

Year 4

Daisyfield Primary School Calculation Policy

Updated March 2025

Progression Toward Mental Calculation Strategies **(Addition and Subtraction)**

The ability to calculate mentally is an essential skill, but, as with written methods of calculation, children need to be taught. **It is important to ensure that when teaching particular strategies, children have the appropriate prerequisite skills and are guided as to how and when that strategy is appropriate.**

Children should be taught and encouraged to ask themselves the following questions when faced with a calculation:

- Do I know the answer?
- Can I work it out in my head?
- Do I need to do a jotting?
- Do I need to use a written method?

When using a jotting, there is no requirement to follow a particular method of recording.

A feature of mental calculation is that a type of calculation can often be worked out in several different ways. Which method is best will depend on the numbers involved, the age of the children and the range of methods that they are confident with.

In developing a progression through mental calculation strategies for addition and subtraction, it is important that children understand the relevant concepts, in that addition is:

- combining two or more groups to give a total or sum
- increasing an amount

and subtraction is:

- removal of an amount from a larger group (take away)
- comparison of two amounts (difference)

They also need to understand and work with certain principles, that:

- addition and subtraction are inverses
- addition is commutative i.e. $5 + 3 = 3 + 5$ but subtraction is not $5 - 3$ is not the same as $3 - 5$
- addition is associative i.e. $5 + 3 + 7 = 5 + (3 + 7)$ but subtraction is not $10 - 3 - 2$ is not the same as $10 - (3 - 2)$

Commutativity and associativity mean that calculations can be rearranged, e.g. $4 + 13 = 17$ is the same as $13 + 4 = 17$.

Y4

End of Year Objective:

Add and subtract numbers mentally, including: a three-digit number to or from a three-digit multiple of tens; two three-digit numbers (where there is no carrying or exchange involved)

Rapid Recall:

Children should be able to:

- recall and use addition and subtraction facts for 100
- recall and use addition and subtraction facts for multiples of 100 that total 1000
- derive and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place)

Mental Strategies

Partition and combine multiples of hundreds, tens and ones

Partitioning numbers is a core strategy for adding and subtracting pairs of numbers. Children can either partition both of the numbers in the calculation, or keep the first number the same and just partition the second. (See Y2 and Y3 for more information).

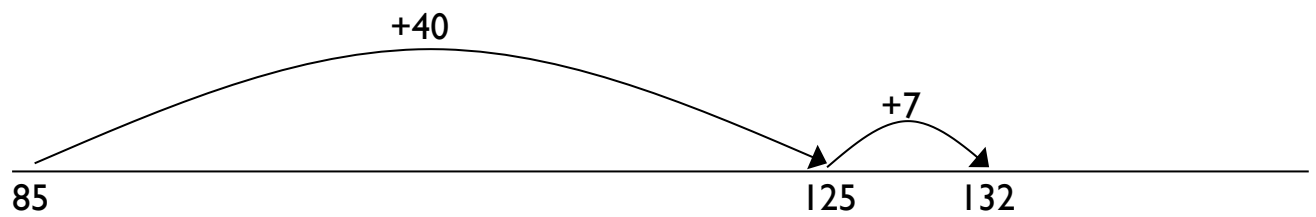
Examples of calculations:

320+150	320 add 100 and 50 = 320 add 100 add 50
243+230	243 add 200 and 30 = 243 add 200 add 30
460-140	460 take away 100 and 40 = 460 take away 100 take away 40
562 -320	562 take away 300 and 20 = 562 take away 300 take away 20
234+125	234 add 100 and 20 and 5 = 234 add 100 add 20 add 5 (crossing no
boundaries)	
765-241	765 take away 200 and 40 and 1 = 765 take away 200 take away 40
	take away 1 (crossing no boundaries)
85 + 47	85 add 40 and 7 = 84 add 40 add 7 (crossing hundreds and tens
boundaries)	
122 – 35	122 take away 30 and 5 = 122 take away 30 take away 5 (crossing
	hundreds and tens boundaries)

Prerequisite skills:

- Count forwards and backwards in ones, tens and hundreds from any one-, two- or three-digit number
- Understand place value and understand which digit changes if one, ten or hundred is added or subtracted
- Partition numbers into hundreds, tens and ones

$85 + 47 = 132$ (shown using a numberline)

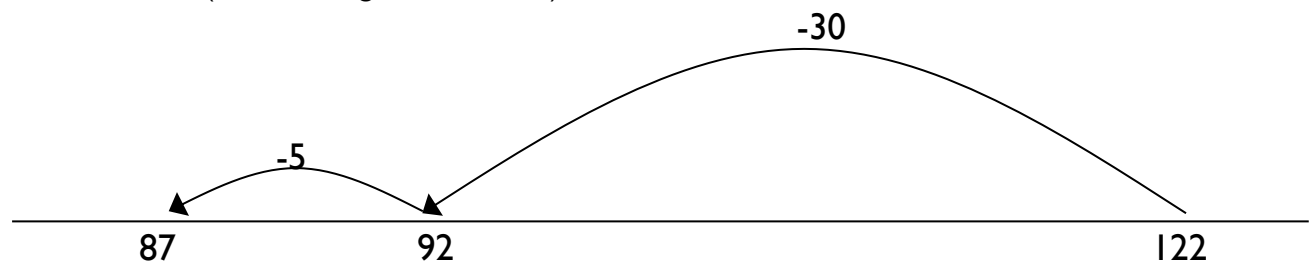


$$85 + 47 = 132$$

$$85 + 40 = 125$$

$$125 + 7 = 132$$

$122 - 35 = 87$ (shown using a numberline)



$122 - 35 = 87$ (shown using number sentences)

$$122 - 30 = 92$$

$$92 - 5 = 87$$

Reorder numbers in a calculation

In Y4, children need to build on their knowledge gained in Y3 and continue to reorder calculations to make them more efficient. They should now be solving calculations involving subtraction such as $16 - 3 - 6$, when reordering would be appropriate.

Examples of calculations:

$$7 + 12 + 3 + 5$$

$$7 + 3 + 12 + 5$$

$$18 + 6 - 8$$

$$18 - 8 + 6$$

$$27 + 75$$

$$75 + 27 \text{ (thinking of 27 as } 25 + 2\text{)}$$

Prerequisite skills:

- Understand the place value of numbers to identify which number is the greater

- Understand that reordering works for addition but not subtraction

Identify and use knowledge of number bonds within a calculation and identify related facts, e.g. $150 + 270$ from $15 + 27$

Children should use their knowledge of the number system to help them use related facts to calculate, e.g. 15 is ten times bigger than 150, 270 is ten times bigger than 27, so the answer to $150 + 270$ will be ten times bigger than $15 + 27$.

Examples of calculations:

$120 + 80$	using knowledge of $12 + 8 = 20$
$250 + 130$	using knowledge of $25 + 13 = 38$
$200 - 70$	using knowledge of $20 - 7 = 13$
$460 - 150$	using knowledge of $46 - 15 = 31$

Prerequisite skills:

- Know, or quickly derive, number bonds to 10, 100 or 1000
- Identify number bonds within other numbers, e.g. identifying $7 + 3$ within the calculation $257 + 343$
- Identify that when adding two two-digit numbers, that $57 + 43 = 100$ but $57 + 53$ does not and why

Find differences by counting up through the next multiple of 10 or 100

In Y4, children need to build on their knowledge and understanding gained in Y3 to find larger differences that cross 10 and 100 boundaries. When deciding whether to use a mental or a written method for a calculation, **children should be encouraged to select the method which is most efficient**. e.g. $203 - 96 =$. It is more efficient to count up from 96 to 203 in three steps (+4, +100, +3) than to use the formal written method of:

$$\begin{array}{r} 203 \\ - 96 \\ \hline 107 \end{array}$$

which requires a lot of exchanging.

Examples of calculations:

$$\begin{array}{r} 80 - 43 \\ 92 - 35 \\ 203 - 96 \\ 504 - 180 \end{array}$$

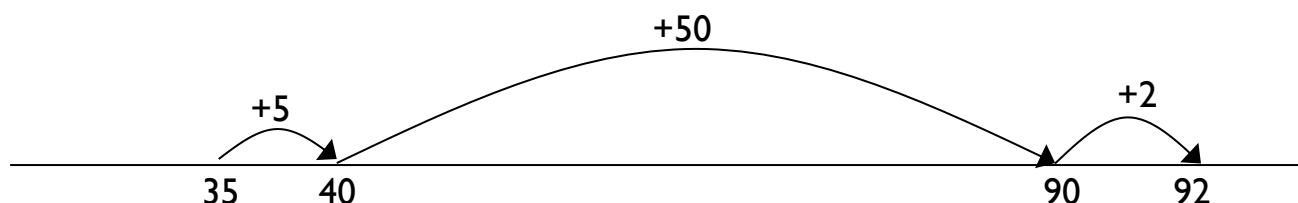
Prerequisite skills:

- Understand the place value of numbers to identify which number is the greater or lesser
- Establish whether numbers are close together or near to multiples of 10 or 100

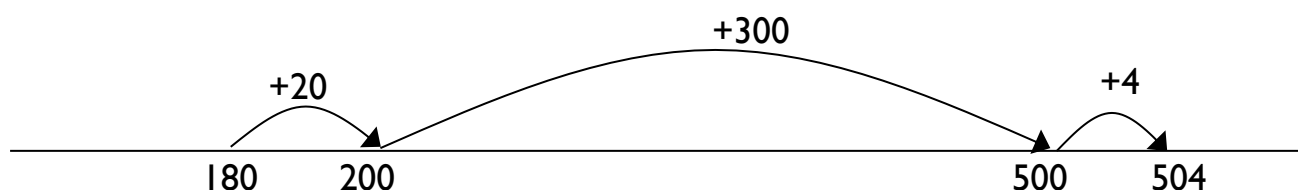
- Place numbers appropriately on an unmarked numberline
- Count forwards and backwards in ones and tens

Children could use empty numberlines to record the calculation.

$$92 - 35 = 57$$



$$504 - 180 = 324$$



Bridge through 10 when adding or subtracting a single digit number (partitioning, e.g. $58 + 5 = 58 + 2 + 3$ or $76 - 8 = 76 - 6 - 2$)

In Y4, children need to build on their knowledge and understanding gained in Y3. (See Y3 for more information).

Examples of calculations:

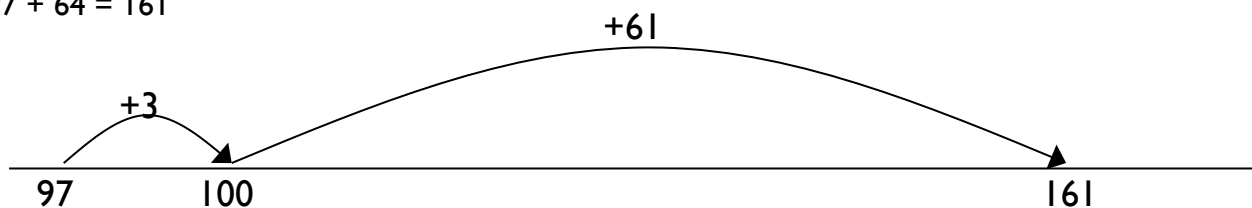
$48 + 35$	as $48 + 2 + 33$
$97 + 64$	as $97 + 3 + 61$
$103 - 25$	as $103 - 3 - 22$ (using number bonds to 100)
$230 - 72$	as $230 - 30 - 40 - 2$

Prerequisite skills:

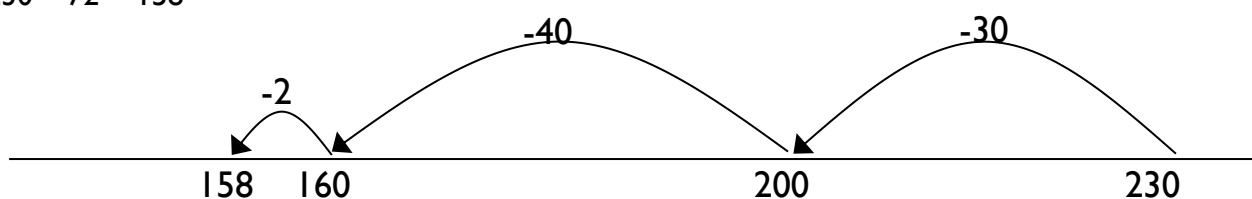
- Partition numbers in different ways, e.g. 5 as $2 + 3$ to enable $58 + 5$ as $58 + 2 + 3$
- Know, or quickly derive, number bonds to 10

Children could use empty numberlines to record the calculation.

$$97 + 64 = 161$$



$$230 - 72 = 158$$



Add or subtract a multiple of 10 and adjust (for those numbers close to multiples of 10)

In Y4, children need to build on their knowledge and understanding gained in Y3 (See Y3 for more information) to add and subtract numbers close to a multiple of 10 up to 89 to two and three-digit numbers.

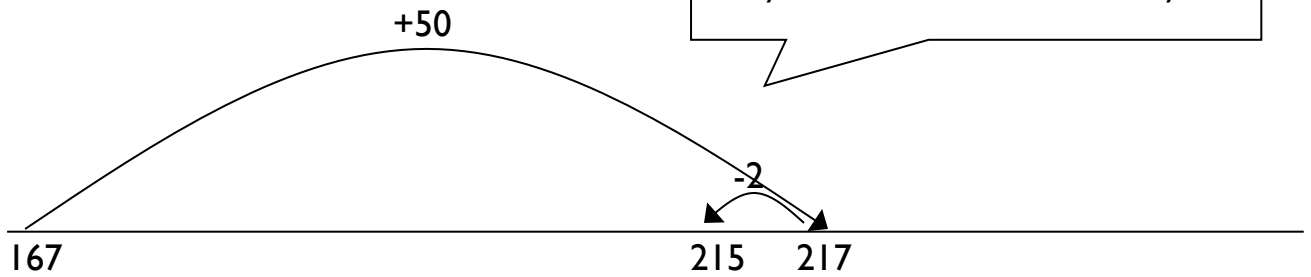
Examples of calculations:

$84 + 28$	as $84 + 30 - 2$
$167 + 48$	as $167 + 50 - 2$
$96 - 38$	as $96 - 40 + 2$
$213 - 58$	as $213 - 60 + 2$

Prerequisite skills:

- Identify the difference between the number being added and subtracted and the multiple of 10
- Understand that the adjustment needs to be the opposite of the operation carried out

$167 + 48 = 215$ (shown using a numberline)

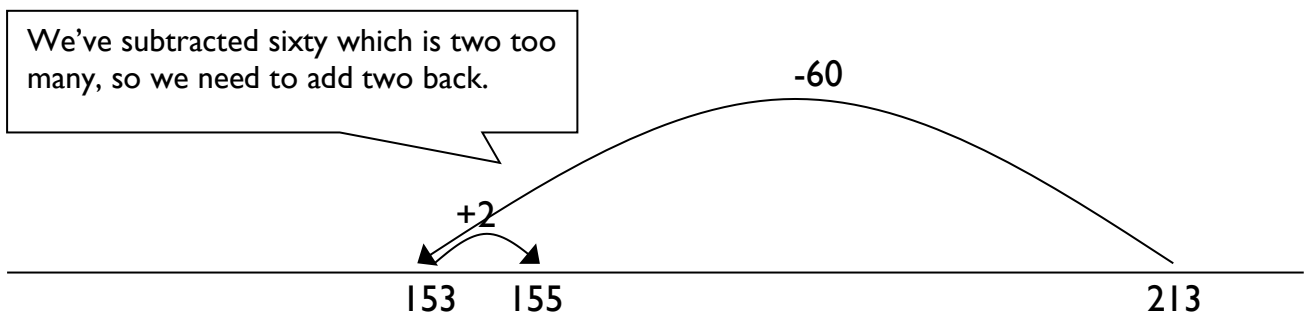


$167 + 48 = 215$ (shown using number sentences)

$$167 + 50 = 217$$

$$217 - 2 = 215$$

$213 - 58 = 155$ (shown using a numberline)



$213 - 58 = 155$ (shown using number sentences)

$$213 - 60 = 153$$

$$153 + 2 = 155$$

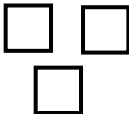
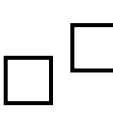
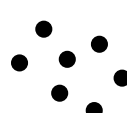
WRITTEN ADDITION

End of Year Objective:

Add numbers with up to 4 digits *and decimals with one decimal place* using the formal written method of columnar addition where appropriate.

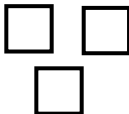
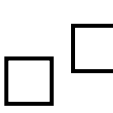
Children will move to year 4 using whichever method they were using as they transitioned from year 3.

Step 1

H	T	U
		
		

H	T	U
3	6	5
+	2	4

Step 2

H	T	U
		
		
		

H	T	U
3	6	5
+	2	4
		2
		1

Step 3

H	T	U

	H	T	U
	3	6	5
+	2	4	7
		1	2
	1	1	

Step 4

H	T	U

	H	T	U
	3	6	5
+	2	4	7
	6	1	2
	1	1	

By the end of year 4, children should be using the written method confidently and with understanding. They will also be adding:

- several numbers with different numbers of digits, understanding the place value;
- *decimals with one decimal place, knowing that the decimal points line up under one another.*

WRITTEN SUBTRACTION

End of Year Objective:

Subtract numbers with up to 4 digits *and decimals with one decimal place* using the formal written method of columnar subtraction where appropriate.

Children will move to year 4 using whichever method they were using as they transitioned from year 3.

Step 1
(units)

$$\begin{array}{r} 700 \rightarrow 50 \rightarrow 4 \\ - 200 \rightarrow 80 \rightarrow 6 \\ \hline \end{array}$$

Step 2 (exchanging from tens to

$$\begin{array}{r} 700 \rightarrow \overset{40}{\cancel{50}} \rightarrow ^14 \\ - 200 \rightarrow 80 \rightarrow 6 \\ \hline \end{array}$$

Step 3 (exchanging from hundreds to tens)

$$\begin{array}{r} \overset{600}{\cancel{700}} \rightarrow \overset{140}{\cancel{50}} \rightarrow ^14 \\ - 200 \rightarrow 80 \rightarrow 6 \\ \hline \end{array}$$

Step 4

$$\begin{array}{r} \overset{600}{\cancel{700}} \rightarrow \overset{140}{\cancel{50}} \rightarrow ^14 \\ - 200 \rightarrow 80 \rightarrow 6 \\ \hline 400 \rightarrow 60 \rightarrow 8 = 468 \end{array}$$

This would be recorded by the children as:

$$\begin{array}{r} \overset{600}{\cancel{700}} \rightarrow \overset{140}{\cancel{50}} \rightarrow ^14 \\ - 200 \rightarrow 80 \rightarrow 6 \\ \hline 400 \rightarrow 60 \rightarrow 8 = 468 \end{array}$$

When children are ready, this leads on to the compact method of decomposition:

$$\begin{array}{r} \overset{6}{4} \overset{14}{\cancel{5}} ^14 \\ - 3 \quad 2 \quad 8 \quad 6 \\ \hline 1 \quad 4 \quad 6 \quad 8 \end{array}$$

By the end of year 4, children should be using the written method confidently and with understanding. They will also be subtracting:

- numbers with different numbers of digits, understanding the place value;
- decimals with one decimal place, knowing that the decimal points line up under one another.

Y4 PROGRESSION IN MENTAL CALCULATION – Multiplication and Division

End of Year Objective:

Use place value, known and derived facts to multiply and divide mentally, including:

- multiplying by 0 and 1*
- dividing by 1*
- multiplying together three numbers*

Rapid Recall

Children should be able to:

- Count in multiples of 6, 7, 9, 25 and 1000
- Recall multiplication and division facts for multiplication tables up to 12×12
- Use partitioning to double or halve any number, including decimals to one decimal place
- Recognise and use factor pairs

Mental Strategies

Children should be able to represent multiplication and division calculations, including two-digit multiplied by one-digit numbers. As children learn to recall more multiplication and division facts, they should make a choice about the calculations they need to represent to find the answer, and those they can recall.

Use place value, known and derived facts to multiply mentally

Multiply a one- or two-digit number by 10 and 100

Building on their understanding from Year 3, children use place value columns to multiply one or two-digit numbers by 10 and 100.

e.g. $42 \times 100 =$

Th	H	T	U
		4	2
4	2	0	0

Examples of calculations

$$7 \times 10$$

$$9 \times 100$$

$$71 \times 10$$

$$63 \times 100$$

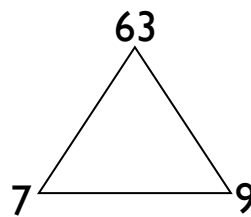
Prerequisite skills:

- Understand and use place value columns when representing numbers
- Understand the effect of multiplying a number by 10 or 100

Use related facts to multiply H00 by a one-digit number

NB H00 represents a multiple of 100

Children should be encouraged to identify the **relationships** between numbers in multiplication calculations, e.g. $7 \times 9 = 63$ could be represented using a multiplication trio as this model allows children to see the **relationships** between the numbers:

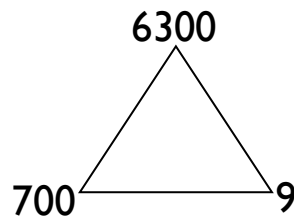


This can be used to derive the following calculations:

$$7 \times 9 = 63$$

$$9 \times 7 = 63$$

Children can then use the multiplication trio to derive related facts, e.g. $700 \times 9 =$



Children should be able to explain that because 700 is one hundred times greater than 7, the answer to 700×9 will be one hundred times greater than 63. They can then use their understanding of multiplying by 100 to calculate this.

Use factor pairs to multiply H00 by a one-digit number

Calculations that involve multiplying H00 by a one-digit number can be broken down into smaller steps by using factor pairs.

e.g. $700 \times 9 =$
becomes $7 \times 100 \times 9 =$ (using knowledge of factor pairs)
which becomes $7 \times 9 \times 100 =$ (using knowledge of commutativity/associativity)
which becomes $63 \times 100 = 6300$

Examples of calculations

$$600 \times 7$$

$$500 \times 8$$

$$900 \times 6$$

Prerequisite skills:

- Recall multiplication tables
- Understand the effect of multiplying a one- or two-digit number by 100
- Recognise and use factor pairs

Use compensation to multiply T9 by a one-digit number

NB T9 represents a two-digit number with 9 ones

Building on their understanding from Year 3 of multiplying 19 by a one-digit number using squared paper, children multiply by the nearest multiple of ten and then compensate appropriately.

e.g. $59 \times 4 =$

$$59 \times 4 = 60 \times 4 \text{ subtract } 1 \times 4$$

$$60 \times 4 = 240$$

So $59 \times 4 = 240 - 4$ (one group of 4 less than 240)

$$59 \times 4 = 236$$

Examples of calculations

$$49 \times 3$$

$$29 \times 7$$

$$89 \times 6$$

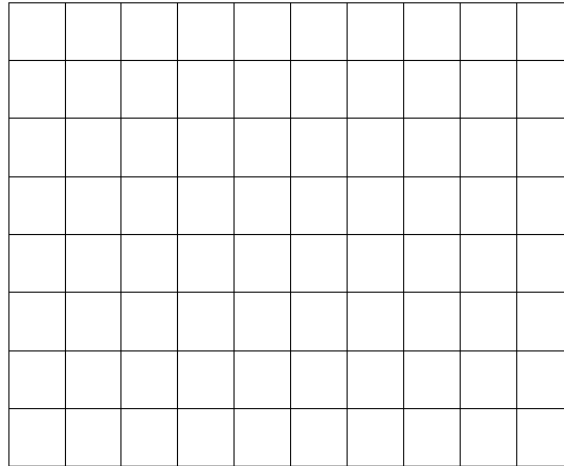
Prerequisite skills:

- Recall multiplication tables
- To understand how multiplying by 9 is related to multiplying by 10
- Use related facts to multiply T0 by a one-digit number

Use related facts to multiply TU x 5 (by multiplying by 10 and halving)

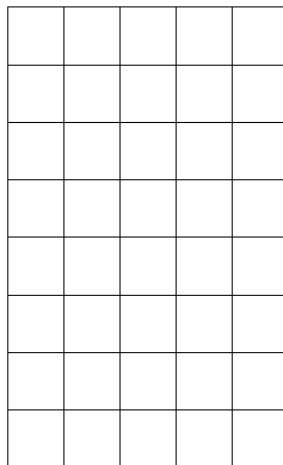
When learning multiplication tables, children should be encouraged to identify related facts.

e.g. $8 \times 10 =$



This can be used to calculate:

$8 \times 5 = 40$ (half of 8×10) because 5 is half of 10



This strategy can then be applied to calculating $TU \times 5$.

e.g. $46 \times 5 =$

$$46 \times 10 = 460$$

so

$$46 \times 5 = 230$$

Examples of calculations

$$28 \times 5$$

$$81 \times 5$$

$$54 \times 5$$

Prerequisite skills:

- Recall multiplication tables
- Understand the relationship between multiplying by 10 and multiplying by 5
- Multiply a two-digit number by 10
- Halve multiples of 10 up to three-digits

Use related facts to multiply TU x 20 (by multiplying by 10 and doubling)

When learning multiplication tables, children should be encouraged to identify related facts.

e.g. $3 \times 10 = 30$

This can be used to calculate:

$$3 \times 20 = 60 \quad (\text{double } 3 \times 10) \text{ because } 20 \text{ is double } 10$$

This strategy can then be applied to calculating TU x 20.

e.g. $46 \times 20 =$

$$46 \times 10 = 460$$

so

$$46 \times 20 = 920$$

Examples of calculations

$$34 \times 20$$

$$47 \times 20$$

$$68 \times 20$$

Prerequisite skills:

- Recall multiplication tables
- Understand the relationship between multiplying by 10 and multiplying by 20
- Multiply a two-digit number by 10
- Double multiples of 10 up to three-digits

Use partitioning to multiply TU by a one-digit number

Building on their understanding of the grid method of multiplication from Year 3, children in Year 4 may choose to multiply $TU \times U$ using partitioning, but without the use of the grid.

e.g. $67 \times 4 =$

$$60 \times 4 = 240$$

$$7 \times 4 = 28$$

$$67 \times 4 = 268$$

Examples of calculations

$$57 \times 4$$

$$36 \times 7$$

$$93 \times 6$$

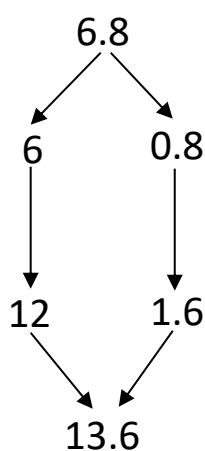
Prerequisite skills:

- Recall multiplication tables
- Partition a two-digit number into tens and ones
- Recombine a multiple of ten and a multiple of one

Use partitioning to double numbers including those with one decimal place

Children should use related facts to double numbers. For example, double 7 is 14 so double 0.7 (ten times smaller than 7) is 1.4 (ten times smaller than 14).

e.g. double 6.8



The diagram above illustrates the way children should be thinking about doubling using partitioning, but it is not necessary for them to record in this way if it is not helpful to the child.

Examples of calculations

Double 374

Double 4524

Double 7.6

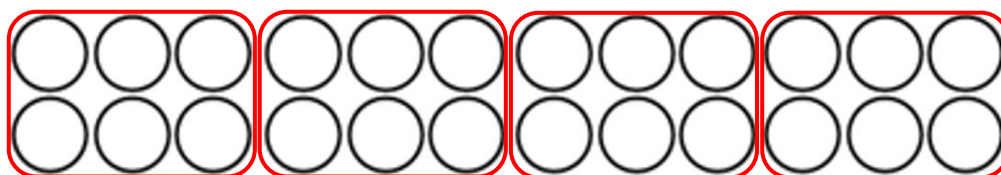
Prerequisite skills:

- Count forwards in tenths, ones, tens, hundreds and thousands
- Partition a number into thousands, hundreds, tens, ones and tenths
- Use related facts to double multiples of tenths, ones, tens, hundreds and thousands
- Recombine multiples of tenths, ones, tens, hundreds and thousands

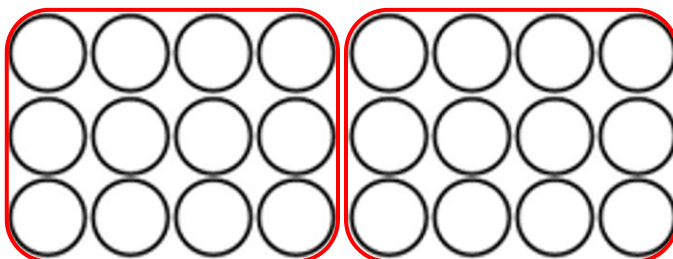
Multiply together three numbers

Children should be able to represent multiplying three numbers together practically, e.g. using counters

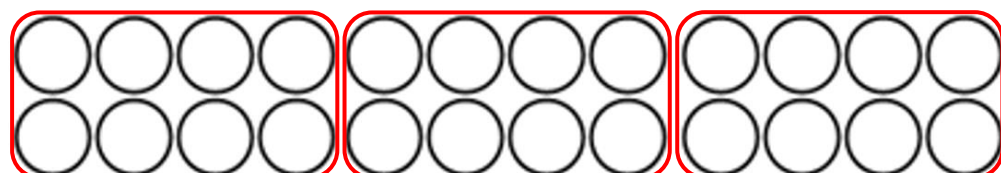
e.g. $2 \times 3 \times 4$ could be represented as:



2×3 four times



3×4 two times



2×4 three times

Once children understand how the calculation can be shown practically or pictorially, they should then be encouraged to choose an appropriate order for calculating based on the numbers involved.

e.g. $5 \times 7 \times 4 =$

This could be calculated as:

$$\begin{array}{c} 5 \times 7 \times 4 = \\ \downarrow \\ 35 \end{array}$$

$$35 \times 4 = 140$$

$$\begin{array}{c} 5 \times 4 \times 7 = \\ \downarrow \\ 20 \end{array}$$

$$20 \times 7 = 140$$

$$\begin{array}{c} 4 \times 7 \times 5 = \\ \downarrow \\ 28 \end{array}$$

$$28 \times 5 = 140$$

Children may choose $5 \times 4 \times 7$ as the easiest calculation because 5×4 results in a multiple of 10.

Examples of calculations

$$3 \times 4 \times 6$$

$$7 \times 3 \times 9$$

$$5 \times 6 \times 8$$

Prerequisite skills:

- Represent a multiplication using an array
- Understand that multiplication can be done in any order
- Recall multiplication tables
- Multiply a two-digit number by a one-digit number

Multiply a number by 0 or 1

Children should realise through investigation that a calculation is not needed when multiplying by 0 or 1

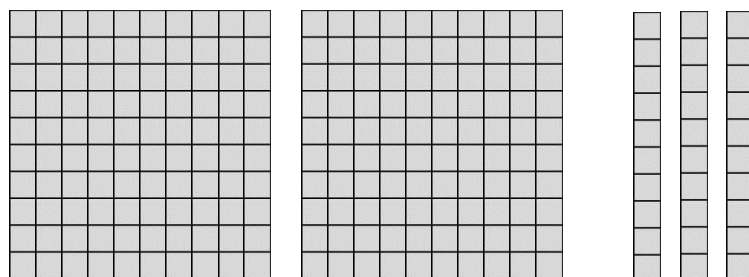
Any number multiplied by 0 will result in zero, e.g. $76 \times 0 = 0$ because any number of empty groups does not have a value.

Any number multiplied by 1 will result in the number itself, $356 \times 1 = 356$ because it is one group of the original amount.

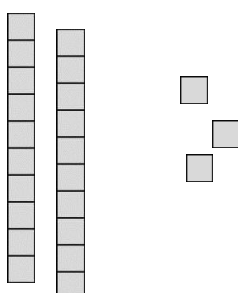
Use place value, known and derived facts to divide mentally

Divide a number by 10 and 100 using base 10 equipment

Children should initially represent the calculation using base 10 equipment, e.g. $230 \div 10$



All of the base 10 pieces need to be made ten times smaller.



The children should then compare the two numbers in place value columns.

H	T	U
2	3	0
	2	3

They should notice that each digit has moved one place to the right, i.e. become ten times smaller.

Divide a number by 10 and 100 using a place value chart

Building on their knowledge from using the base 10 equipment, children can use transparent counters to help them develop their understanding of dividing a number by 10 and 100.

e.g. $460 \div 10$

The children represent 460 on a place value chart using transparent counters.

00000	0000	000	00	0
10000	1000	100	10	1
20000	2000	200	20	2
30000	3000	300	30	3
40000	4000	400	40	4
50000	5000	500	50	5
60000	6000	600	60	6
70000	7000	700	70	7
80000	8000	800	80	8
90000	9000	900	90	9

00000	0000	000	00	0
10000	1000	100	10	1
20000	2000	200	20	2
30000	3000	300	30	3
40000	4000	400	40	4
50000	5000	500	50	5
60000	6000	600	60	6
70000	7000	700	70	7
80000	8000	800	80	8
90000	9000	900	90	9

Examples of calculations

$$120 \div 10$$

$$600 \div 100$$

$$850 \div 10$$

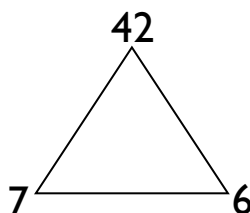
NB There is no requirement to divide numbers where the answer is a decimal.

Prerequisite skills:

- Represent numbers up to three digits using base 10 equipment
- Partition a number into hundreds and tens
- Recombine a multiple of ten and a multiple of one

Use related facts to divide HT0 by a one-digit number

Children should be encouraged to identify the **relationships** between numbers in division calculations, e.g. $42 \div 7 = 6$ could be represented using a division trio:

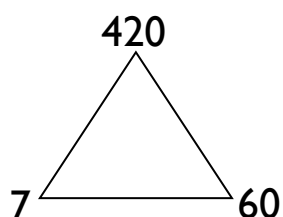


This can be used to derive the following calculations:

$$42 \div 7 = 6$$

$$42 \div 6 = 7$$

Children can then use the division trio to derive related facts, e.g. $80 \div 4 =$



Children should be able to explain that because 420 is ten times greater than 42, the answer to $420 \div 7$ will be ten times greater than 6.

Examples of calculations

$$480 \div 8$$

$$630 \div 9$$

$$300 \div 6$$

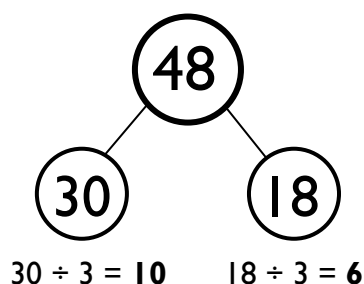
Prerequisite skills:

- Recall multiplication tables
- Understand the effect of multiplying a one or two-digit number by 10

Use partitioning to divide TU by a one-digit number

Building on their understanding of using chunking for division from Year 3, children decide how to partition a two-digit number to help them divide it by a one-digit number.

e.g. $48 \div 3 = 16$



Examples of calculations

$68 \div 4$ By partitioning into 40 and 28

$95 \div 5$ By partitioning into 50 and 45

$84 \div 6$ By partitioning into 60 and 24

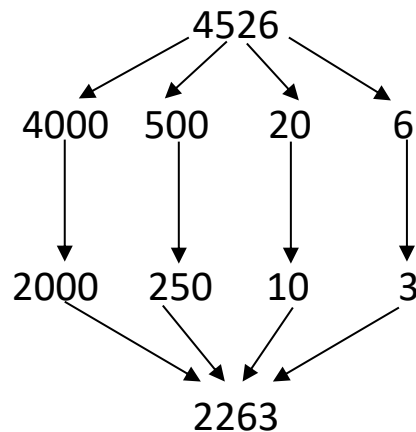
Prerequisite skills:

- Recall multiplication tables
- Understand division as repeated subtraction (chunking)
- Partition two-digit numbers in different ways

Use partitioning to halve any number including to one decimal place

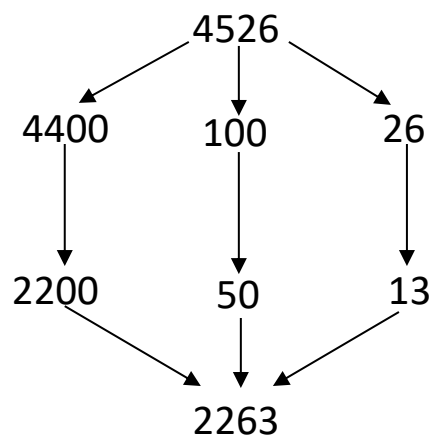
Children should be encouraged to decide the best way to partition a number to halve it.

e.g. Find half of 4526



An alternative way of partitioning would be:

Find half 4526



The diagrams above illustrate the way children should be thinking about halving using partitioning, but it is not necessary for them to record in this way if it is not helpful to the child.

Examples of calculations

Find half of 468

Find half of 7602

Find half of 8.2

Find half of 3.6

Prerequisite skills:

- Partition numbers (including in different ways for efficiency)
- Use related facts to halve a multiple of a tenth, one, ten, hundred and thousand
- Recombine multiples of one, ten, hundred and thousand
- Recombine multiples of a tenth and one

Divide a number by 1

Children should realise, through investigation, that a calculating process is not necessary when dividing by 1

Any number that is divided by 1 will result in the number itself, e.g. $542 \div 1 = 542$. This is because any quantity shared into one group will result in that group having the whole quantity in it; or any number grouped into ones will result in the original number of groups.

Y4 WRITTEN MULTIPLICATION

End of Year Objective:

Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.

Children will move to year 4 using whichever method they were using as they transitioned from year 3. They will further develop their knowledge of the grid method to multiply any two-digit by any single-digit number, e.g.

79×8

x	70	9
8	560	72

$$\begin{array}{r} 560 \\ + 72 \\ \hline 632 \end{array}$$

To support the grid method, children should develop their understanding of place value and facts that are linked to their knowledge of tables. For example, in the calculation above, children should use their knowledge that $7 \times 8 = 56$ to know that $70 \times 8 = 560$.

By the end of the year, they will extend their use of the grid method to be able to multiply three-digit numbers by a single digit number, e.g.

346×8

x	300	40	6

$$2400$$

8	2400	320	48

$$\begin{array}{r}
 + \quad 320 \\
 + \quad 48 \\
 \hline
 2768
 \end{array}$$

When children are working with numbers where they can confidently and correctly calculate the addition (or parts of the addition) mentally, they may do so.

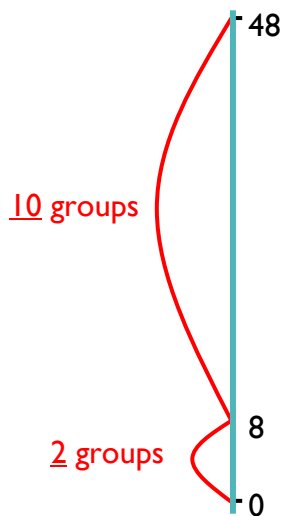
Children should also be using this method to solve problems and multiply numbers in the context of money or measures.

Y4 WRITTEN DIVISION

End of Year Objective:

Divide numbers up to 3 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.

Children will continue to develop their use of grouping (repeated subtraction) to be able to subtract multiples of the divisor, moving on to the use of the 'chunking' method.



$$\begin{array}{r}
 12 \\
 4 \overline{) 48} \\
 \underline{40} \\
 8 \\
 \underline{8} \\
 0
 \end{array}$$

Answer: 12

Children should write their answer above the calculation to make it easy for them and the teacher to distinguish.

The number line method used in year 3 can be linked to the chunking method to enable children to make links in their understanding.

When developing their understanding of 'chunking', children should utilise a 'key facts' box, as shown below. This enables an efficient recall of tables facts and will help them in identifying the largest group they can subtract in one chunk. Any remainders should be shown as integers, e.g.

$$73 \div 3$$

$$\begin{array}{r}
 24\text{r}1 \\
 3 \overline{) 73} \\
 \underline{- 30} \quad 10\text{x} \\
 43 \\
 \underline{- 30} \quad 10\text{x} \\
 13 \\
 \underline{- 6} \quad 2\text{x} \\
 7 \\
 \underline{- 6} \quad 2\text{x} \\
 1 \\
 \underline{-} \\

 \end{array}$$

Key facts box

1x	3
2x	6
5x	15
10x	30

By the end of year 4, children should be able to use the chunking method to divide a three digit number by a single digit number. To make this method more efficient, the key facts in the menu box should be extended to include 4x and 20x, e.g.

$$196 \div 6$$

$$\begin{array}{r}
 32\text{r}4 \\
 6 \overline{) 196} \\
 \underline{- 120} \quad 20\text{x} \\
 76 \\
 \underline{- 60} \quad 10\text{x} \\
 16 \\
 \underline{- 12} \quad 2\text{x} \\
 4 \\
 \underline{-} \\

 \end{array}$$

Key facts box

1x	6
2x	12
4x	24
5x	30
10x	60
20x	120

Children should be able to solve real life problems including those with money and measures. They need to be able to make decisions about what to do with remainders after division and round up or down accordingly.