

Overview of Strategies and Methods (Addition)

Stage 1-Mental Addition


Using place value

Count in 1s

e.g. $45 + 1$

Count in 10s

e.g. $45 + 10$ without counting on in 1s

34	35	36
44		46
54	55	56

Add 10 to any given 2-digit number.

Counting on

Count on in 1s

e.g. $8 + 3$ as 8, 9, 10, 11

Add, putting the larger number first

Count on in 10s

e.g. $45 + 20$ as 45, 55, 65



Stage 1-Mental Addition

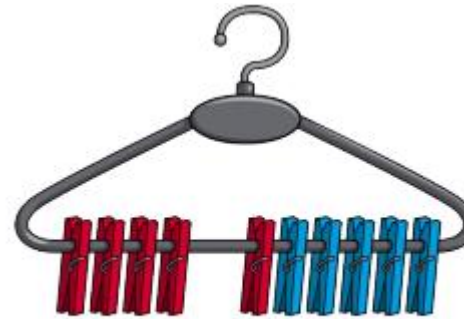
Using number facts

'Story' of 4, 5, 6, 7, 8 and 9

e.g. $7 = 7 + 0$, $6 + 1$, $5 + 2$, $4 + 3$

Number bonds to 10

e.g. $5 + 5$, $6 + 2$, $7 + 3$, $8 + 2$, $9 + 1$, $10 + 0$



$$4 + 6 = 10$$

Use patterns based on known facts when adding

e.g. $4 + 3 = 7$ so we know $24 + 3$, $44 + 3$, $74 + 3$

Overview of Strategies and Methods (Addition)

Stage 2-Mental Addition

Using place value

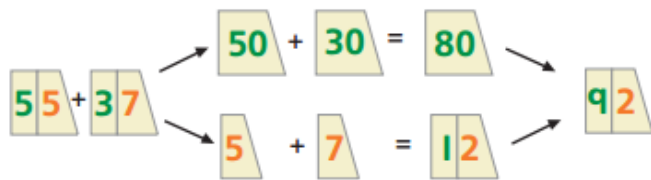
Know 1 more or 10 more than any number

e.g. 1 more than 67

e.g. 10 more than 85

Partitioning

e.g. $55 + 37$ as $50 + 30$ and $5 + 7$, then finally combine the two totals: $80 + 12$



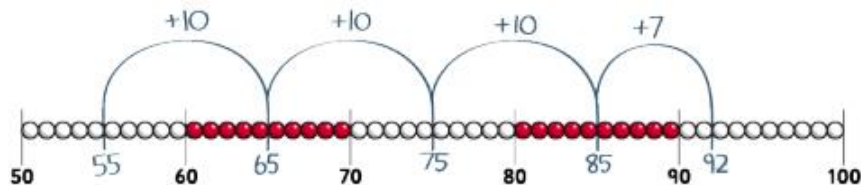
Counting on

Add 10 and multiples of 10 to a given 1- or 2-digit number

e.g. $76 + 20$ as 76, 86, 96 or in one hop: $76 + 20 = 96$

Add two 2-digit numbers by counting on in 10s, then in 1s

e.g. $55 + 37$ as $55 + 30$ (85) + 7 = 92



Add near multiples of 10

e.g. $46 + 19$

e.g. $63 + 21$

Stage 2-Mental Addition

Using number facts

Know pairs of numbers which make the numbers up to and including 12

e.g. $8 = 4 + 4$, $3 + 5$, $2 + 6$, $1 + 7$, $0 + 8$

e.g. $10 = 5 + 5$, $4 + 6$, $3 + 7$, $2 + 8$, $1 + 9$, $0 + 10$

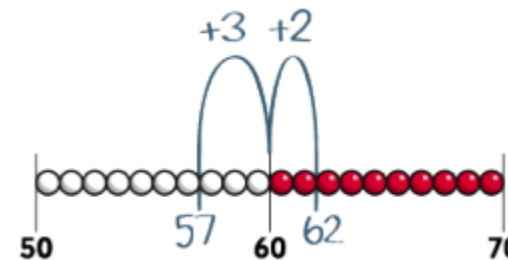
Use patterns based on known facts when adding

e.g. $6 + 3 = 9$, so we know $36 + 3 = 39$, $66 + 3 = 69$, $56 + 3 = 59$



Bridging 10

e.g. $57 + 5 = 57 + 3$ (60) + 2 = 62



Add three or more 1-digit numbers, spotting bonds to 10 or doubles

e.g. $3 + 5 + 3 = 6 + 5 = 11$

e.g. $8 + 2 + 4 = 10 + 4 = 14$

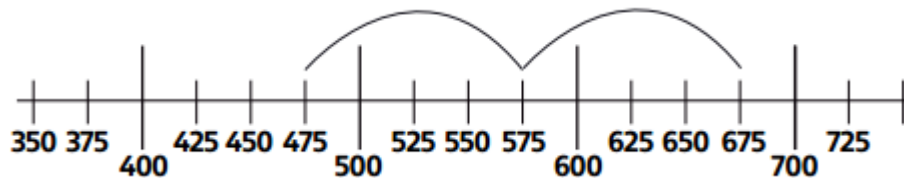
Overview of Strategies and Methods (Addition)

Stage 3-Mental Addition

Using place value

Count in 100s

e.g. Know $475 + 200$ as $475, 575, 675$



Add multiples of 10, 100 and £1

e.g. $746 + 200$

e.g. $746 + 40$

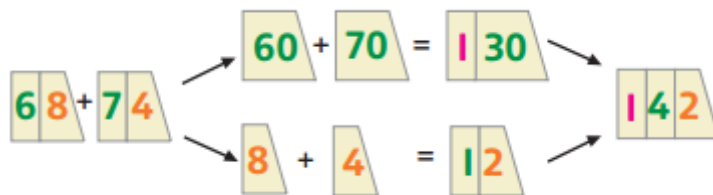
e.g. $£6.34 + £5$ as $£6 + £5$ and $34p$

Partitioning

e.g. $£8.50 + £3.70$ as $£8 + £3$ and $50p + 70p$ and combine the totals: $£11 + £1.20$

e.g. $347 + 36$ as 300 and $40 + 30$ and $7 + 6$ and combine the totals: $370 + 13 = 383$

e.g. $68 + 74$ as $60 + 70$ and $8 + 4$ and combine the totals: $130 + 12 = 142$



Stage 3-Mental Addition

Counting on

Add two 2-digit numbers by adding the multiple of 10, then the 1s

e.g. $67 + 55$ as $67 + 50 (117) + 5 = 122$

Add near multiples of 10 and 100

e.g. $67 + 39$

e.g. $364 + 199$

Add pairs of 'friendly' 3-digit numbers

e.g. $548 + 120$

Count on from 3-digit numbers

e.g. $247 + 34$ as $247 + 30 (277) + 4 = 281$

Using number facts

Know pairs which total each number to 20

e.g. $7 + 8 = 15$

e.g. $12 + 6 = 18$

Number bonds to 100

e.g. $35 + 65$

e.g. $46 + 54$

e.g. $73 + 27$

Add to the next 10 and the next 100

e.g. $176 + 4 = 180$

e.g. $435 + 65 = 500$

Overview of Strategies and Methods (Addition)

Stage 4-Mental Addition

Using place value

Count in 1000s

e.g. Know $3475 + 2000$ as $3475, 4475, 5475$

Partitioning

e.g. $746 + 40$

e.g. $746 + 203$ as $700 + 200, +40$ and $6 + 3$

e.g. $134 + 707$ as $100 + 700, +30$ and $4 + 7$

Counting on

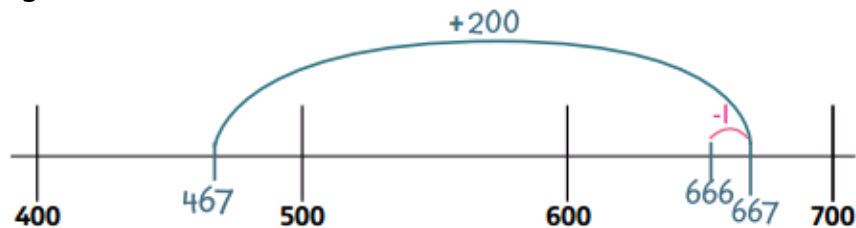
Add 2-digit numbers to 2-, 3- and 4-digit numbers by adding the multiple of 10 then the 1s

e.g. $167 + 55$ as $167 + 50 (217) + 5 = 222$

Add near multiples of 10, 100 and 1000

e.g. $467 + 199$

e.g. $3462 + 2999$



Count on to add 3-digit numbers and money

e.g. $463 + 124$ as $463 + 100 (563) + 20 (583) + 4 = 587$

+ e.g. $£4.67 + £5.30$ as $£9.67 + 30p$

Stage 4-Mental Addition

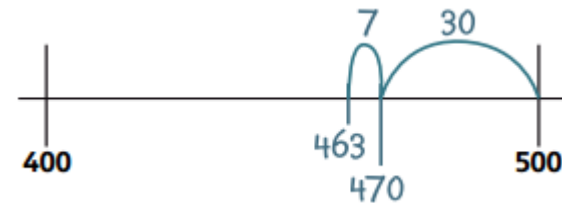
Using number facts

Number bonds to 100 and to the next multiple of 100

e.g. $288 + 12 = 300$

e.g. $1353 + 47 = 1400$

e.g. $463 + 37 = 500$



Number bonds to £1 and to the next whole pound

e.g. $63p + 37p = £1$

e.g. $£3.45 + 55p = £4$

Add to the next whole number

e.g. $4.6 + 0.4$

e.g. $7.2 + 0.8$

Overview of Strategies and Methods (Addition)

Stage 5-Mental Addition

Using place value

Count in 0.1s, 0.01s

e.g. Know what 0.1 more than 0.51 is

10s	1s	0.1s	0.01s
	0	5	1

Partitioning

e.g. $2.4 + 5.8$ as $2 + 5$ and $0.4 + 0.8$ and combine the totals: $7 + 1.2 = 8.2$

0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2
2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3
3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4
4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5
5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6
6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7
7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8
8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	9
9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	10

Stage 5-Mental Addition

Counting on

Add two decimal numbers by adding the 1s, then the 0.1s/0.01s

e.g. $5.72 + 3.05$ as $5.72 + 3 (8.72) + 0.05 = 8.77$

Add near multiples of 1

e.g. $6.34 + 0.99$

e.g. $5.63 + 0.9$

Count on from large numbers

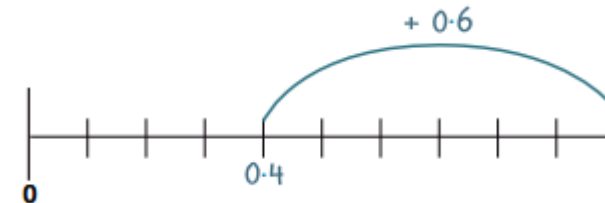
e.g. $6834 + 3005$ as $9834 + 5$

Using number facts

Number bonds to 1 and to the next whole number

e.g. $5.7 + 0.3$

e.g. $0.4 + 0.6$



Add to the next 10 from a decimal number

e.g. $7.8 + 2.2 = 10$

Overview of Strategies and Methods (Addition)

Stage 6-Mental Addition

Using place value

Count in 0.1s, 0.01s, 0.001s

e.g. Know what 0.001 more than 6.725 is

Partitioning

e.g. $9.54 + 3.23$ as $9 + 3$, $0.5 + 0.2$ and $0.04 + 0.03$, to give 12.77

Counting on

Add two decimal numbers by adding the 1s, then the 0.1s/0.01s/0.001s

e.g. $6.314 + 3.006$ as $6.314 + 3 (9.314) + 0.006 = 9.32$

Add near multiples of 1

e.g. $6.345 + 0.999$

e.g. $5.673 + 0.9$

Count on from large numbers

e.g. $16\,375 + 12\,003$ as $28\,375 + 3$

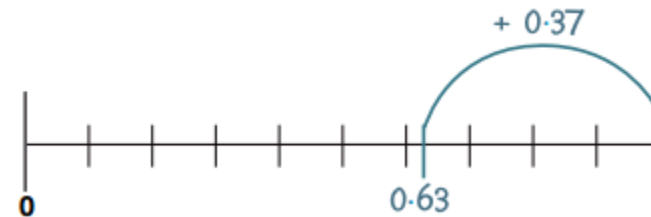
Stage 6-Mental Addition

Using number facts

Number bonds to 1 and to the next multiple of 1

e.g. $0.63 + 0.37$

e.g. $2.355 + 0.645$



Add to the next 10

e.g. $4.62 + 5.38$

Overview of Strategies and Methods (Addition)

Stage 1 – Written Addition

Build on partitioning to develop expanded column addition with two 3-digit numbers e.g. $466 + 358$

$$\begin{array}{r} 400 \ 60 \ 6 \\ + 300 \ 50 \ 8 \\ \hline 700 \ 110 \ 14 = 824 \end{array}$$

Where digits in a column add to more than the column value (as above) then

$$\begin{array}{r} 700 \ 0 \ 0 \\ + 100 \ 10 \ 0 \\ \hline 10 \ 4 \end{array} \quad \text{or} \quad 700 + 110 + 14 =$$

Build on expanded column addition to develop compact column addition with two 2-digit or 3-digit numbers e.g. $347 + 286$

$$\begin{array}{r} 347 \\ + 286 \\ \hline 633 \\ \hline 11 \end{array}$$

Compact column addition with 3- and 4-digit numbers

Recognise like fractions that add to 1

$$\text{e.g. } \frac{1}{4} + \frac{3}{4}$$

$$\text{e.g. } \frac{3}{5} + \frac{2}{5}$$

Stage 2 – Written Addition

Compact column addition with larger numbers e.g. $5347 + 2286 + 1495$

$$\begin{array}{r} 5347 \\ 2286 \\ + 1495 \\ \hline 9128 \\ \hline 121 \end{array}$$

Use compact column addition to add amounts of money

$$\begin{array}{r} \pounds 24.68 \\ + \pounds 17.51 \\ \hline \pounds 42.19 \\ \hline 11 \end{array}$$

Add like fractions

$$\text{e.g. } \frac{3}{8} + \frac{1}{8} + \frac{1}{8}$$

Overview of Strategies and Methods (Addition)

Stage 3 – Written Addition

Compact column addition for adding several amounts of money e.g. $£14.64 + £28.78 + £12.26$

Compact column addition to add pairs of 5-digit numbers

Use compact addition to add decimal numbers with up to 2 decimal places e.g. $15.68 + 27.86$

$$\begin{array}{r} 15.68 \\ + 27.86 \\ \hline 43.54 \\ 11.1 \end{array}$$

Add related fractions

e.g. $\frac{3}{4} + \frac{1}{8} = \frac{7}{8}$

Stage 4 – Written Addition

Compact column addition for adding several large numbers and decimal numbers with up to 2 decimal places

Compact column addition with money e.g. $£14.64 + £28.78 + £12.26$

$$\begin{array}{r} £14.64 \\ + £28.78 \\ £12.26 \\ \hline £55.68 \\ 11.1 \end{array}$$

Add unlike fractions, including mixed numbers

e.g. $\frac{1}{4} + \frac{2}{3} = \frac{11}{12}$
e.g. $2\frac{1}{4} + 1\frac{1}{3} = 3\frac{7}{12}$