Washingwell Primary School

Calculation Support for Parents:

Year 2

2024 - 2025

Dear Parents,

In this booklet you will find worked examples of how we teach and use calculation strategies within school.

The calculation support document is broken down into four sections: addition, subtraction, multiplication and division.

At the beginning of each section you will find an overview of which aspects of each operation we cover across the year group.

Under each operation you will then see the progression of skills taught and worked examples of how these methods are taught within class.

We hope that by sharing these calculation methods with you, you will be able to support your child with their maths learning at home by building upon the strategies we teach in school.

Should you have any questions please do not hesitate to contact your child's teacher via their class email.

Addition

Year 2	• Add 1s to any number (related facts) • Add three 1-digit numbers • Add across a 10 • Add multiples of 10 • Add 10s to any number • Add two 2-digit numbers (not across a ten) • Add two 2-digit numbers (across a ten) • Missing numbers

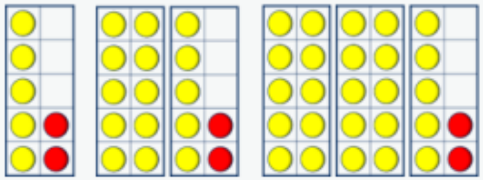
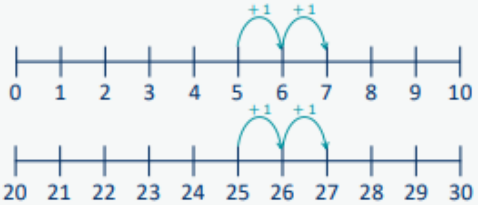
<table>
<tr><td>Year 2</td><td colspan="3">

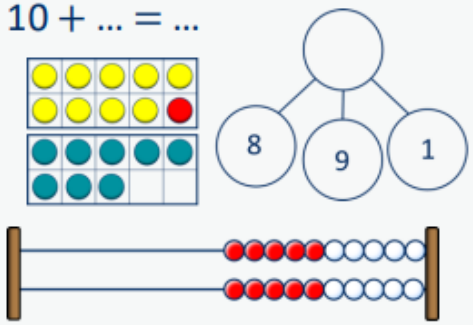
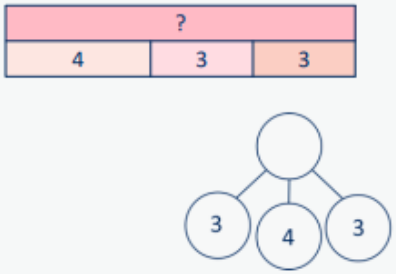
Recall and use addition facts to 20 fluently, and derive and use related facts up to 100
Add numbers using concrete objects, pictorial representations, and mentally, including:

a two-digit number and 1s
a two-digit number and 10s
2 two-digit numbers
adding 3 one-digit numbers

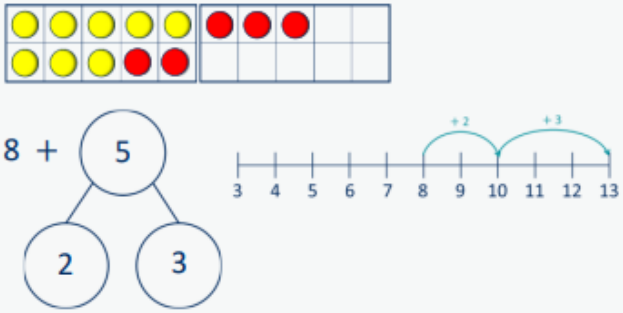
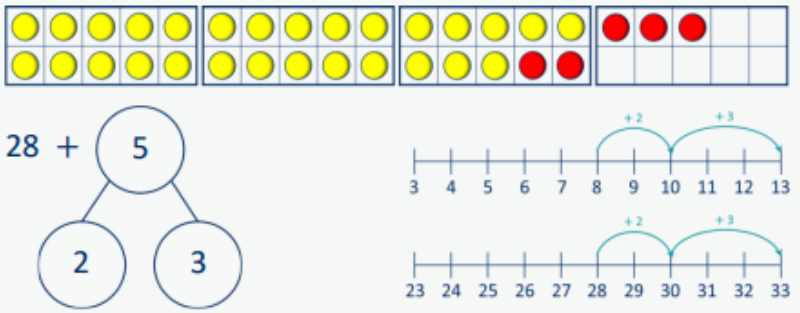
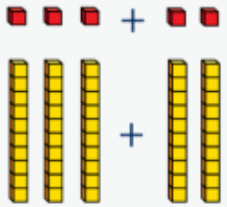
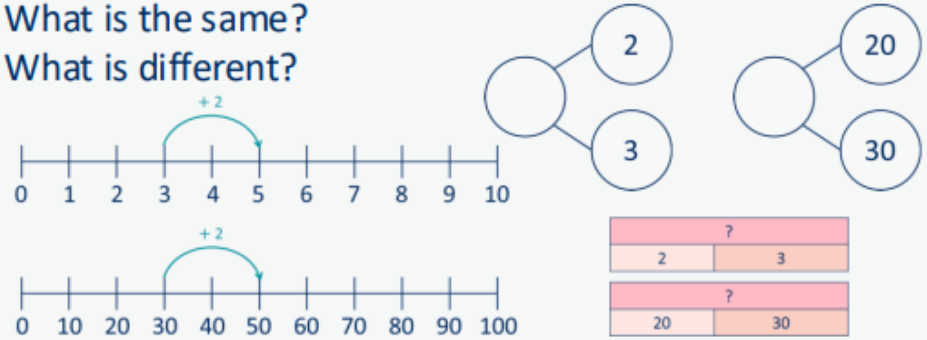
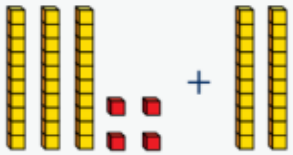
Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

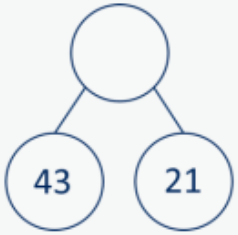
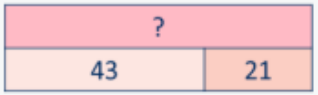
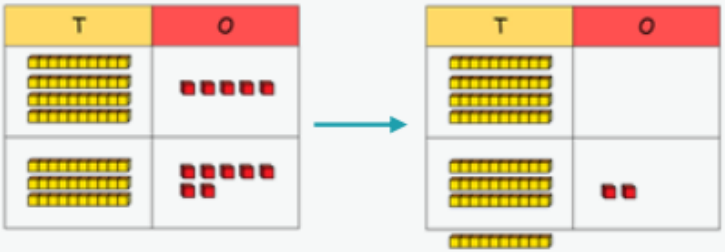
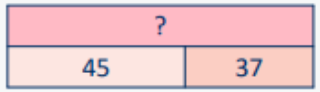
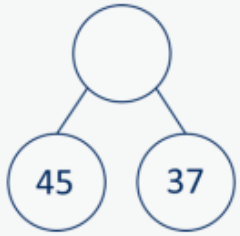
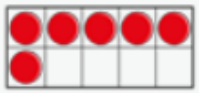
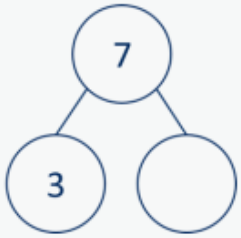
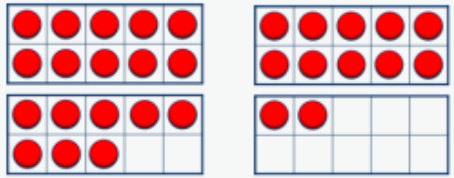
</td></tr>
<tr><td>Progression of skills</td><td colspan="3">Key representations</td></tr>
<tr><td>Add ones to any number
(related facts)

Make links to known facts.</td><td>I know that … and … = …
so … and … = …
  </td><td>… more than … is …
so … more than … is …
 
</td><td>What do you notice?
Can you continue the pattern?
5 + 2 = 7
15 + 2 = 17
25 + 2 = 27…</td></tr>
<tr><td>Add three 1-digit numbers

Prompt children to understand that addition can be done in any order and to make links to known facts.</td><td>… and … are a bond to 10
10 + … = …
 
</td><td>Double … + … = …
 
</td><td>What do you notice?
Which addition is the easiest to calculate?

8 + 9 + 1 =
8 + 1 + 9 =
9 + 1 + 8 =</td></tr>
</table>

Progression of skills	Key representations		
Add across a 10 Partition the number being added to make a full ten.	… can be partitioned into … and … 	I add … to get to … then I add … $8 + 5 = 13$ $28 + 5 = 33$ 	
Add multiples of 10 Make links to known facts within ten.	… ones + … ones = … ones so … tens + … tens = … tens  $3 + 2 = 5$ $30 + 20 = 50$	What is the same? What is different? 	
Add 10s to any number Make links to known facts.	… tens + … tens = … tens … tens and … ones = … 	To add … I need to add 10 … times. 	I know that … and … = … so … and … = … $30 + 20 = 50$ $34 + 20 = 54$

Progression of skills	Key representations
Add 2-digit numbers (not across a ten) Lining up ones and tens in columns will support with later written methods.	… ones + … ones = … ones … tens + … tens = … tens   3 ones + 1 one = 4 ones 4 tens + 2 tens = 6 tens 6 tens + 4 ones = 64 
Add 2-digit numbers (across a ten) Begin to exchange 10 ones for 1 ten.	There are …. ones, so I do/do not need to make an exchange. … ones = … ten and … ones    5 ones + 7 ones = 12 ones 12 ones = 1 ten and 2 ones 4 tens + 3 tens + 1 ten = 8 tens 8 tens and 2 ones = 82
Missing numbers Solve missing number problems and use the inverse to check.	How many more do you need to make …?  6 + □ = 10 10 − □ = 6
	If … is a whole and … is a part, then … is the other part. □ + 3 = 7 7 − 3 = □ 
	… can be partitioned into … and … 10 + 8 = 12 + □ 

Subtraction

Year 2	• Subtract 1s from any number (related facts) • Subtract across a 10 • Subtract multiples of 10 • Subtract 10s from any number • Subtract two 2-digit numbers (not across a ten) • Subtract two 2-digit numbers (across a ten) • Missing numbers

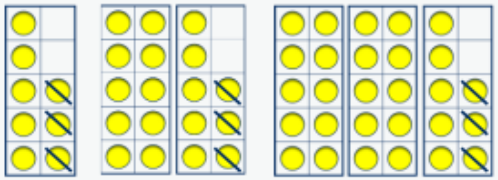
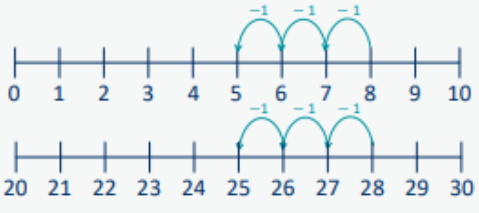
<table>
<tr><td></td><td colspan="3">

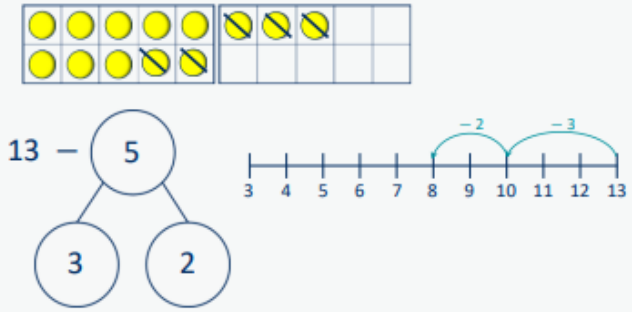
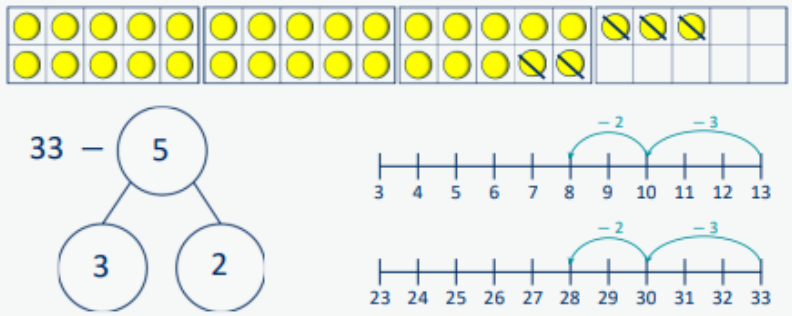
Recall and use subtraction facts to 20 fluently, and derive and use related facts up to 100
Subtract numbers using concrete objects, pictorial representations, and mentally, including:

a two-digit number and 1s
a two-digit number and 10s
2 two-digit numbers

Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

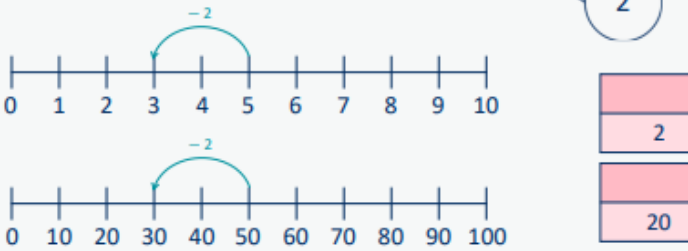
</td></tr>
<tr><td>Progression of skills</td><td colspan="3">Key representations</td></tr>
<tr><td>Subtract ones from any number
(related facts)

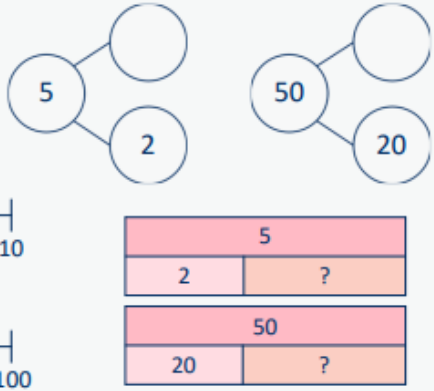
Make links to known facts.</td><td>I know that … minus … = …
so … minus … = …
  </td><td>… less than … is …
so … less than … is …
  </td><td>What do you notice?
Can you continue the pattern?
8 − 3 = 5
18 − 3 = 15
28 − 3 = 25…</td></tr>
<tr><td>Subtract across a 10

Partition the number being subtracted to bridge through a ten.</td><td colspan="2">… can be partitioned into … and …
  </td><td>Make links with related facts.
  </td></tr>
</table>

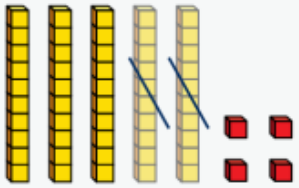
<table>
<tr><th>Progression of skills</th><th colspan="3">Key representations</th></tr>
<tr>
<td>Subtract multiples of 10

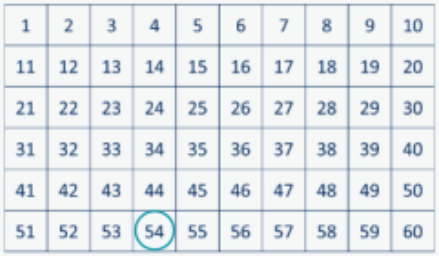
Make links to known facts within ten.</td>
<td>... ones − ... ones = ... ones
so ... tens − ... tens = ... tens

 
5 − 2 = 3
50 − 20 = 30</td>
<td colspan="2">What is the same?
What is different?
 

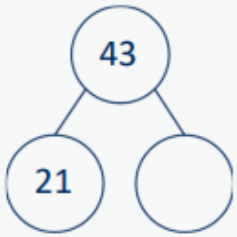
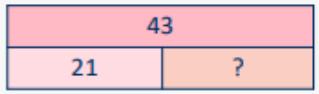
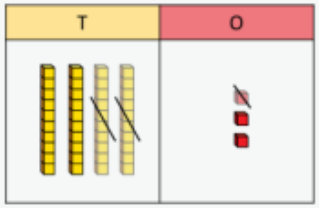
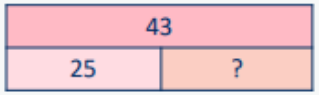
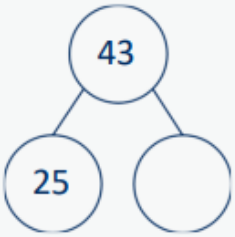
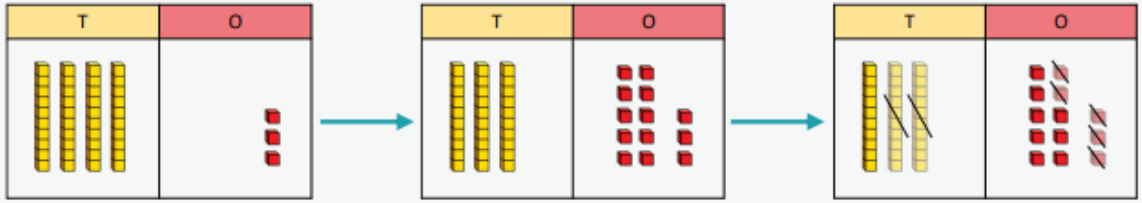
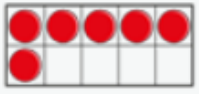
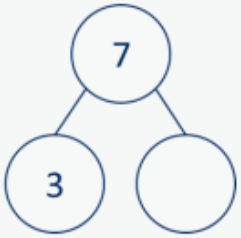
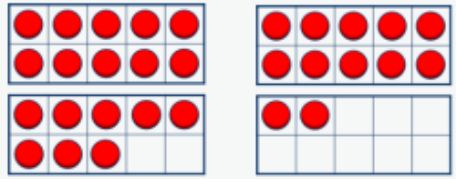

</td>
</tr>
<tr>
<td>Subtract 10s from any number

Make links to known facts.</td>
<td>... tens − ... tens = ... tens
... tens and ... ones = ...

  </td>
<td>To subtract ... I need to subtract 10 ... times.

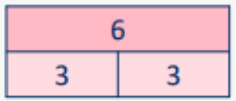
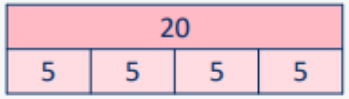
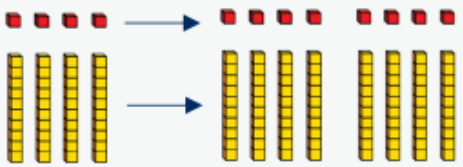
 
</td>
<td>I know that ... minus ... = ...
so ... minus ... = ...

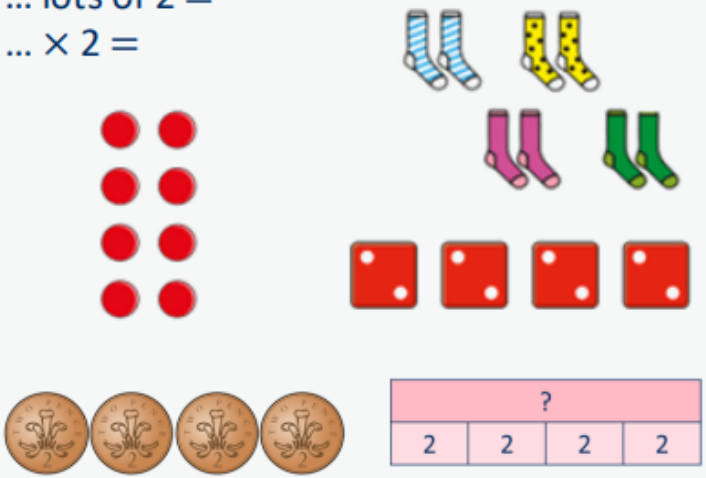
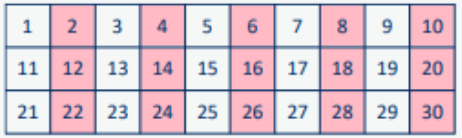
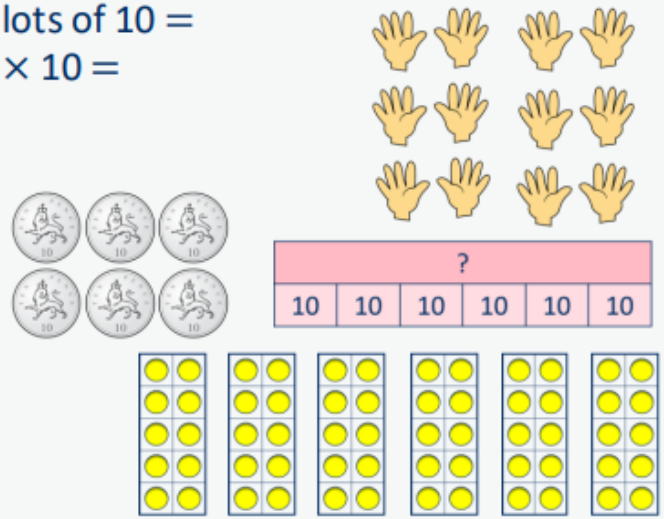
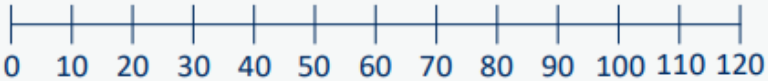
50 − 20 = 30
54 − 20 = 34</td>
</tr>
</table>

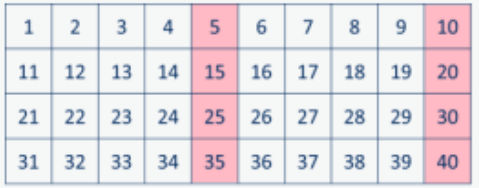
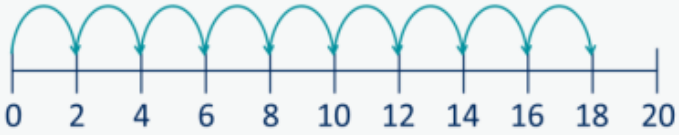
Progression of skills	Key representations
Subtract two 2-digit numbers (not across a ten)	… ones − … ones = … ones … tens − … tens = … tens    3 ones − 1 one = 2 ones 4 tens − 2 tens = 2 tens 2 tens and 2 ones = 22
Subtract two 2-digit numbers (across a ten) Begin to exchange 1 ten for 10 ones.	I need to make an exchange because I do not have enough ones to subtract … ones.    3 ones − 5 ones (I need to exchange 1 ten for 10 ones) 13 ones − 5 ones = 8 ones 3 tens − 2 tens = 1 ten 1 ten and 8 ones = 18
Missing numbers Solve missing number problems and use the inverse to check.	How many do you need to subtract to make …?  10 − □ = 6 6 + □ = 10
	If … is a whole and … is a part, then … is the other part. 7 − 3 = □ □ + 3 = 7 
	… can be partitioned into … and … 18 − □ = 12 + 2 

Multiplication

Year 2	• Link repeated addition and multiplication • Use arrays • Double • The 2 times-table • The 10 times-table • The 5 times-table • Missing numbers

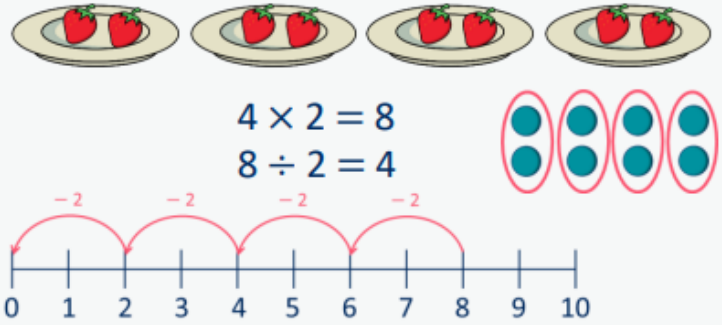
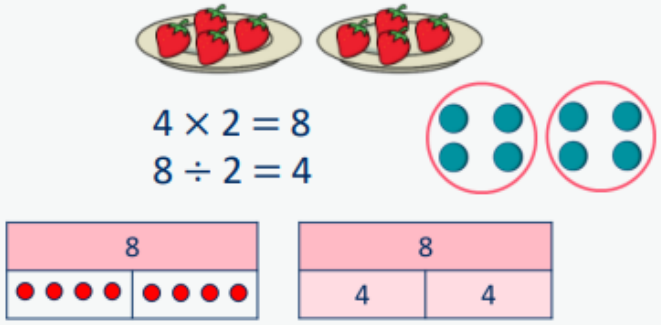
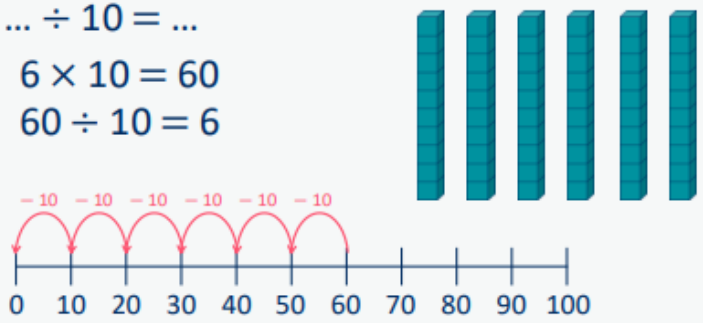
Year 2	• Recall and use multiplication facts for the 2, 5 and 10 multiplication tables. • Calculate mathematical statements for multiplication within the multiplication tables and write them using the multiplication (×) and equals (=) signs. • Show that multiplication of two numbers can be done in any order (commutative).
Progression of skills	**Key representations**
Link repeated addition and multiplication Encourage children to make the link between repeated addition and multiplication.	There are … equal groups with … in each group. There are … altogether.   $3 + 3 = 6$ $2 \times 3 = 6$   $5 + 5 + 5 + 5 = 20$ $4 \times 5 = 20$
Use arrays Encourage children to see that multiplication is commutative.	There are … rows with … in each row. There are … columns with … in each column.  3 lots of 5 = 15 $5 + 5 + 5 = 15$ 5 lots of 3 = 15 $3 + 3 + 3 + 3 + 3 = 15$
	I can see … × … and … ×… $3 \times 5 = 15$ $5 \times 3 = 15$ $3 \times 5 = 5 \times 3$
Double Encourage children to make links with related facts.	Double … is …  Double 4 = 4 + 4 Double 4 is 8
	Double … is … so double … is …  Double 4 is 8 Double 40 is 80

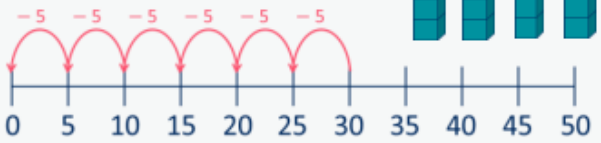
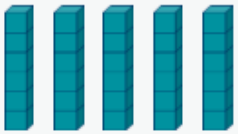
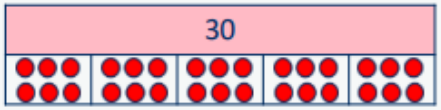
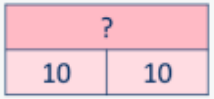
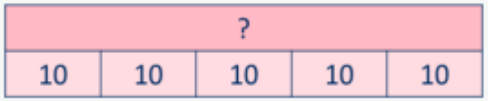
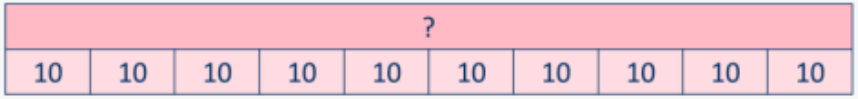
Progression of skills	Key representations	
The 2 times-table Encourage daily counting in multiples both forwards and back. Notice that all multiples of 2 are even numbers.	… lots of 2 = … × 2 =  	… times 2 is equal to …  $1 \times 2 = 2$ $2 = 1 \times 2$ $2 \times 2 = 4$ $4 = 2 \times 2$ $3 \times 2 = 6$ $6 = 3 \times 2$ 
The 10 times-table Encourage daily counting in multiples both forwards and back. Notice the pattern in the numbers.	… lots of 10 = … × 10 =  	… times 10 is equal to …  $1 \times 10 = 10$ $10 = 1 \times 10$ $2 \times 10 = 20$ $20 = 2 \times 10$ $3 \times 10 = 30$ $30 = 3 \times 10$ 

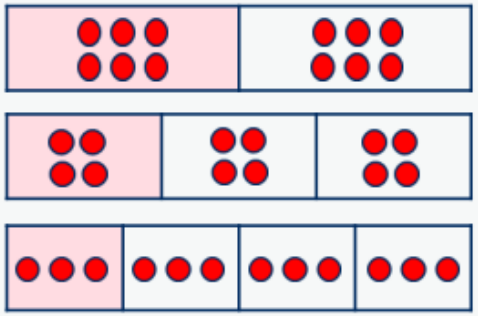
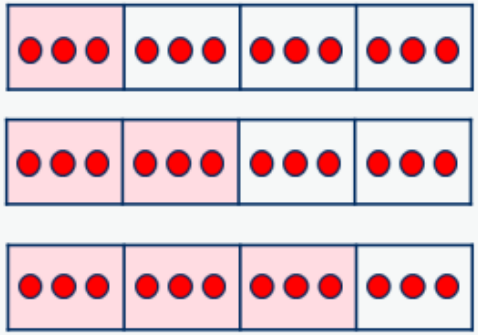
Progression of skills	Key representations	
The 5 times-table Encourage daily counting in multiples both forwards and back. Notice the pattern in the numbers.	… lots of 5 = … × 5 =  	… times 5 is equal to …  $1 \times 5 = 5$ $\quad 5 = 1 \times 5$ $2 \times 5 = 10$ $\quad 10 = 2 \times 5$ $3 \times 5 = 15$ $\quad 15 = 3 \times 5$ 
Missing numbers Make links to known facts.	… is equal to … groups of … 18 socks, how many pairs?   	… times … is equal to … $\square \times 2 = 18$ $18 = 2 \times \square$

Division

Year 2	• Divide by 2 • Divide by 10 • Divide by 5 • Missing numbers • Unit fractions • Non-unit fractions

Year 2	• Recall and use division facts for the 2, 5 and 10 multiplication tables. • Calculate mathematical statements for division within the multiplication tables and write them using the division (÷) and equals (=) signs. • Recognise, find, name and write fractions $\frac{1}{3}, \frac{1}{4}, \frac{2}{4}$ and $\frac{3}{4}$ of a quantity.	
Progression of skills	**Key representations**	
Divide by 2 Encourage children to compare the grouping and sharing structures of division and to make links with times-table facts and halving.	There are … equal groups of 2 … ÷ 2 = …  	… shared equally between 2 is … Half of … is … … ÷ 2 = … 
Divide by 10 Encourage children to compare the grouping and sharing structures of division and to make links with times-table facts.	There are … equal groups of 10 … ÷ 10 = …  	… shared equally between 10 is … … ÷ 10 = … 

Progression of skills	Key representations	
Divide by 5 Encourage children to compare the grouping and sharing structures of division and to make links with times-table facts.	There are … equal groups of 5 … ÷ 5 = …  6 × 5 = 30 30 ÷ 5 = 6  	… shared equally between 5 is … … ÷ 5 = …  6 × 5 = 30 30 ÷ 5 = 6  
Missing numbers Bar models are useful to show the link between multiplication and division.	… divided by 2/5/10 is equal to …  □ ÷ 2 = 10  □ ÷ 5 = 10  □ ÷ 10 = 10	

Progression of skills	Key representations	
Unit fractions In Y2 the focus is on finding $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{3}$ Bar models are useful to show the link between division and finding a fraction.	The objects have been shared fairly into … groups. $\frac{1}{\square}$ of … is … 	There are … equal parts. There is … part circled. $\frac{1}{\square}$ is circled. 
Non-unit fractions In Y2 the focus is on finding $\frac{2}{4}$ and $\frac{3}{4}$ Prompt children to notice that $\frac{2}{4}$ is equivalent to $\frac{1}{2}$	The objects have been shared fairly into … groups. $\frac{\square}{\square}$ of … is … 	There are … equal parts. There are … parts circled. $\frac{\square}{\square}$ is circled.