problem. Look at this story.

Grade 3 had 22 jump ropes. They gave some to Grade 2. Then they had 17 left.

We know they started with 22 ropes. We know they ended up with 17 ropes. What we don't know is how many ropes they gave to Grade 2.

Counting back is a good strategy to use here because the difference between the numbers is small.

We count back from 22 to 17. 17 18 19 20 21 22

We counted back 5. 22 - 5 = 17

- 1 Solve using a strategy of your choice.
 - **a** Mara buys 17 gummy worms. She gives some to her friend and then has 13 left.

b Lucas has \$20. He spends some at the mall and has \$14 left.

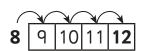
Subtraction – exploring subtraction problems

Sometimes we know the ending and the middle but we don't know the start of the problem. Look at this story.

Mrs. Luke had some cows. She sold 4 at the market. She had 8 left.

We know she sold 4 cows. We know she ended up with 8. What we don't know is how many cows she started with.

A good way to solve this is to count on. We count on 4 more starting at 8.



Let's put in 12 and see if the fact makes sense.

$$12 - 4 = 8$$

Yes, it does.

- 1 Solve.
 - **a** Mr. Mars has some tomatoes. 5 were eaten by bugs so he only has 7 left to eat. How many did he have at the start?

b Tia took her allowance to the mall. She spent \$14 and went home with \$3. How much allowance did she have at the start?

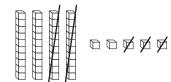
Subtraction – subtracting 2-digit numbers

Look at
$$45 - 23 = ?$$

How do we solve this? It helps to think of the numbers as tens and ones.

45 is 4 tens and 5 ones. 23 is 2 tens and 3 ones.

We subtract 2 tens and 3 ones from 45.



$$45 - 23 = 22$$

Warm up by splitting these numbers into tens and ones.

tens ones **a** 27 is

tens ones **b** 98 is

tens ones **c** 12 is

tens ones **d** 75 is

2 Cross off the tens and ones blocks to help solve these problems.

a 28 – 17 =

b 34 – 13 =

c 46 - 12 =

d 38 - 25 =

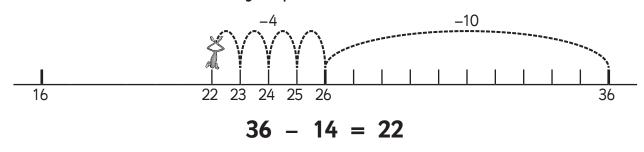
3 Write the number fact to match.



Subtraction – jump strategy

We can also use number lines to help us subtract 2-digit numbers.

14 is 1 ten and 4 ones. We jump back 1 ten, then 4 ones.



1 Use the jump strategy to solve these problems. Show the jumps and fill in the missing numbers on the number lines.

a 59 - 22 =

22 is _____ tens and ____ ones



b 38 - 21 =

21 is _____ tens and ____ one



c 65 - 33 =

33 is _____ tens and ____ ones

Subtraction – jump strategy

Number grids can also help us subtract using the jump strategy.

32 is 3 tens and 2 ones.

We make 3 tens jumps and 2 ones jumps **back**. This means we jump 1 for the tens jumps and — for the ones jumps.

$$57 - 32 = 25$$

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
71	72	حد		7_	74	77			

1 Use the number grid and the jump strategy to solve these problems.

13 is $_$ ten \uparrow and $_$ ones \leftarrow

41	42	43	44	45
51	52	53	54	55
61	62	63	64	65

b

34 is $_$ tens \uparrow and $_$ ones \longleftarrow

21	22	23	24	25	26	27	28
31	32	33	34	35	36	37	38
41	42	43	44	45	46	47	48
51	52	53	54	55	56	57	58
61	62	63	64	65	66	67	68

26 is $_$ tens \uparrow and $_$ ones \leftarrow

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

d

24 is $_$ tens \uparrow and $_$ ones \leftarrow

1	2	3	4	5	6	7
11	12	13	14	15	16	17
21	22	23	24	25	26	27
31	32	33	34	35	36	37

Subtraction - written methods, no regrouping

Sometimes we use a written format to help us solve subtraction problems. We set up problems vertically ‡ as this helps us work with the tens and ones separately.

When we work problems out this way, we subtract the ones first, then the tens.

		4			
4	ones –		one =	3	ones

$$3 \text{ tens} - 2 \text{ tens} = 1 \text{ ten}$$

terts.		3	4
	_	2	1
34 - 21 = 13		1	3

1 Finish these subtraction problems. Remember to subtract the ones and then subtract the tens.

a

	T	0
	4	6
_	1	5

h

	T	0
	3	9
_	2	2

•

	T	0
	4	8
_	3	3

d

	Т	0
	5	5
_	1	4

P

	T	0
	6	4
_	2	1

f

	T	0
	6	9
_	5	3

14

Subtraction - written methods, no regrouping

Solve these problems. If there are no ones in the answer, we write 0. If there are no tens in the answer, we leave the box blank.

a

	Т	0
	7	2
_	2	2

	Т	0
	5	4
_	5	1

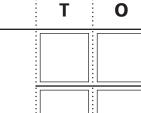
	T	0
	8	4
_	5	4

l	Т	0
	2	7
_	2	3

	Т	0
	7	5
_	5	5

	Т	0
	2	9
_	2	2

2 Set up these problems vertically and solve.





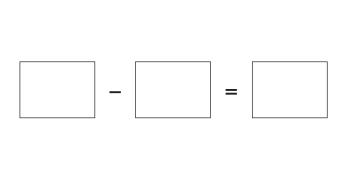
Т 0

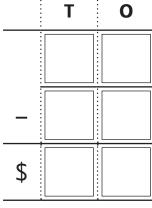


Т 0

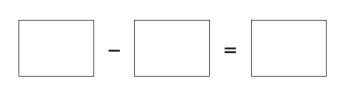
Subtraction - written methods, no regrouping

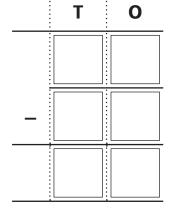
- 1 Solve these word problems. Show the number facts both ways.
 - **a** Grade 2 raised \$96 towards new sports gear. They spent \$34 on a new cricket set. How much do they have left to spend?



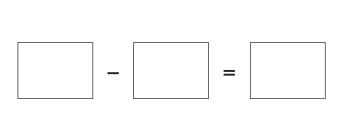


b Farmer Joe has 65 chickens. 52 of them lay eggs. How many don't lay eggs?





c Danny is given \$53 for his birthday. He spends \$31. How much does he have left?



Written methods – subtraction to 99, no regrouping

Here is the written method for subtraction. The longs and shorts show you the place value. But you actually use digits.

	tens	ones
_		

tens	ones
3	8
 1	5
2	3

1 Subtract these using the written method. Subtract the ones, then the tens. Write your answer neatly in line with the place value columns:

a tens ones 3 6 2 3

b		tens	ones
		8	7
	_	4	3

C		tens	ones
		7	7
	_	5	3

d tens ones 5 8 4 2

f		tens	ones
		6	8
	_	3	5

tens ones g 6 7 2 1

h		tens	ones
		3	4
	_	1	3

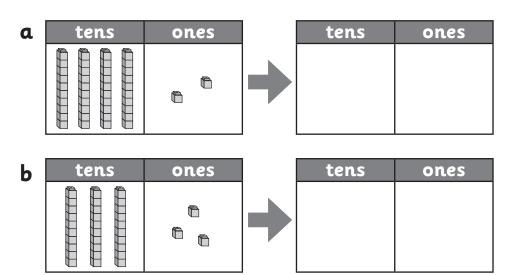
i		tens	ones
		9	7
	_	2	6

Written methods - subtraction to 99 with regrouping

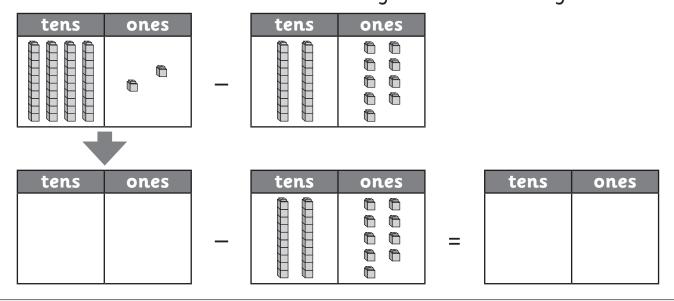
These place value boards show how we can regroup a ten into ones.

tens
ones
tens
ones
4 tens and 1 one is now 3 tens and 11 ones.

1 For each set of place value boards, regroup a ten into ones and show the new amount on the next board.
Just use straight lines for tens and squares for ones.



2 Complete this subtraction problem shown in longs and shorts. Regroup a ten into ones and then subtract. Show your answer in longs and shorts:

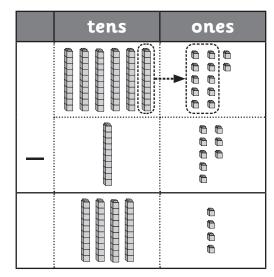


Written methods - subtraction to 99 with regrouping

Now that you can regroup a ten on the place value board, we can look at written subtraction with regrouping.

Here is 62 - 18 shown in longs and shorts. If we regroup a ten into ones, we can now subtract the ones.

Now look at the written method for subtraction when regrouping.



e: 40

First, estimate the answer:

60 - 20 = 40. You estimate by rounding to the nearest 10.

Look at the ones. We can't subtract 8 from 2, so we regroup a ten into ones.

We now have 12 ones. 12 subtract 8 is 4, so we write 4 in the ones column. Now subtract the tens. 5 tens subtract 1 ten is 4 tens. Write 4 in the tens column.

Is our answer reasonable? Yes, because it is close to our estimate.

3 Complete these written subtraction problems with regrouping. Start by writing your estimate:

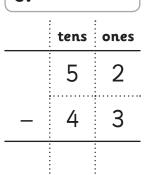
e:

a

e:

	tens	ones
	7	2
_	2	8

h



e:

tens ones
6 1
- 3 4

Continued on page 20.

Written methods - subtraction to 99 with regrouping

Continued from page 19.

3 Complete these written subtraction problems with regrouping. Start by writing your estimate:

d

e:		
	tens	ones
	5	6
_	1	8

e

		ones
	6	2
_	3	3

f

e:		
	tens	ones
	9	6
_	2	8

g

e:			
	tens	ones	
	4	1	
_	2	4	

h

e:		
	tens	ones
	7	6
_	3	9

i

e:		
	tens	ones
	9	7
_	6	8

4 What is the digit behind the star?

a

	tens	ones
	7	2
_	5	$\stackrel{\wedge}{\sim}$
	1	6

b

	tens	ones
	8	$\stackrel{\wedge}{\Longrightarrow}$
_	5	9
	2	5

C

	tens	ones
	7	9
_	5	$\stackrel{\wedge}{\Longrightarrow}$
	2	4