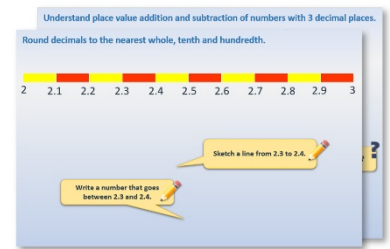


Week 7, Day 1

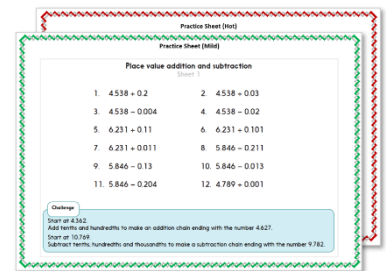
Subtract 9, 11, 19 and 21

Each day covers one maths topic. It should take you about 1 hour or just a little more.

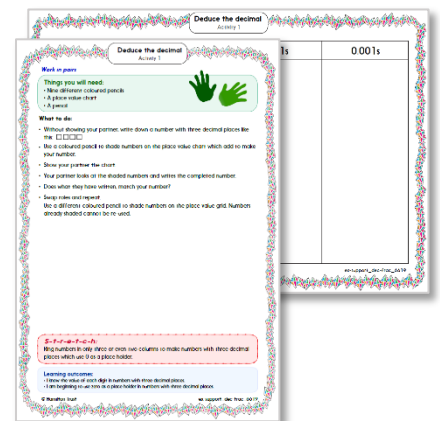
1. Start by reading through the **Learning Reminders**. They come from our *PowerPoint* slides.



2. Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.



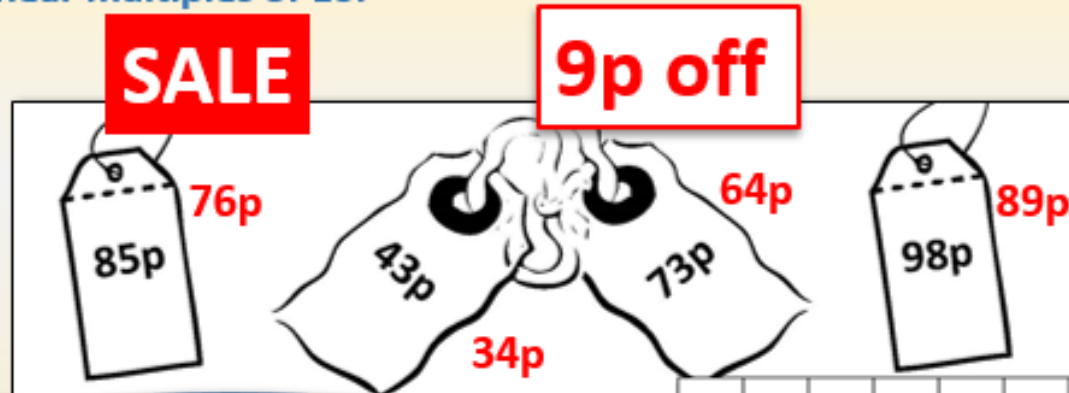
3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**



4. Think you've cracked it? Whizzed through the Practice Sheets? Have a go at the **Investigation...**

Learning Reminders

Subtract near multiples of 10.



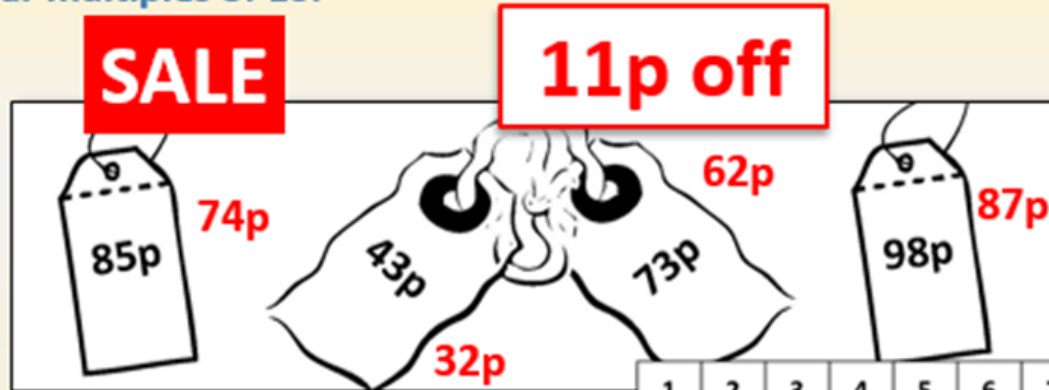
In this sale all prices have been reduced by **9p**. How can you find the new prices?

Use a number square –
up 1 square to subtract 10 and then **forward 1 to add one back on**. Quicker than counting **back 9!**

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	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Learning Reminders

Subtract near multiples of 10.



This time all the prices have been reduced by **11p**. How can you find the new prices?

Use a number square – **up 1 square to subtract 10** and then **back 1 to subtract one more**. Quicker than counting **back 11!**

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	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

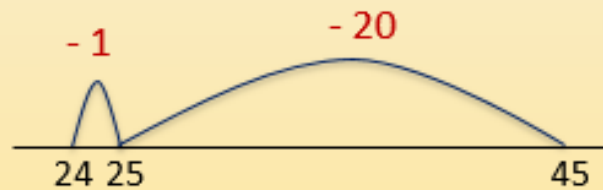
Learning Reminders

Subtract near multiples of 10.

21p off



This time all the prices have been reduced by **21p**.
Let's see how to do that on a number line....



Back 20 to 25...

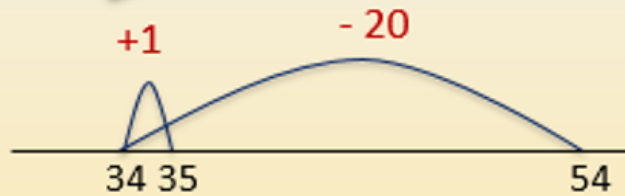
Then back 1 to 24...

Learning Reminders

Subtract near multiples of 10.

This time all the prices have been reduced by **19p**.
Let's see how to do these on a number line....

Back 20 to 34...

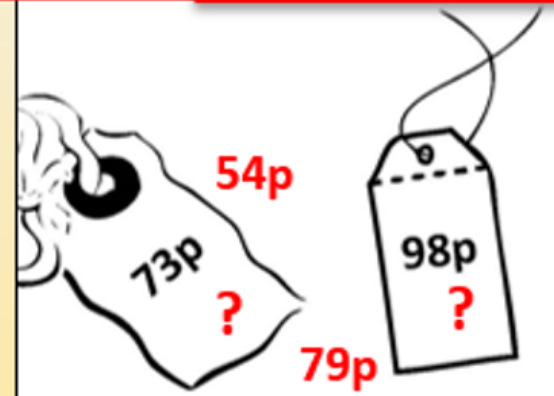


Then **forward** 1 to 35...

Why **forward** this time?



SALE 19p off



Practice Sheet Mild

Subtraction practice

Part A

$25 - 10$

$25 - 11$

$25 - 9$

$42 - 10$

$42 - 11$

$42 - 9$

$87 - 10$

$87 - 11$

$87 - 9$

$63 - 10$

$63 - 11$

$63 - 9$

$74 - 10$

$74 - 11$

$74 - 9$

Part B

$22 - 20$

$22 - 21$

$22 - 19$

$35 - 20$

$35 - 21$

$35 - 19$

$46 - 20$

$46 - 21$

$46 - 19$

$53 - 20$

$53 - 21$

$53 - 19$

$94 - 20$

$94 - 21$

$94 - 19$

$68 - 20$

$68 - 21$

$68 - 19$

Challenge

Write two 'Top Tips' with these headings:

1. How to subtract 11 by 'adjusting'.
2. How to subtract 19 by 'adjusting'.

Practice Sheet Hot

Subtraction practice

Part A

$53 - 20$

$53 - 21$

$53 - 19$

$45 - 20$

$45 - 21$

$45 - 19$

$70 - 20$

$70 - 21$

$70 - 19$

$59 - 20$

$59 - 21$

$59 - 19$

$94 - 20$

$94 - 21$

$94 - 19$

$68 - 20$

$68 - 21$

$68 - 19$

Part B

$85 - 30$

$85 - 31$

$85 - 29$

$65 - 18$

$65 - 12$

$65 - 23$

$74 - 39$

$106 - 29$

$117 - 39$

$83 - 20$

$83 - 12$

$83 - 28$

$101 - 40$

$101 - 43$

$101 - 37$

Challenge

Write two 'Top Tips' with these headings:

1. How to subtract 11 by 'adjusting'.
2. How to subtract 19 by 'adjusting'.

Practice Sheet Answers

Subtraction practice (Mild)

Part A

$25 - 10 = 15$

$25 - 11 = 14$

$25 - 9 = 16$

$42 - 10 = 32$

$42 - 11 = 31$

$42 - 9 = 33$

$87 - 10 = 77$

$87 - 11 = 76$

$87 - 9 = 78$

$63 - 10 = 53$

$63 - 11 = 52$

$63 - 9 = 54$

$74 - 10 = 64$

$74 - 11 = 63$

$74 - 9 = 65$

Part B

$22 - 20 = 2$

$22 - 21 = 1$

$22 - 19 = 3$

$35 - 20 = 15$

$35 - 21 = 14$

$35 - 19 = 16$

$46 - 20 = 26$

$46 - 21 = 25$

$46 - 19 = 27$

$53 - 20 = 33$

$53 - 21 = 32$

$53 - 19 = 34$

$94 - 20 = 74$

$94 - 21 = 73$

$94 - 19 = 75$

$68 - 20 = 48$

$68 - 21 = 47$

$68 - 19 = 49$

Challenge

Do children clearly explain the strategy of subtracting 10, or a multiple of 10, and adjusting in the appropriate direction?

Subtraction practice (Hot)

Part A

$53 - 20 = 33$

$53 - 21 = 32$

$53 - 19 = 34$

$45 - 20 = 25$

$45 - 21 = 24$

$45 - 19 = 26$

$70 - 20 = 50$

$70 - 21 = 49$

$70 - 19 = 51$

$59 - 20 = 39$

$59 - 21 = 38$

$59 - 19 = 40$

$94 - 20 = 74$

$94 - 21 = 73$

$94 - 19 = 75$

$68 - 20 = 48$

$68 - 21 = 47$

$68 - 19 = 49$

Part B

$85 - 30 = 55$

$85 - 31 = 54$

$85 - 29 = 56$

$65 - 18 = 47$

$65 - 12 = 53$

$65 - 23 = 42$

$74 - 39 = 35$

$106 - 29 = 77$

$117 - 39 = 78$

$83 - 20 = 63$

$83 - 12 = 71$

$83 - 28 = 55$

$101 - 40 = 61$

$101 - 43 = 58$

$101 - 37 = 64$

Challenge

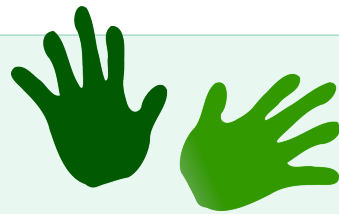
Do children clearly explain the strategy of subtracting 10, or a multiple of 10, and adjusting in the appropriate direction?

A Bit Stuck? Secret Spider

Work in pairs

Things you will need:

- A spider
- A 1-100 grid
- Addition and subtraction cards
- A pencil



What to do:

- Spread the cards out on the table.
- Choose a card without pointing to it. Don't tell your partner which card you chose.
- Use Spider to show the secret addition or subtraction on the grid.
- Can your partner guess which card you chose? If so, you both win 10 points.
- Write the addition or subtraction Spider worked out, including the answer.
- Swap roles and repeat. See if you can score at least 50 points.

$35 + 20 = 55$
$72 - 20 =$

S-t-r-e-t-c-h:

Choose an addition and work out the answer without using Spider on the grid.
Choose a subtraction and work out the answer without using Spider on the grid.

Learning outcomes:

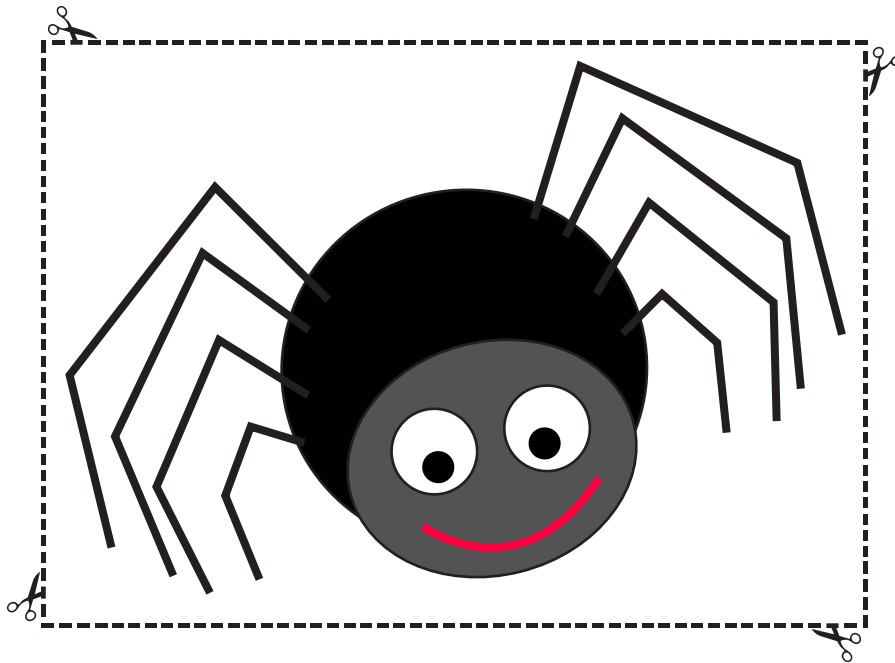
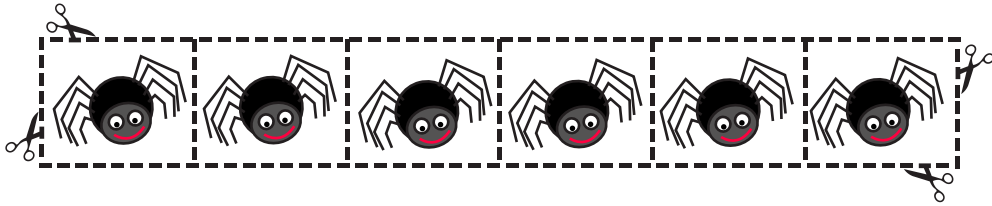
- I can add and subtract 20 using a 1-100 grid.
- I am beginning to add and subtract 20 without a 1-100 grid.



A Bit Stuck?
Secret Spider

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	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

A Bit Stuck? Secret Spider



A Bit Stuck?
Secret Spider

 $35 + 20$

$75 - 20$

$84 - 20$ 

$27 + 20$

$49 + 20$

$93 - 20$

$61 - 20$

$30 + 20$

$68 + 20$

 $46 - 20$

$74 + 20$

$54 - 20$ 

Investigation

Nineteen patterns

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	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

- Choose a number from the bottom row of the 1-100 grid, e.g. 98.
Write the number and its **digit sum*** (also known as 'digital root') next to it.
- Subtract 19. Write the answer and the digit sum.
- Subtract 19 again and write the digit sum.
- Repeat until you reach a 1-digit answer.
- What do you notice about your digit sums?

<input type="radio"/>	
<input type="radio"/>	98 $9 + 8 = 17$ $1 + 7 = 8$
<input type="radio"/>	79 $7 + 9 = \underline{\quad}$
<input type="radio"/>	60
<input type="radio"/>	41
<input type="radio"/>	22
<input type="radio"/>	3
<input type="radio"/>	

- Start at a new number on the bottom row of the 1-100 grid and see what happens.
- Can you *describe* any **patterns** you notice?
Try saying them out loud first.
- Can you **explain** why these patterns are there?

* Digit sum

The digit sum is the total of the digits in a number,
e.g. for 24, it is $2 + 4 = 6$.
If the answer is a 2-digit number,
e.g. for 98 is $9 + 8 = 17$, add the digits again so you get a 1-digit answer: $1 + 7 = 8$.
8 is the digit sum of 98.