

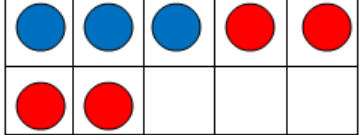



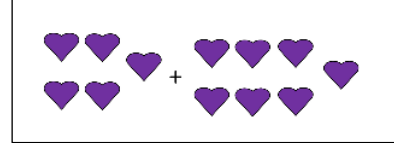
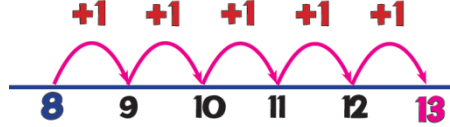
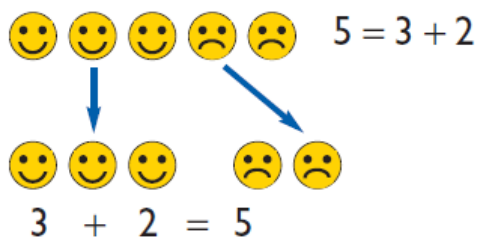


Visual methods	Mental methods	Written methods
 <p><u>Addition</u></p> <p>Children will begin by counting objects by touch.</p> <p>A range of visual methods will be taught supported by equipment.</p>  $3 + 4 = 7$ 	 <p><u>Addition</u></p> <p>Use of games, songs and practical activities will help children to begin using vocabulary. They will solve simple word problems using their fingers.</p>  $5 + 1 = 6$ <p>For example, they can find one more to ten.</p> <p>Children will be taught to put the biggest number in their head and count on.</p>	 <p><u>Addition</u></p> <p>Children will record addition statements as pictures.</p>  <p>This will be extended to writing a number sentence e.g. $3 + 2 = 5$.</p> <p>Use of a number line or number track will support counting on through making jumps on a number line.</p>  $8 + 5 = 13$

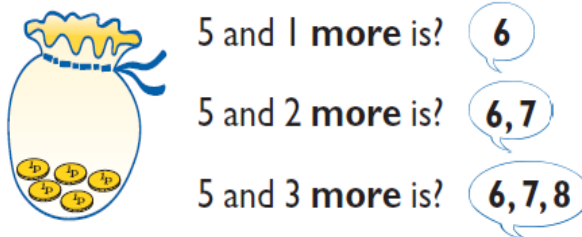


Understanding of the equals sign is important.



It is important that children understand that addition can be done in any order and that putting the biggest number first is the most efficient method.

Children will begin by calculating complements to 10 before moving onto complements to 20. These are fundamental skills which will provide children with foundations for future methods.



Real life examples such as putting coins in a tin so children can hear them drop or adding biscuits to a plate will help to aid understanding through counting on.

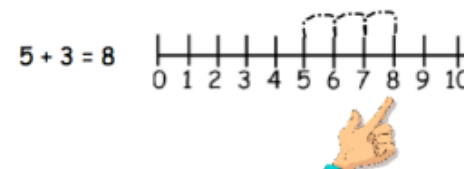
Children will be able to calculate 10 more than a given number as their understanding of place value increases, supported by visual methods and using equipment.

For example $14 + 10 = 24$



They will use this knowledge to be able to say 1 or 10 more than a given number.

Children will mentally use these number line methods mentally, adding on tens and



Once children have a secure understanding of the signs and symbols relating to addition they will progress to questions involving missing numbers.

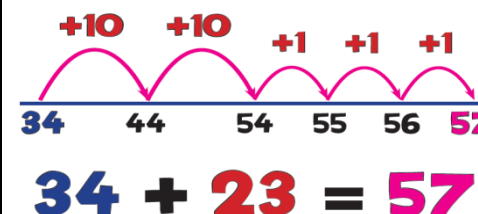
What numbers go in the boxes?

$$12 + 3 = \blacksquare; \quad 12 + \blacksquare = 15$$

$$\blacksquare + 3 = 15 \quad \blacktriangle + \blacksquare = 15$$

Children will learn the rule of commutativity: addition can be done in any order. $3+4=7$ is the same as $4+3=7$

Once place value is secure, children will count on in steps of 1 and 10 on a number line. For number that do not cross the 10s boundary, the following number line methods will be used.





$$10 = 5 + 5$$

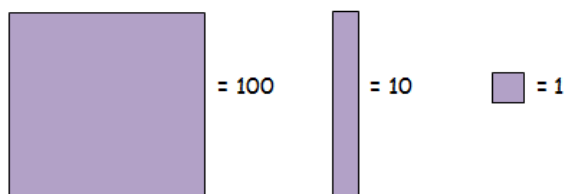


$$10 = 1 + 9$$



$$10 = 2 + 8$$

When working with larger numbers, children will gain an understanding of place value by understanding HUNDREDS, TENS and ONES within a number. This will be displayed visually and supported with equipment.

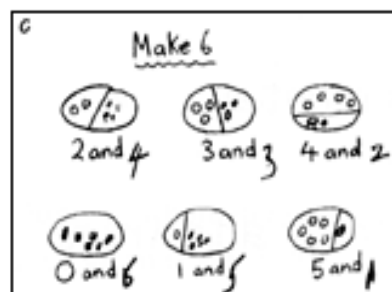


Visual support for formal written methods

$$34 + 23 = 57$$

ones separately.

Children will be able to recall number bonds to 10 and 20 mentally. They will also know pairs of numbers for numbers 1 - 9 and be able to use these when mentally adding a 1 digit number to a 2 digit number.

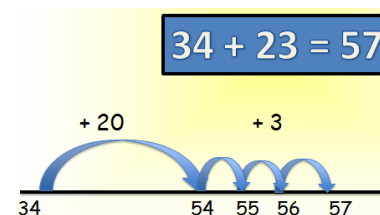


$$16 + 6 = 16 + 4 + 2 = 20 + 2$$

Similarly, written methods for crossing the 10s boundary will be taught mentally.

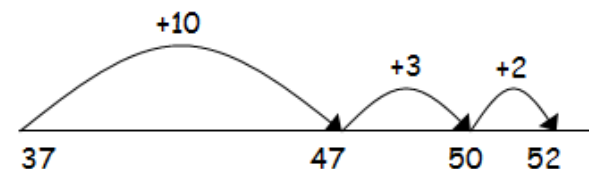
As children progress through the school, their understanding of place value will broaden allowing them to calculate with

Progressing to:



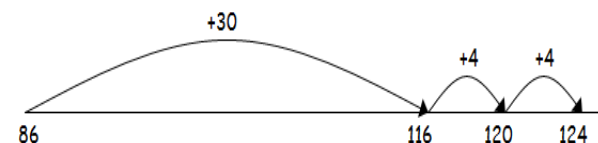
For numbers that cross the 10s boundary, children will use number bonds knowledge to count up to the nearest 10.





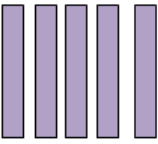
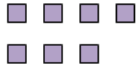
$$37 + 15 = 52$$



Progressing to larger numbers crossing the hundreds boundary, always starting from the biggest number:

$$38 + 86 = 124$$



T	O
	
	
	

both larger numbers and decimals in the same way.

In Lower KS2, pupils will learn:

$$124 + 48 = 172$$

Once ready, children will then progress to formal written methods and links will be made between previous methods and also a visual understanding will be fostered.

Children will learn the rule of commutativity: addition can be done in any order.

Simple column method:

T	O
3	4
2	3
5	7

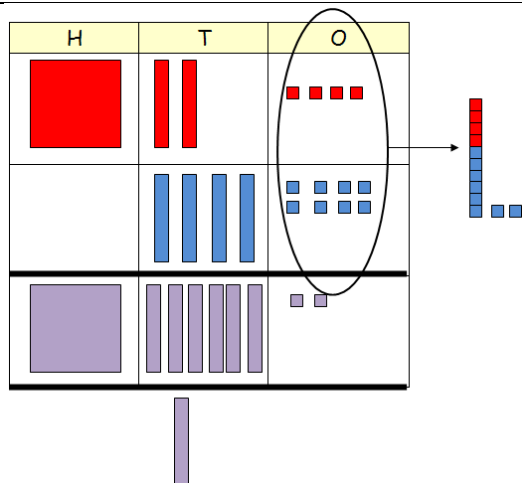
Start here

Column method including carrying:

T	O
3	5
2	7
6	2
1	

5 + 7 = 12
1 Ten 2 Ones

As children progress through the school, their understanding of place value will broaden allowing them to calculate with both larger numbers and decimals.



Using visual methods will help to secure key concepts and also enable children to use equipment. Pictures can later be replaced with numbers once the children have gained a secure understanding.

$$\begin{array}{r} 625 \\ + 48 \\ \hline 673 \\ 1 \end{array} \quad \begin{array}{r} 783 \\ + 42 \\ \hline 825 \\ 1 \end{array} \quad \begin{array}{r} 367 \\ + 85 \\ \hline 452 \\ 11 \end{array} \quad \begin{array}{r} 587 \\ + 475 \\ \hline 1062 \\ 11 \end{array} \quad \begin{array}{r} 3587 \\ + 675 \\ \hline 4262 \\ 111 \end{array}$$

$$\begin{array}{r} 7648 \\ + 1486 \\ \hline 9134 \\ 111 \end{array} \quad \begin{array}{r} 6584 \\ + 5848 \\ \hline 12432 \\ 111 \end{array} \quad \begin{array}{r} 42 \\ 6432 \\ 786 \\ 3 \\ + 4681 \\ \hline 11944 \\ 121 \end{array}$$

In upper KS2, children add numbers with more than 4 digits. And decimal numbers leading to different amounts of decimals.

T	O	.	th
1	4	.	4
	2	.	3
1	6	.	7

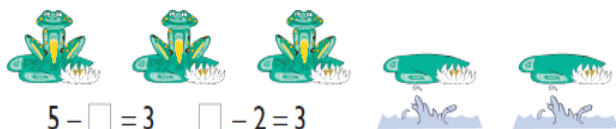
Real life links will be fostered regularly, presented both as word problems and using skills in contexts such as money.

		<table><tr><td>£</td><td>1</td><td>4</td><td>.</td><td>3</td><td>6</td></tr><tr><td>£</td><td></td><td>7</td><td>.</td><td>2</td><td>4</td></tr><tr><td>£</td><td>2</td><td>1</td><td>.</td><td>6</td><td>0</td></tr><tr><td colspan="3">1</td><td colspan="3">1</td></tr></table> <table><tr><td>23.4</td><td>13.2</td></tr><tr><td>+ 14.3</td><td>+ 28.39</td></tr><tr><td><u>37.7</u></td><td><u>41.59</u></td></tr><tr><td></td><td>1</td></tr></table>	£	1	4	.	3	6	£		7	.	2	4	£	2	1	.	6	0	1			1			23.4	13.2	+ 14.3	+ 28.39	<u>37.7</u>	<u>41.59</u>		1
£	1	4	.	3	6																													
£		7	.	2	4																													
£	2	1	.	6	0																													
1			1																															
23.4	13.2																																	
+ 14.3	+ 28.39																																	
<u>37.7</u>	<u>41.59</u>																																	
	1																																	
In KS1																																		



Subtraction

Children will begin to relate subtraction to 'taking away'. A range of visual methods will be taught using equipment to support where needed. For example:



1 less than 10 is 9
10 subtract 1 equals 9
 $10 - 1 = 9$



Real life links will also be made e.g. taking biscuits off a plate.

Children will count backwards along a number line using finger.



Subtraction

Children will begin by counting back in steps of one from any given number. They will be supported initially by a number track or number line and move onto doing this independently as their understanding of number develops.

Use of games, songs and practical activities will help children to begin using vocabulary.

Children will relate subtraction to taking away and counting how many objects are left.



$$5 - 1$$



$$= 4$$

They can find one less to ten progressing to:

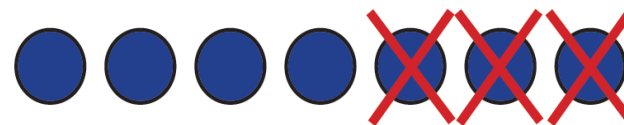


Subtraction

Children will make a record in pictures, words or symbols of subtraction activities carried out. $5 - 1 = 4$



They will progress to constructing number sentences to go with practical activities.



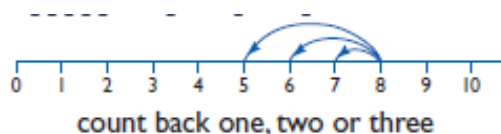
$$7 - 3 = 4$$

"What do I get if I take 3 away from 7? Answer: 4"

Including for finding the difference between.



Progressing to:



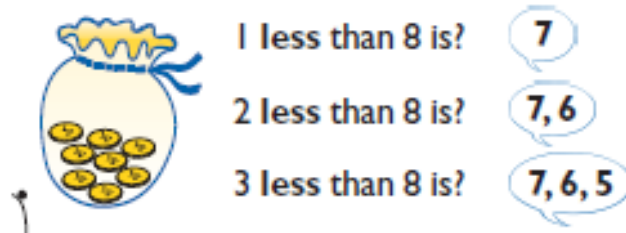
Children will understand subtraction as finding the difference between 2 numbers, either by counting back or counting on.



The difference is?



Which line has most money?
How much more?



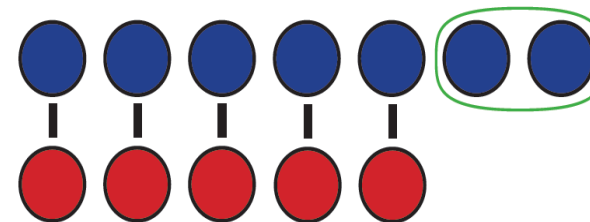
Children will be able to calculate 10 less than a given number as their understanding of place value increases, supported by visual methods and using equipment.

For example $24 - 10 = 14$



They will use this knowledge to be able to say 1 or 10 less than a given number.

Children will mentally use these number line methods mentally, subtracting tens and ones separately.



$$7 - 5 = 2$$

"How many more is 7 than 5? What is the difference?"

Children will be able to solve questions involving missing numbers and begin to understand the link between subtraction and addition.

- = signs and missing numbers

$$7 - 3 = \square$$

$$\square = 7 - 3$$

$$7 - \square = 4$$

$$4 = \square - 3$$

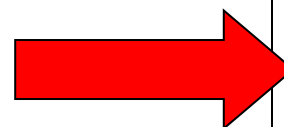
$$\square - 3 = 4$$

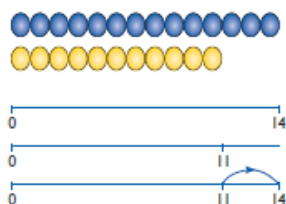
$$4 = 7 - \square$$

$$\square - \nabla = 4$$

$$4 = \square - \nabla$$

Once place value is secure, children will count back in steps of 1 and 10 on a number line. For number that do not cross the 10s boundary, the following number line methods will be used.





The difference
between 11
and 14 is 3.
 $14 - 11 = 3$
 $11 + \square = 14$

Progressing from pictures and objects to number lines;



Children will experience real life problems in different contexts, such as : *I have saved 5p. The socks that I want to buy cost 11p. How much more do I need in order to buy the socks?*

When working with larger numbers, children will gain an understanding of place value by understanding HUNDREDS, TENS and ONES within a number. This will be displayed visually and supported with equipment.

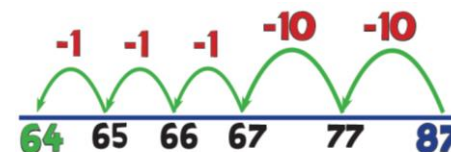
Children will be able to recall number bonds to 10 and 20 mentally. They will also know pairs of numbers for numbers 1 - 9 and be able to use these when mentally subtracting a 1 digit number from a 2 digit number.

For example:

$$14 - 6 = 14 - 4 - 2 = 10 - 2$$

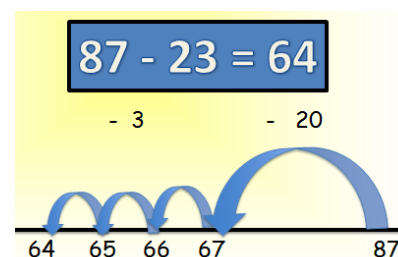
Similarly, written methods for crossing the 10s boundary will be taught mentally.

As children progress through the school, their understanding of place value will broaden allowing them to calculate with both larger numbers and decimals in the same way.



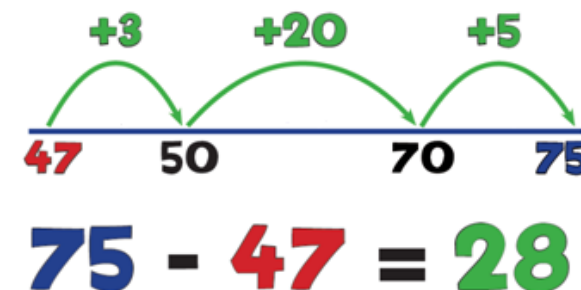
$$87 - 23 = 64$$

Progressing to:

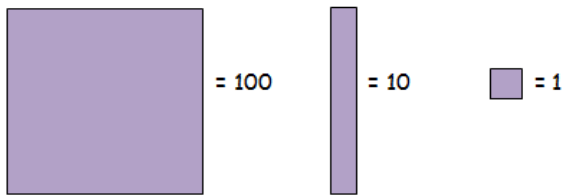


For numbers that bridge the tens boundary, children will use number bonds knowledge to bridge the gap.

This may be by counting on to find the difference:



$$75 - 47 = 28$$



Visual support for formal written methods

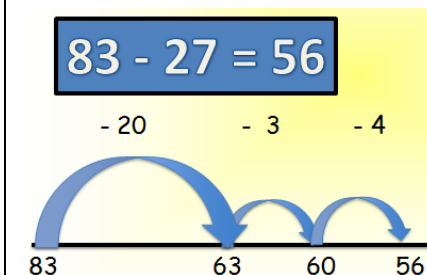
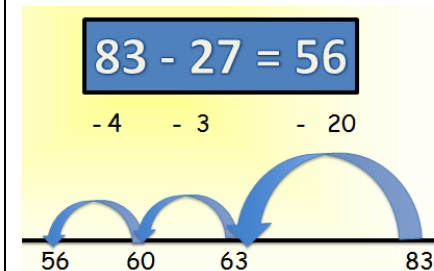
$$78 - 46 = 32$$

T	O
3	2

This will be supported by equipment, starting from the biggest number and removing the tens and ones to show what is left. Children will use the language of 'exchange' for subtracting ones from tens.

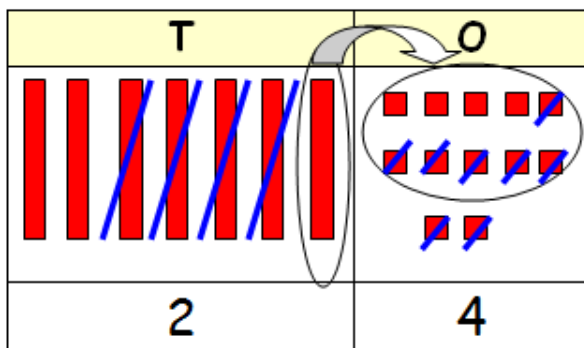
$$72 - 48 = 24$$

Or by jumping back on a number line from either direction:



Once ready, children will then progress to formal written methods and links will be made between previous methods and also a visual understanding will be fostered. Children will be reminded to start with the biggest number first and shown why this is important. Children learn that the commutative rule does not apply to subtraction.

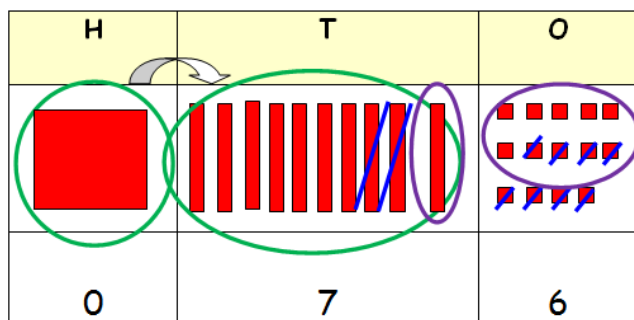
In lower KS2, children subtract 3-digit numbers using column methods.



Using visual methods will help to secure key concepts and also enable children to use equipment. Pictures can later be replaced with numbers once the children have gained a secure understanding.

Children will also be taught how to subtract across 0 and why.

$$104 - 28 = 76$$



Simple column method

T O	H T O
78	598
- 46	- 362
<hr/>	<hr/>
32	236

Column method with exchange will be supported by visual methods so that children understand the method. Understanding will also be taught when explaining why numbers cannot be reversed.

For example below, why they cannot swap the 2 and the 8.

T O	H T O
⁶ 7 ¹ 2	⁴ 5 ¹⁵ ¹ 3
- 48	- 278
<hr/>	<hr/>
24	285

By the end of year 4, children should subtract numbers with up to 4 digits. They estimate and use inverse operations to check answers. Children solve addition and subtraction two-step problems in contexts, deciding which

In upper KS2, children add and subtract numbers mentally with increasingly large numbers.

They use rounding and estimation to check answers to calculations and determine, in the context of a problem.


They practise mental calculations with increasingly large numbers to aid fluency (for example, $12\,462 - 2300 = 10\,162$).

Children will count backwards through zero and use negative numbers in context. Progressing to use negative numbers in context, and calculate intervals across zero.

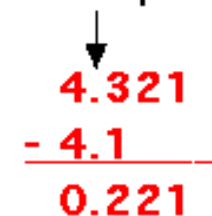
methods and operations to use and why.

In upper KS2, their understanding of place value will broaden allowing them to calculate with both larger numbers and decimals.

Line up the
decimal points


$$\begin{array}{r} 76.3 \\ - 34.1 \\ \hline 42.2 \end{array}$$

Line up the
decimal points


$$\begin{array}{r} 4.321 \\ - 4.1 \\ \hline 0.221 \end{array}$$

Real life links will be fostered regularly, presented both as word problems and using skills in contexts such as money.

By the end of Year 6, children will solve multi-step problems involving addition and subtraction.

In KS1



Multiplication

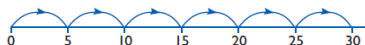
Children will begin by counting in steps of 2, 5 and 10 using pictures, objects and progressing to number lines.



$2 + 2 + 2 + 2 + 2 = 10$
 $2 \times 5 = 10$
 2 multiplied by 5
 5 pairs
 5 hops of 2



$5 + 5 + 5 + 5 + 5 + 5 = 30$
 $5 \times 6 = 30$
 5 multiplied by 6
 6 groups of 5
 6 hops of 5



$10p + 10p + 10p + 10p + 10p = 50p$
 $10p \times 5 = 50p$
 5 hops of 10

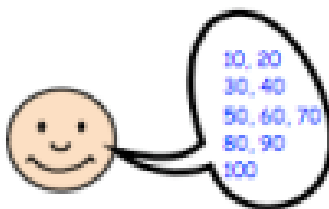


Multiplication will be taught as repeated addition and via an array. Children will learn the commutative rule that multiplication can be done in any order.



Multiplication

Children will be able to chant in steps of 2, 5 or 10.



Children will learn and recall facts from the 2, 5 and 10 times tables and also their associated division facts.

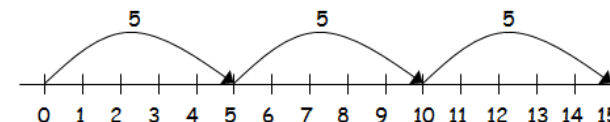
Children will be able to mentally double numbers by partitioning them into tens and ones and then recombining. Numbers that cross the 10s boundary can also be partitioned using knowledge of pairs of numbers.



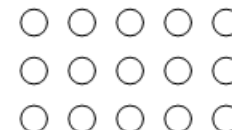
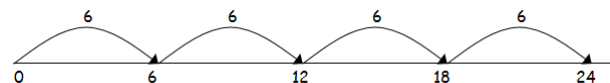
Multiplication

Children will begin by making jottings and recording multiplication as repeated addition and arrays, using these methods to discover unknown facts.

$$5 \times 3 = 5 + 5 + 5$$

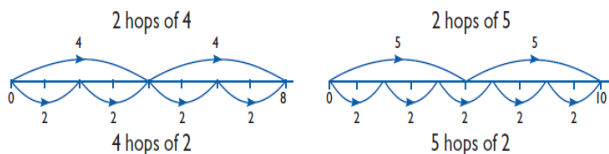
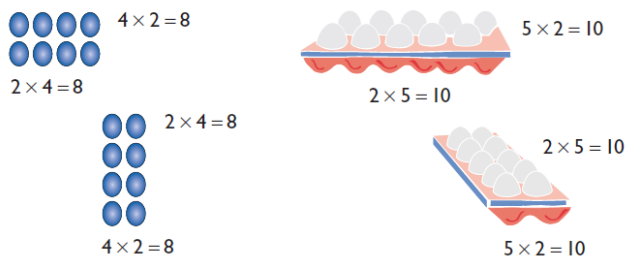


$$6 \times 4 = 24$$



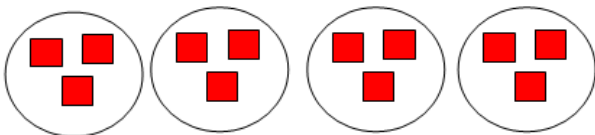
$$3 \times 5 = 15$$

$$5 \times 3 = 15$$



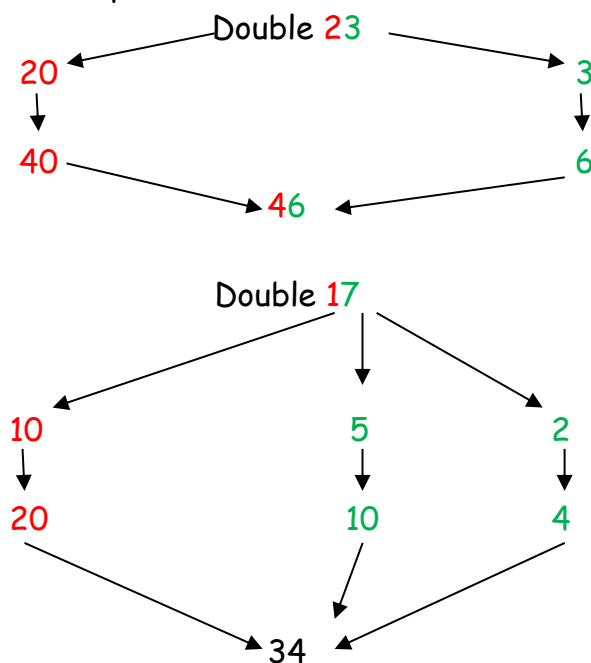
Children will understand the language of multiplication including 'lots of' and 'groups of'. Objects will be used to support.

$$4 \times 3 = 4 \text{ groups of } 3$$



Children will understand doubling as making a number twice as big using a range of equipment. They will learn doubles to 20 and use these facts to derive others. Children will find comparisons when doubling multiples of 10 and 100 by using equipment.

For example:

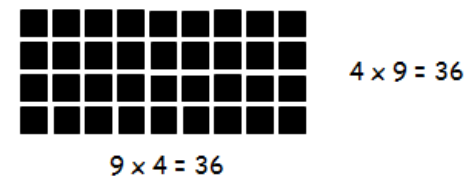


In Year 3, they will then learn the 3, 4 and 8 times tables.

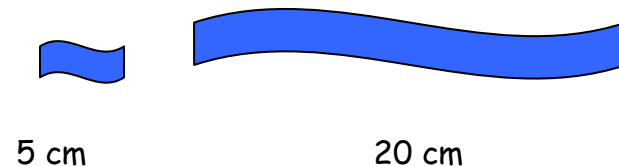
4 and 8 times tables will be taught by doubling knowledge from the 2 and 4 times tables.

In Year 4, children learn and recall remaining facts for 6, 7, 9 and later 11 and 12 times tables.

Children will also be able to calculate unknown facts by splitting numbers into



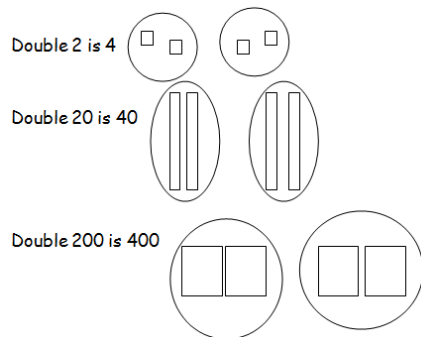
Children will solve a range of problems including scaling
e.g. Find a ribbon that is 4 times as long as the blue ribbon



They will use symbols to stand for unknown numbers to complete equations using inverse operations

$$\square \times 5 = 20 \quad 3 \times \triangle = 18 \quad \square \times \bigcirc = 32$$

In Lower KS2, children will progress to using grid methods, partitioning and recombining numbers, first for multiplication by a single digit,



Written grid methods will be supported through visual images and equipment for smaller numbers.

X	40	3
6		
=	240	18

$$\begin{array}{r} 240 \\ + 18 \\ \hline 258 \end{array}$$

Links will then be drawn from grid methods

known facts and recombining. For example:

$$7 \times 7 = 5 \times 7 + 2 \times 7 = 35 + 14 = 49$$

Children will later be able to find associated facts e.g.

$$\begin{array}{ll} 5 \times 6 = 30 & 6 \times 5 = 30 \\ 50 \times 6 = 300 & 60 \times 5 = 300 \\ 50 \times 60 = 3\,000 & 60 \times 50 = 3\,000 \\ 500 \times 6 = 3\,000 & 600 \times 5 = 3\,000 \end{array}$$

Children will develop and understand the links between multiplication and division.

x	40	3
6	240	18

$$\begin{array}{r} 240 \\ + 18 \\ \hline 258 \end{array}$$

$$43 \times 6 = 258$$

and progressing to multiplying by a 2 digit number.

x	40	3
60	2400	180
5	200	15

$$\begin{array}{r} 2400 \\ 180 \\ 200 \\ + 15 \\ \hline 2795 \end{array}$$

$$43 \times 65 = 2795$$

This method will be supported by a visual representation and use of equipment.

The link will then be developed into column methods for multiplication beginning with an expanded method:

to column methods.

x	40	3
6	240	18

$$\begin{array}{r}
 240 \\
 + 18 \\
 \hline
 258
 \end{array}$$

$$\begin{array}{r}
 43 \\
 \times 6 \\
 \hline
 258
 \end{array}$$

$$\begin{array}{r}
 38 \\
 \times 7 \\
 \hline
 56 \\
 210 \\
 \hline
 266
 \end{array}$$

(8 × 7 = 56)
(30 × 7 = 210)

And progressing to a short method:

$$\begin{array}{r}
 38 \\
 \times 7 \\
 \hline
 266 \\
 5
 \end{array}$$

As children become more confident in their skills, they will begin to calculate with larger numbers.

$$\begin{array}{r}
 286 \\
 \times 29 \\
 \hline
 2574 \\
 5720 \\
 \hline
 8294
 \end{array}$$

(9 × 286 = 2574)
(20 × 286 = 5720)

Th	H	T	O
			6
		6	0
	6	0	0
6	0	0	0

$\times 10$
 $\times 100$
 $\times 1\,000$

Th	H	T	O	.	$\frac{1}{10}$	$\frac{1}{100}$
			1	.	6	3
		1	6	.	3	0
	1	6	3	.	0	0
1	6	3	0	.	0	0

$\times 10$
 $\times 100$
 $\times 1\,000$

As children's understanding of place value grows, they will be able to mentally multiply whole numbers and decimals by 10, 100 and 1 000, showing an understanding that each place value column is 10 times bigger than the one to its right.

In upper KS2, children will identify common factors, common multiples and prime numbers. They establish whether a number up to 100 is prime and recall prime numbers up to 19

Children in upper KS2 recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) up to 5^3

When multiplying by decimals and also in the context of money, children will be taught to apply place value skills multiplying by 10 or 100 to make the decimal a whole number and then dividing the answer accordingly to convert back to a decimal.

For example: 6.3×5

- 1) $6.3 \times 10 = 63$
- 2) $63 \times 5 = 315$
- 3) $315 \div 10 = 31.5$

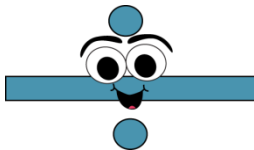
Similarly for the context of money:

Sarah's cat eats one tin of cat food every day. One tin costs £0.35. How much does it cost to feed Sarah's cat for 1 week?

$$£0.35 \times 7 = £2.45$$

- 1) $0.35 \times 100 = 35$
- 2) $35 \times 7 = 245$
- 3) $245 \div 100 = 2.45$

In KS1



Division

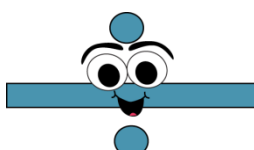
Children will share objects into equal groups and use related vocabulary.

Activities might include:

- Sharing of milk at break time
- Sharing sweets on a child's birthday
- Sharing activities in the home corner
- Count in tens/twos
- Separate a given number of objects into two groups

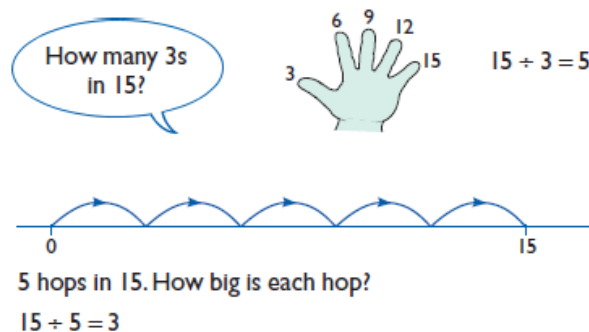
Practical activities involving sharing, distributing cards when playing a game, putting objects onto plates, into cups, hoops etc.

Equipment will be used to help children share equally.

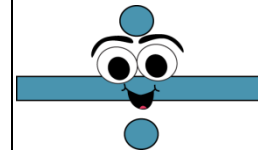


Division

Children will count in groups up to a given number and record how many groups as the answer to their division.



Links will then be made visually to a number line.



Division

Children will understand that there is a difference between sharing and grouping.

Sharing

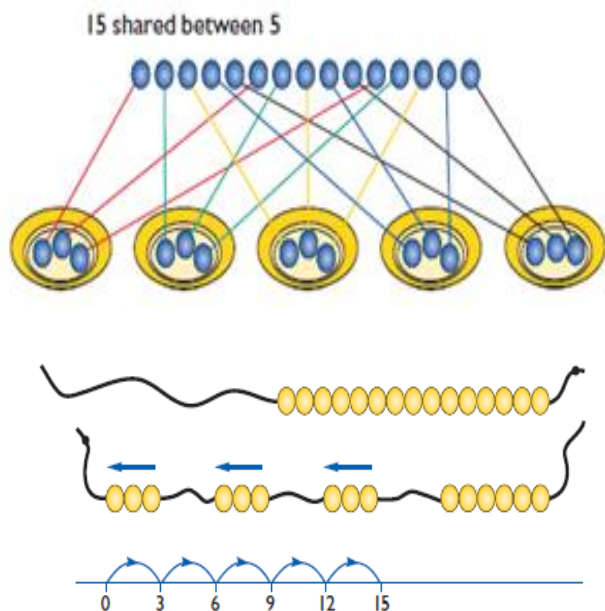
Children will begin by drawing pictures to represent sharing problems:

6 sweets are shared between 2 people. How many do they have each?



Children will use arrays to share amounts and experience word problems in real life contexts:

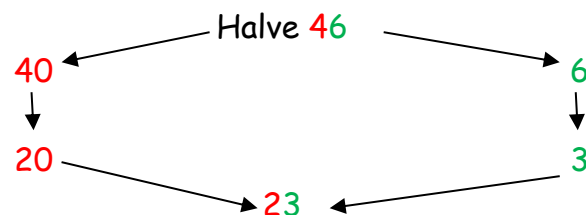
16 apples are shared between 4 children. How many does each child get?



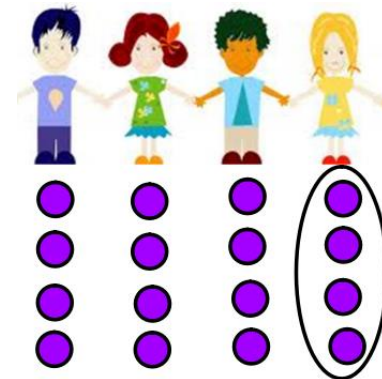
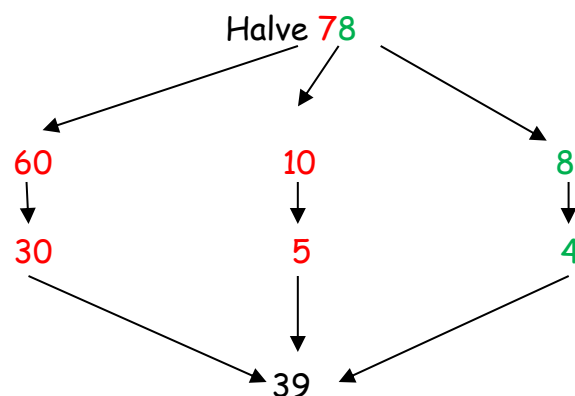
Links will then be made to jumps on a number line.

Children will understand halving as the opposite as doubling and begin to make connections between multiplication and division.

Children will be able to halve numbers mentally through partitioning.
For example:



When working with odd multiples of ten, further splitting of numbers will be taught and children will make these connections themselves.



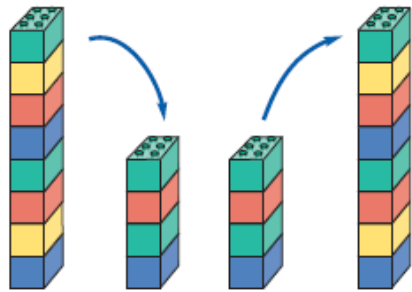
Grouping

Children will experience grouping through sorting objects into 2s / 3s / 4s etc
How many pairs of socks are there?



There are 12 crocus bulbs. Plant 3 in each pot. How many pots are there?
Jo has 12 Lego wheels. How many cars can she make?

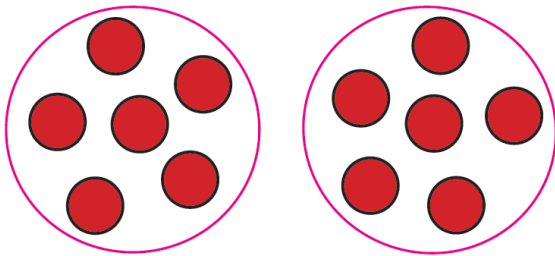
12 children get into teams of 4 to play a game.
How many teams are there?



half of 8 is 4
 $8 \div 2 = 4$

double 4 is 8
 $4 \times 2 = 8$

Images for sharing



$$12 \div 2 = 6$$

"If I share 12 into 2 equal amounts, how many in each group?" Answer: 6

Images for grouping

Children will derive associated facts from known multiplication facts.

$$5 \times 7 = 35$$

$$35 \div 7 = 5 \quad \text{and} \quad 35 \div 5 = 7$$

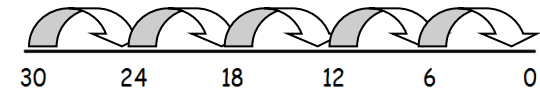


Children will begin to record grouping as repeated addition or repeated subtraction using a number line.



You collect 30 CD tokens. You get a CD for every 6 tokens. How many CDs will you get?

$$6 + 6 + 6 + 6 + 6 = 30$$



Children will solve calculations with missing numbers and develop the link between their times tables and division facts.

$$6 \div 2 = \square$$

$$\square = 6 \div 2$$

$$6 \div \square = 3$$

$$3 = 6 \div \square$$

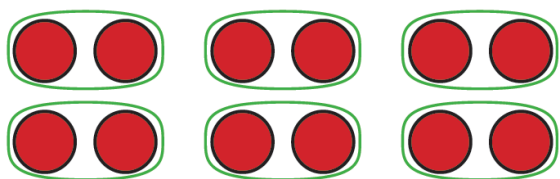
$$\square \div 2 = 3$$

$$3 = \square \div 2$$

$$\square \div \nabla = 3$$

$$3 = \square \div \nabla$$

As children's knowledge of place value develops, they will be able to divide numbers by 10 and 100.

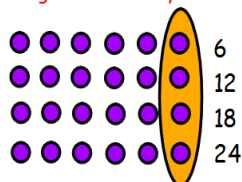


$$12 \div 2 = 6$$

"How many groups of 2 can I fit in 12?"
Answer: 6

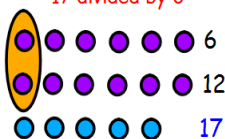
Children will begin to find remainders by identifying what is left over.

e.g. 24 divided by 6



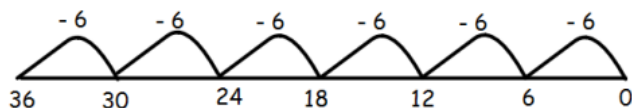
$$= 4$$

17 divided by 6



$$= 2 \text{ r}5$$

A range of number line methods will be taught.



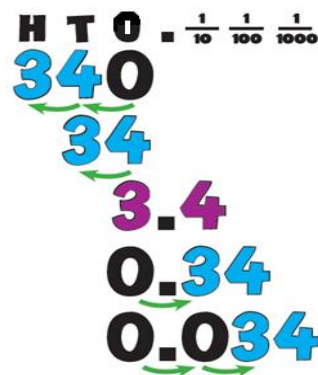
36 divided by 6 = 6. There are 6 groups of 6 in 36.

$$\times 100$$

$$\times 10$$

$$\div 10$$

$$\div 100$$



Children will develop understanding of numbers and breaking numbers down into smaller parts to help them to divide mentally.

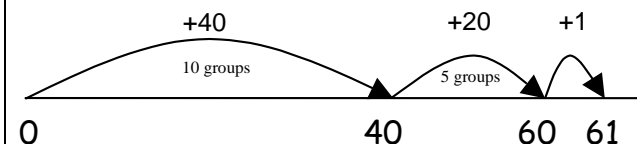
$$65 \div 4 = 16 \text{ r}1$$

$$\begin{array}{r} 40 + 25 \\ \downarrow \quad \downarrow \\ 10 + 6 \text{ r}1 \\ \div 4 \\ = 16 \text{ r}1 \end{array}$$

In Year 4, children will be able to calculate division facts for multiples of 10

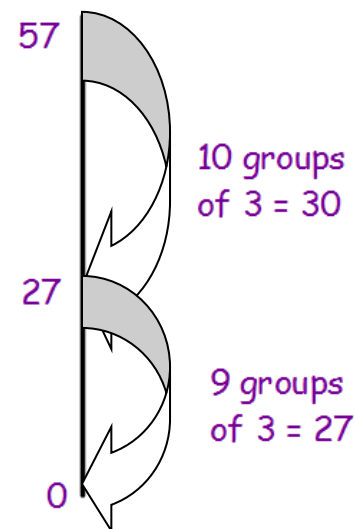
When working with larger numbers, children will begin to 'chunk' using a number line to find whole number answers and remainders.

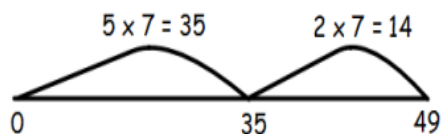
$$61 \div 4 = 15 \text{ r}1$$



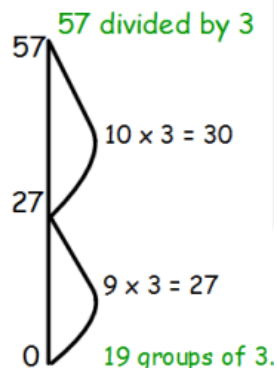
Methods will include counting up to the number to be divided and counting back. Number lines may be horizontal or vertical.

$$57 \text{ divided by } 3 = 19 \text{ groups}$$





49 divided by 7 = 7. Altogether, 7 groups of 7 make up 49.



by using associated facts.

$$30 \div 6 = 5$$

$$30 \div 5 = 6$$

$$300 \div 6 = 50$$

$$300 \div 5 = 60$$

They use factor pairs and comutativity in mental caccluations.

Using this knowledge they will be able to mentally chunk larger numbers once their number skills are well developed and secure.

$$394 \div 6 = 65r4$$

$$\begin{array}{r} 360 + 34 \\ \downarrow \quad \downarrow \quad \div 6 \\ 60 + 5r4 = 65r4 \end{array}$$

In upper KS2, children will know and use the vocabulary of prime numbers, prime factors and composite numbers (non-prime).

In lower KS2, children will progress to formal written methods such as chunking for single digit and 2 digit numbers.

167 divided by 3

$$\begin{array}{r} 3 \overline{)167} \\ \underline{90} - (30) \\ 77 \\ \underline{60} - (20) \\ 17 \\ \underline{15} - (5) \\ 2 \end{array}$$

Altogether 55 groups of 3 with 2 left over = 55 r2

479 divided by 12

$$\begin{array}{r} 12 \overline{)479} \\ \underline{240} - (20) \\ 239 \\ \underline{120} - (10) \\ 119 \\ \underline{60} - (5) \\ 59 \\ \underline{48} - (4) \\ 11 \end{array}$$

Altogether 29 groups of 12 with 11 left over = 29 r11

In upper KS2, children divide up to 4 digits by single digits. They will be taught the short method of division as an efficient method for dividing BY A SINGLE DIGIT.

$$\begin{array}{r} 197 \\ 3 \overline{)591} \end{array}$$

$$591 \div 3 = 197$$

They will also be shown why this method does not work for larger numbers.

Word problem skills will be modelled visually and children will later begin to make their own choices about whether to use grouping or sharing.

3 people go out for dinner, the meal cost £51 and they split the cost equally. How much did each person pay?

$$£51 \div 3 =$$



$$£10 \quad £10 \quad £10 = £30$$

$$£5 \quad £5 \quad £5 = £15$$

$$£1 \quad £1 \quad £1 = £6$$

$$£17 \text{ each} = £51$$

e.g. $34 \overline{)144}$

Children will be able to express remainders as fractions and decimals.

By Year 6, children will divide 4 digits by 2 digits using the formal written method of long division.

$432 \div 15$ becomes

$$\begin{array}{r} 28 \text{ r } 12 \\ 15 \overline{)432} \\ \underline{30 } \\ 132 \\ \underline{120} \\ 12 \end{array}$$

Answer: 28 remainder 12

$432 \div 15$ becomes

$$\begin{array}{r} 28 \\ 15 \overline{)432} \\ \underline{30 } \\ 132 \\ \underline{120} \\ 12 \end{array} \quad \begin{array}{l} 15 \times 20 \\ 15 \times 8 \end{array}$$

$$\frac{12}{15} = \frac{4}{5}$$

Answer: $28 \frac{4}{5}$

$432 \div 15$ becomes

$$\begin{array}{r} 28.8 \\ 15 \overline{)432.0} \\ \underline{30 \downarrow} \\ 132 \\ \underline{120 \downarrow} \\ 120 \\ \underline{120} \\ 0 \end{array}$$

Answer: 28.8

