

As outcomes, Year 2 pupils should, for example:

Mentally add or subtract 11 or 21, or 9 or 19, to/from any two-digit number. For example:

- $58 + 21 = 79$ because it is the same as $58 + 20 + 1$;
- $70 - 11 = 59$ because it is the same as $70 - 10 - 1$;
- $24 - 9 = 15$ because it is the same as $24 - 10 + 1$;
- $35 + 19 = 54$ because it is the same as $35 + 20 - 1$.

Develop and recognise a pattern such as:

$$\begin{array}{ll} 3 + 5 = 8 & 4 - 3 = 1 \\ 13 + 5 = 18 & 14 - 3 = 11 \\ 23 + 5 = 28 & 24 - 3 = 21 \\ \dots & \dots \end{array}$$

and so deduce that:

$$63 + 5 = 68 \qquad 54 - 3 = 51$$

Recognise and use the pattern in, for example:

$$\begin{array}{l} 4 + 3 = 7 \\ 40 + 30 = 70 \\ 400 + 300 = 700 \end{array}$$

Say or write the subtraction fact corresponding to a given addition fact, and vice versa. For example:

$$\begin{array}{l} 15 + 4 = 19 \text{ implies that } 19 - 4 = 15 \\ 4 + 15 = 19 \text{ implies that } 19 - 15 = 4 \\ \text{and vice versa.} \end{array}$$

Without apparatus, answer oral questions like:

- You know that $12 + 4 = 16$.
What is $4 + 12$, or $16 - 12$, or $16 - 4$?
- You know that $17 - 3 = 14$.
What is $17 - 14$, or $3 + 14$, or $14 + 3$?

Given three numbers, say or write four different sentences relating these numbers. For example:

- Given 2, 7 and 9, say or write:

7 plus 2 equals 9	$7 + 2 = 9$
2 plus 7 equals 9	$2 + 7 = 9$
9 minus 2 equals 7	$9 - 2 = 7$
9 minus 7 equals 2	$9 - 7 = 2$

As outcomes, Year 3 pupils should, for example:

Mentally add or subtract 9 or 11 to/from any three-digit number. For example:

- $284 - 9 = 275$ because it is the same as $284 - 10 + 1$;
- $543 + 11 = 554$ because it is the same as $543 + 10 + 1$.

Mentally add or subtract 9, 19, 29... or 11, 21, 31... to/from any two-digit number without crossing 100. For example:

- $63 + 29 = 92$ because it is the same as $63 + 30 - 1$;
- $78 - 49 = 29$ because it is the same as $78 - 50 + 1$.

Develop and recognise a pattern such as:

$$\begin{array}{ll} 14 + 3 = 17 & 68 - 5 = 63 \\ 14 + 13 = 27 & 68 - 15 = 53 \\ 14 + 23 = 37 & 68 - 25 = 43 \\ \dots & \dots \end{array}$$

and so deduce that:

$$14 + 83 = 97 \qquad 68 - 45 = 23$$

Recognise and use the pattern in, for example:

$$\begin{array}{l} 4 + 8 = 12 \\ 40 + 80 = 120 \\ 400 + 800 = 1200 \end{array}$$

+		1		2		3		4		5
1		2		3		4		5		6
2		3		4		5		6		7
3		4		5		6		7		8
4		5		6		7		8		

Recognise and use the pattern in an addition table.

Say or write the subtraction fact corresponding to a given addition fact, and vice versa. For example:

$$\begin{array}{l} 56 + 27 = 83 \text{ implies that } 83 - 27 = 56 \\ 27 + 56 = 83 \text{ implies that } 83 - 56 = 27 \\ \text{and vice versa.} \end{array}$$

Without apparatus, answer oral questions like:

- You know that $32 + 14 = 46$.
What is $14 + 32$, or $46 - 32$, or $46 - 14$?
- You know that $87 - 42 = 45$.
What is $87 - 45$, or $42 + 45$, or $45 + 42$?

Given three or more numbers, say or write different sentences relating these numbers. For example:

- Given 5, 8 and 13, say or write:

8 plus 5 equals 13	$8 + 5 = 13$
5 plus 8 equals 13	$5 + 8 = 13$
13 minus 8 equals 5	$13 - 8 = 5$
13 minus 5 equals 8	$13 - 5 = 8$
- Using only the numbers 15, 17, 32, 34, 49, write as many different number sentences as you can.

See also checking results (page 59).