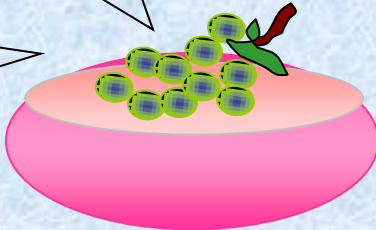# Subtraction methods

Subtraction - Reception

10 grapes, you eat two. How many left?

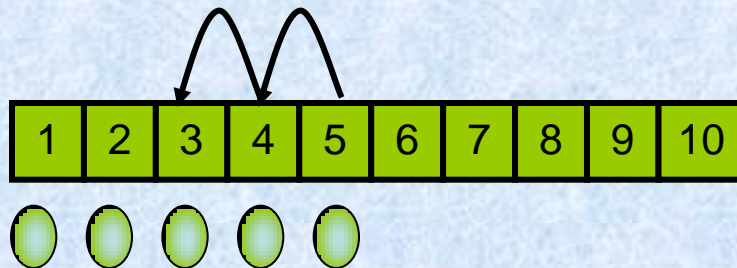10 grapes, you eat one, how many left? 9. And another? 8. Another, 7 . . .

9,8
8 left

1. **Establishing take away (Using concrete objects)**

2. **Show their calculation on a numbered track**

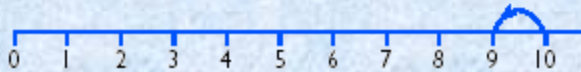"Sophie has 5 sweets. She eats 2 of them. How many sweets are left?"

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

The difference is?

3. **Beginning to look at difference**

Subtraction – Year 1

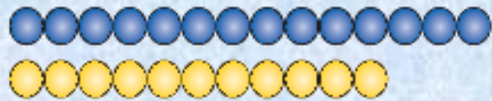I **less** than 10 is 9

10 **subtract** 1 equals 9

$10 - 1 = 9$

0 1 2 3 4 5 6 7 8 9 10

1. Counting back along a number line when taking away (Still using concrete objects to link when necessary)

$5 - \square = 3$

2. Finding the difference between 3 and 5 (Using concrete objects and visual pictures)

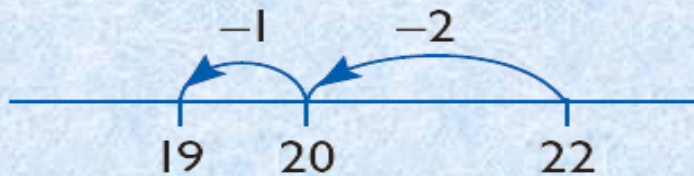# Subtraction – Year 2

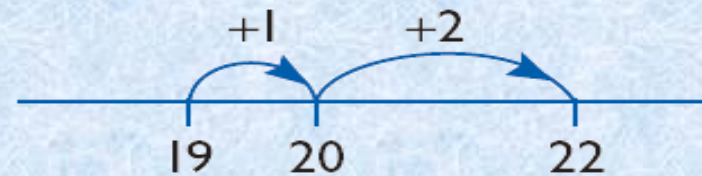The difference between 11 and 14 is 3.

$14 - 11 = 3$

$11 + \square = 14$

1. **Finding differences; recording on a number line**

$22 - 3$

-1 -2

19   20   22

$22 - 19 = 3$

$+1$ $+2$

19   20   22

2. **Looking at appropriate times for counting back (taking away) and counting on (difference)**

3. **Counting on and back finding differences on a 100 square**

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

Subtraction – Year 3

1. Use a number line, counting on to the next multiple of 10

$84 - 56 =$

+4   +20   +4

20 + 4 + 4 = **28**

56   60   80   84
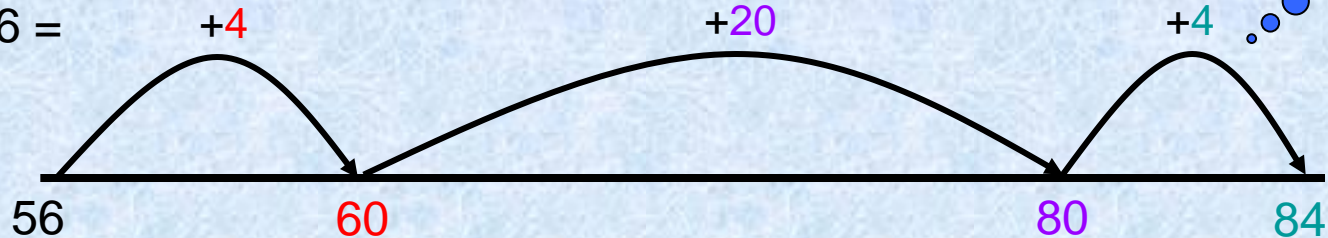
2. Vertical number line showing the same

56

+4

60

20 + 4 + 4 = **28**

+20

80

+4

84
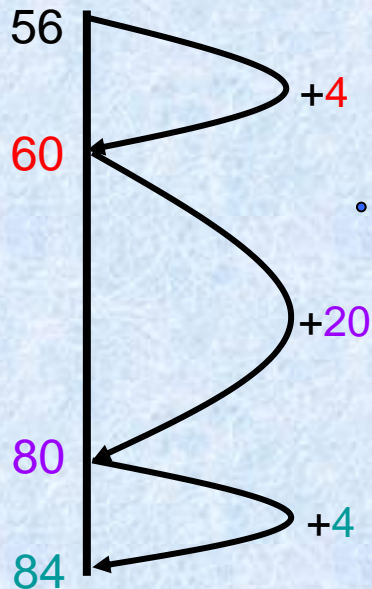
3. Leading to expanded vertical layout counting on from the smaller to the larger

8 4
− 5 6

+ 4 to make 60
+ 2 0 to make 80
+ 4 to make 84

2 8

Subtraction – Year 4

1. Vertical number line for HTU – TU

625 – 48 =
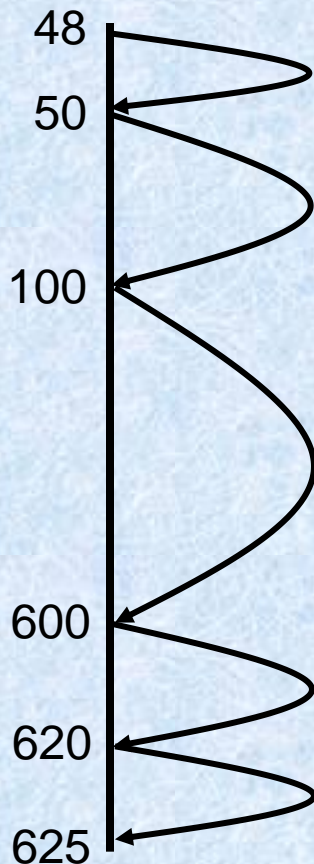
2. Leading to expanded vertical layout counting on from the smaller to the larger

48

+2

50

+50

100

500 + 50 + 20 + 5 +2
= **577**

+500

600

+20

620

+5

625

6 2 5

− 4 8

+ 2 (50)

+ 5 0 (100)

+ 5 0 0 (600)

+ 2 0 (620)

+ 5 (625)

5 7 7

3. As above with HTU - HTU
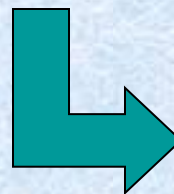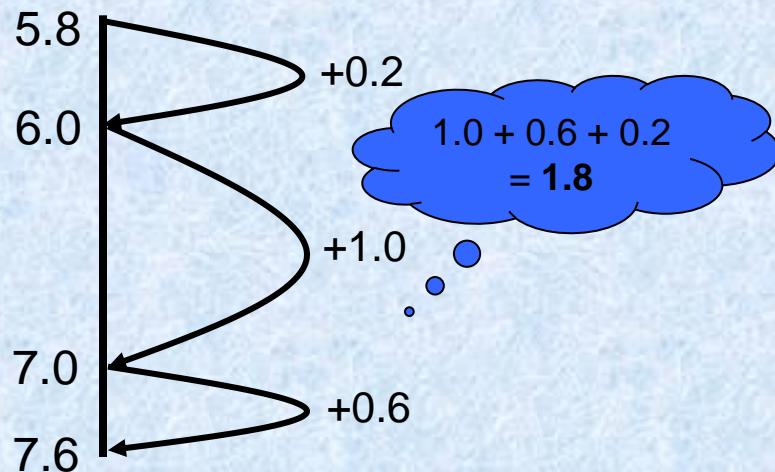
Subtraction – Year 5

1. **Compact counting on, using known complements to 100 (Go back to number lines if necessary)**

$$
\begin{array}{r}
7\ 5\ 6 \\
-\ 2\ 8\ 1 \\
\hline
\end{array}
$$

+ 1 9 (300)

+ 4 0 0 (700)

+ 5 6 (756)

$$
\begin{array}{r}
\hline
4\ 7\ 5 \\
\hline
1
\end{array}
$$

2. **As above with ThHTU - ThHTU**

3. **Use number lines to initially count on with decimals**

7.6 – 5.8 =

5.8 ⌐ +0.2

6.0 ⌐ +1.0

1.0 + 0.6 + 0.2 = **1.8**

7.0 ⌐ +0.6

7.6

$$
\begin{array}{r}
7.6 \\
-\ 5.8 \\
\hline
\end{array}
$$

+ 0.2 (6.0)

+ 1.0 (7.0)

+ 0.6 (7.6)

$$
\begin{array}{r}
\hline
1.8 \\
\hline
\end{array}
$$

Subtraction – Year 6

1. Decimals with a similar number of decimal places

$$2\,7.9\,2$$
$$-\,1\,8.5\,6$$

$+\,0.0\,4$ (18.60)

$+\,0.4\,0$ (19.00)

$+\,1.0\,0$ (20.00)

$+\,7.9\,2$ (27.92)

$9.3\,6$

1

2. Decimals with a dissimilar number of decimal places requiring zero placeholders to be inserted

$$4\,2\,1\,.\,3\,\mathbf{0}$$
$$-\,\ \ 8\,2\,.\,5\,7$$

$+\,0\,.\,0\,3$ (82.60)

$+\,0\,.\,4\,0$ (83.00)

$+\,1\,7\,.\,0\,0$ (100.00)

$+\,3\,2\,1\,.\,3\,0$ (421.30)

$3\,3\,8\,.\,7\,3$

When returning to a written calculation at this stage, e.g. to revise or to extend to decimals or to numbers with more digits, it is a good idea to start again with informal, expanded methods. This helps to retain their understanding of the link between different methods and makes it easier for them to resort to the expanded method if they need to.