

St John's C of E VA Primary School



Calculation Policy 2026-28

Agreed by the SLT

Agreed: September 2026

Review: September 2028

St John's Church of England VA Primary School

Calculation Policy

Sharing joy and hope in the community

When considering matters of calculation it is important for all the school community to reflect, considering our vision statement, 'Sharing joy and hope in the community'; along with the school values Respect, Compassion, Friendship, Service and Endurance. Through this we will ensure we are guided into good decisions to support all those in the St John's community.

This policy has been designed to teach children through the use of concrete, pictorial and abstract methods. This calculation policy should be used to support children to develop a deep understanding of number and calculation.

Background:

This policy has been created to develop deepening number awareness, fluency and reasoning and problem solving opportunities to challenge all learners. The policy only details the strategies; teachers must plan opportunities for pupils to apply these; for example, when solving problems, or where opportunities emerge elsewhere in the curriculum.

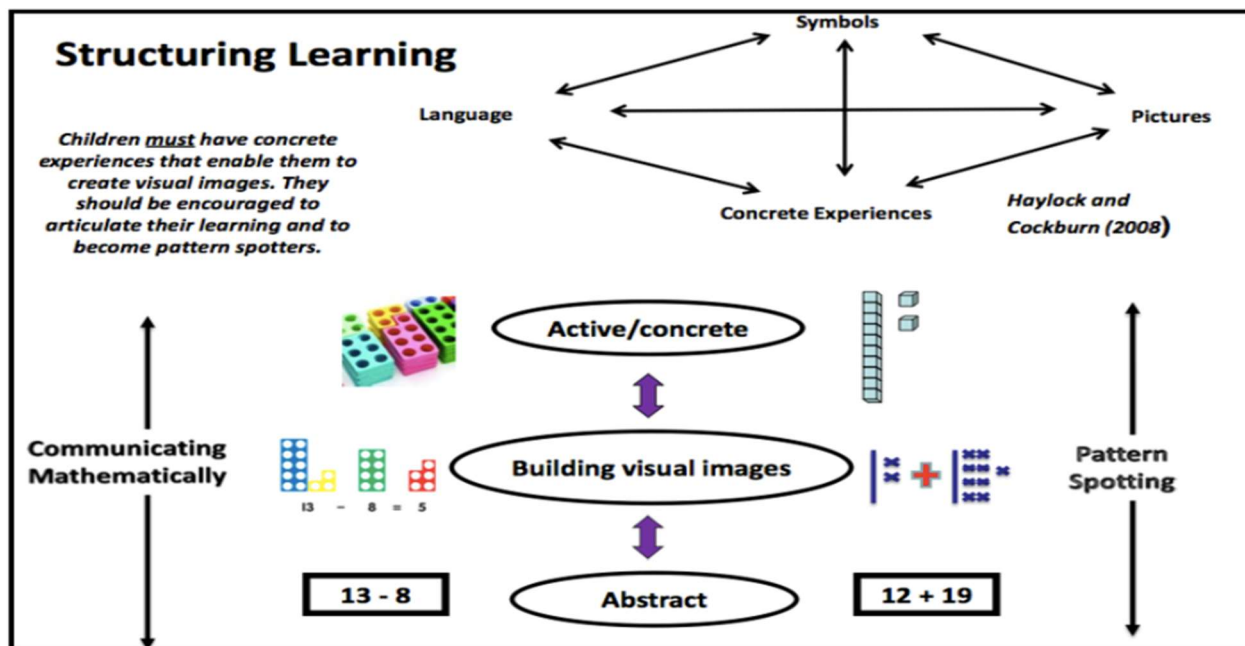
Using the concrete-pictorial-abstract approach:

Children develop an understanding of a mathematical concept through the three steps (or representation) of concrete-pictorial-abstract approach. Reinforcement is achieved by going back and forth between these representations.

Concrete representation: A pupil is first introduced to an idea or a skill by acting it out with real objects. This is a 'hands on' component using real objects and it is the foundation for conceptual understanding.

Pictorial representation: A pupil has sufficiently understood the hands-on experiences performed and can now relate them to representations, such as a diagram or picture of the problem.

Abstract representation: A pupil is now capable of representing problems by using mathematical notation, for example: $12 \div 2 = 6$.



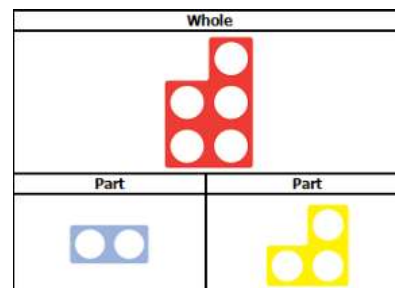
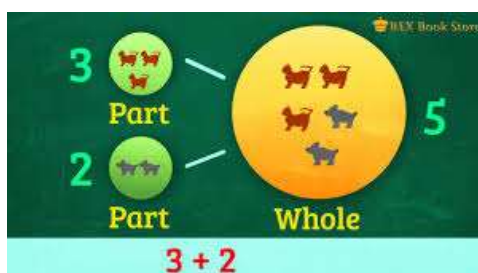
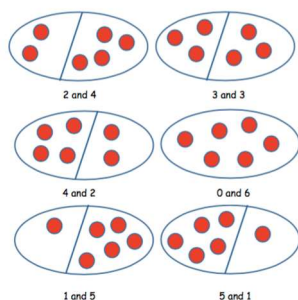
Reception

Addition

Explore part-part-whole relationship

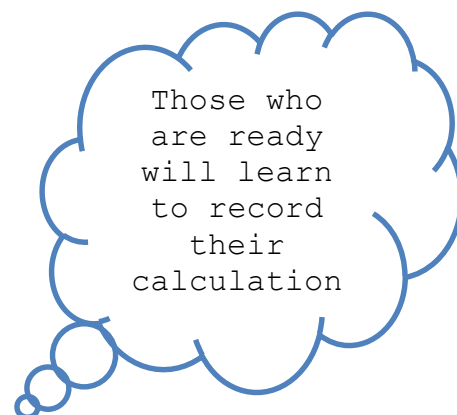
They develop ways of recording calculations using pictures

Making 6



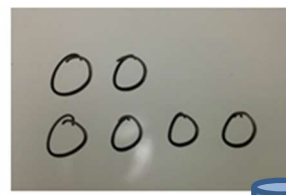
Using the ten frame to support addition of single digits – counting all/combining two groups

	$6 + 4 = 10$
	$4 + 4 = 8$
	$5 + 2 = 7$
	$2 + 4 = 6$

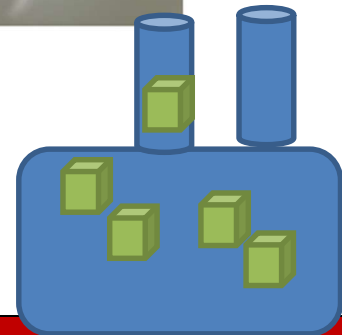


Solving problems using concrete and pictorial images.

Sara has 2 apples.
Jon has 5 apples.
How many apples do they have altogether?
How many more apples does Jon have than Sara?

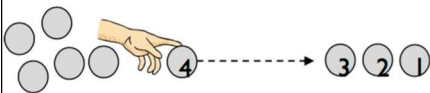


Adding Machine:
2 tubes that
children can drop
objects down, which
combines to a total



Subtraction

Taking away after counting out practical equipment. .
Children would be encouraged to physically remove these using touch counting.



By touch counting and dragging in this way, it allows children to keep track of how many they are removing so they don't have to keep recounting. They will then touch count the amount that are left to find the answer.

Those who are ready may record their own calculations

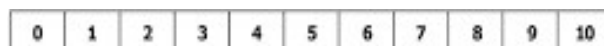
Using the ten frame to support subtraction by taking away

donut donuts



$$8 - 4 = \underline{\quad}$$

Using a number line for counting back.

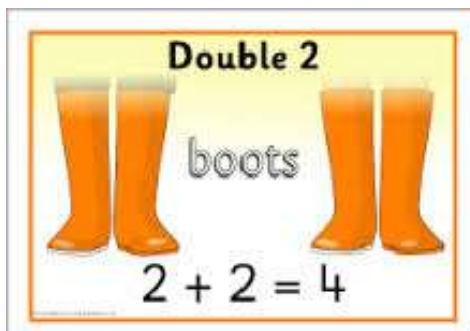


Solving problems using concrete and pictorial images.

Multiplication

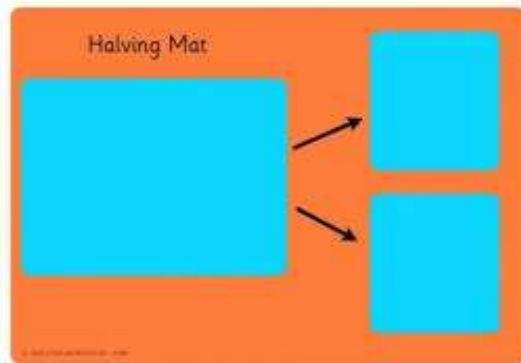
Children will experience equal groups of objects.

They will work on practical problem solving activities involving



There are 6 pairs of socks.
How many socks are there altogether?

Division

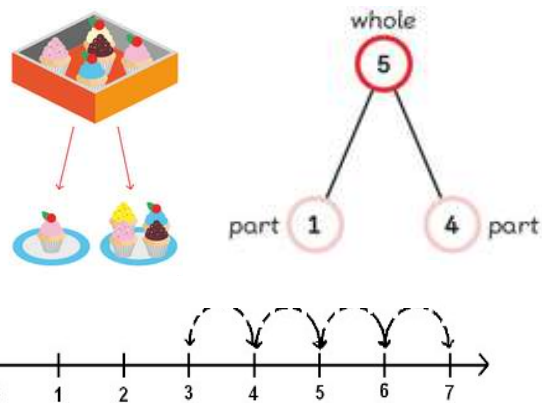
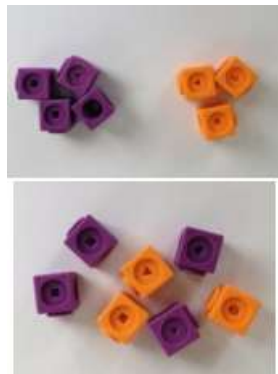


Year 1

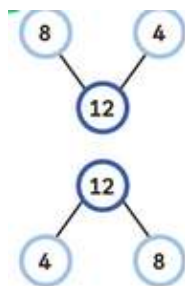
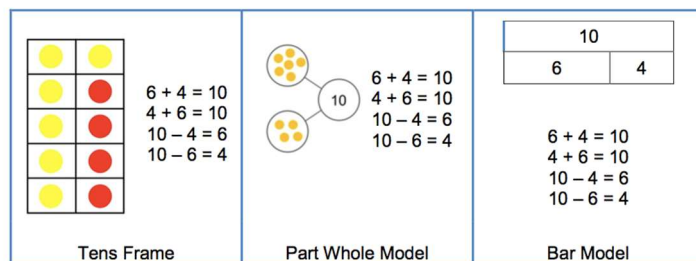
Addition

Joining two groups and then recounting all objects using one-to-one Correspondence (lots of practice making 10 and numbers to 10 e.g. $6 + 4 = 10$ or $3 + 5 = 8$)

$$3 + 4 = 7$$



Learn number bonds to 20 and demonstrate related facts
Teach addition and subtraction alongside each other as pupils need to see the relationship between the facts.



$$\begin{array}{rcl} 8 & + & 4 = 12 \\ 4 & + & 8 = 12 \end{array}$$

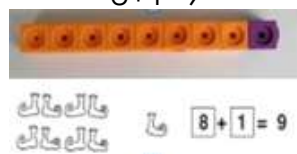
This is a family of addition and subtraction facts.

$$\begin{array}{rcl} 12 & - & 8 = 4 \\ 12 & - & 4 = 8 \end{array}$$



Add and subtract one digit numbers and two digit numbers to 20, including zero

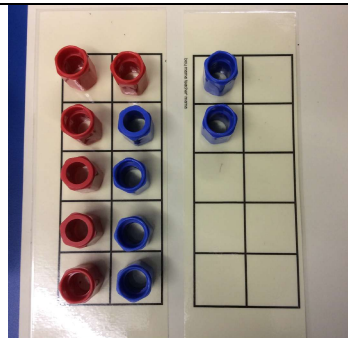
$$8 + 1 = 9$$



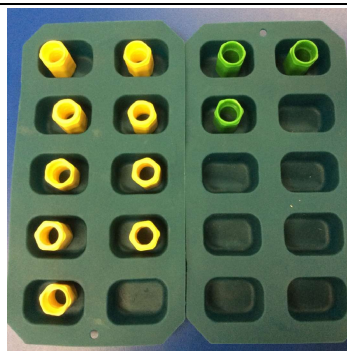
Bridging 10

Use ten frames, Singapore bars, egg boxes and number lines to practice.

Chn should start with the larger number and add the smaller number. What makes ten and what is left.



6



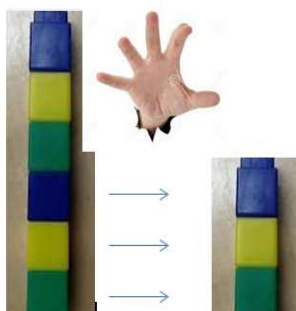
+ 6 = 12

Make 9 in one and 3 in the other. Take one from the 3 to make the 9 into a ten....10+2 = 12

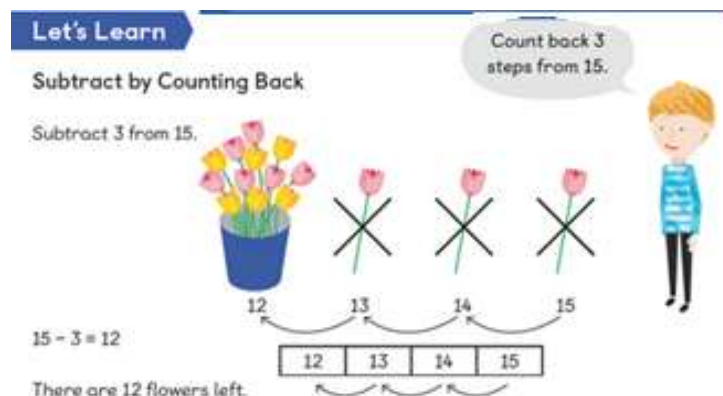
Subtraction

Taking away should begin with **physical objects**: objects, cubes, Dienes etc

$$6 - 3 = 3$$



Subtraction by counting back



Subtracting a single digit number from a single digit number and a single digit from a two digit by crossing out pictures

Subtract by Crossing Out



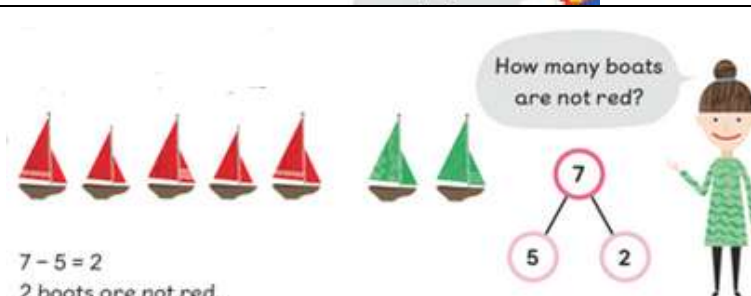
$$7 - 2 = 5$$

5 ladybirds are left.

$$7 - 2$$

Subtracting using the part - part - whole (include problem solving with missing digits).

$$? - 5 = 2$$



Subtraction

Subtraction by subtracting from 10

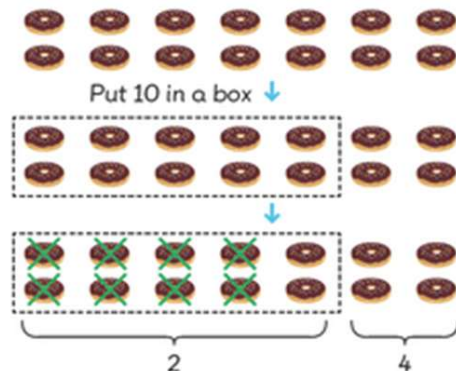
Children subtract from 10 and not from ones

$$14 - 8 = ?$$

Let's Learn

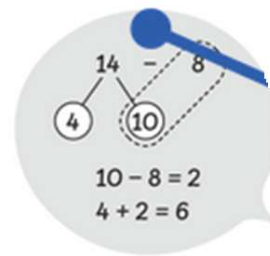
Subtract from 10

$$14 - 8 = ?$$



$$14 - 8 = 6$$

Sam has 6 doughnuts left.



When subtracting using Dienes children should be taught to regroup a ten rod for 10 ones and then subtract from those ones

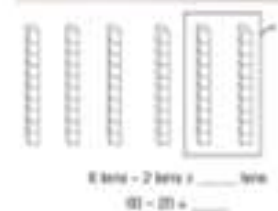


$$20 - 4 = 16$$

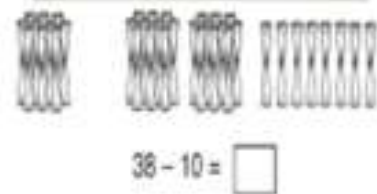
Subtracting multiples of 10

Using the vocabulary of 1 ten, 2 tens etc alongside 10, 20, 30 is very important here as pupils need to understand that it is a 10 not a 1 that is being taken away

$$40 = 60 - 20$$



$$38 - 10 = 28$$



Multiplication

Counting in multiples of 2, 5 and 10 from zero

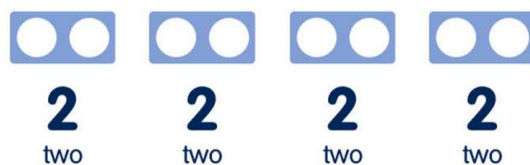
Children should count the number of groups on their fingers as they are skip counting.

2 4 6 8

4 groups of 2 = 8



$$2 \times 4 = 8$$

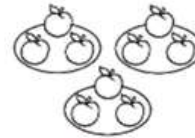
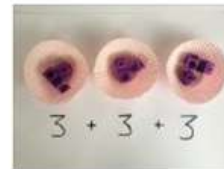


When moving to pictorial/written calculations the vocabulary is important



This image represents two groups of 4 or 4 twice

Solving multiplication problems using repeated addition



$$3 + 3 + 3 = 9$$

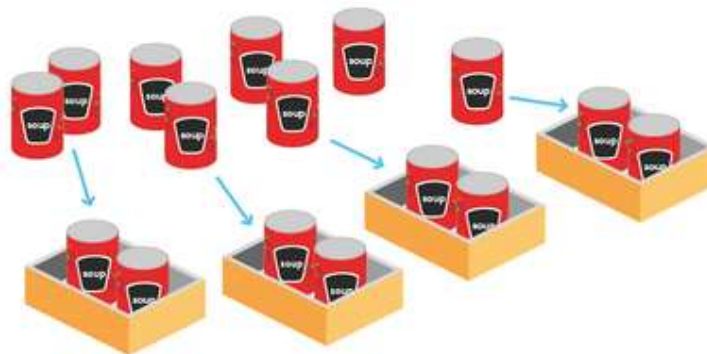
Division

Pupils should be taught to divide through working practically and the sharing should be shown below the whole to familiarise children with the concept of the whole.

The language of whole and part - part should be used.

$$10 \div 2 = 5$$

1 There are 8 cans.

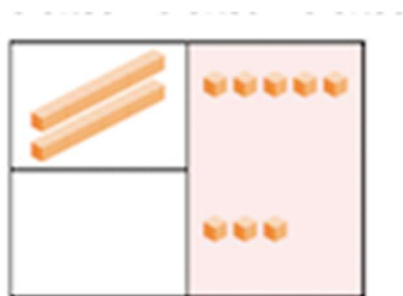


There are 4 boxes of 2 cans.

$$8 \div 4 = 2$$

Addition

Using concrete objects and pictorial representations to add a 2 digit number with a 1 digit number.

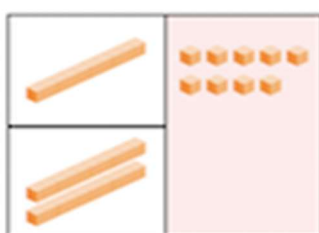


tens	ones
2	5
+	3
	8

Using concrete objects and pictorial representations to add a 2 digit number and 10s number.

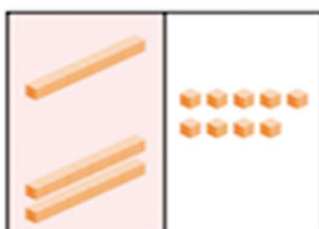
Using concrete materials to add 2-digits:

Step 1 Add the ones.



tens	ones
1	9
+	0
	9

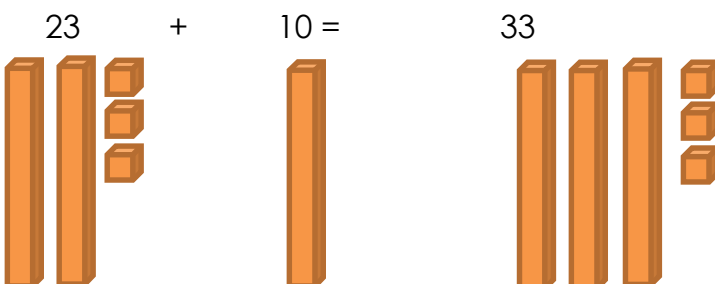
Step 2 Add the tens.
1 ten + 2 tens = 3 tens



tens	ones
1	9
+	0
3	9

$$19 + 20 = 39$$

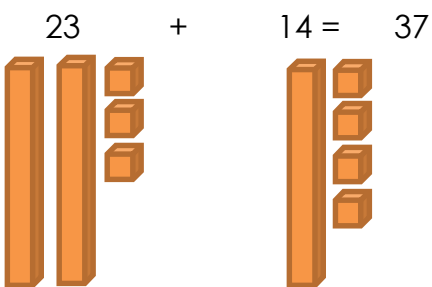
Draw the tens and ones in books:



Addition

Using concrete objects and pictorial representations to add a 2 digit numbers.

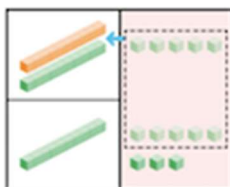
Draw the tens and ones in books:



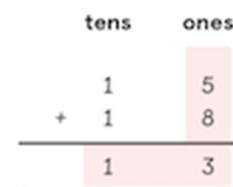
Adding with renaming:

Add 15 and 18.

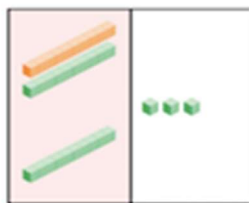
Step 1 Add the ones.
5 ones + 8 ones = 13 ones
Regroup the ones.
13 ones = 1 ten and 3 ones



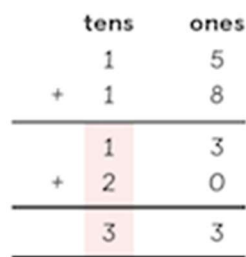
Use to help you add.



Step 2 Add the tens.
1 ten + 1 ten + 1 ten = 3 tens

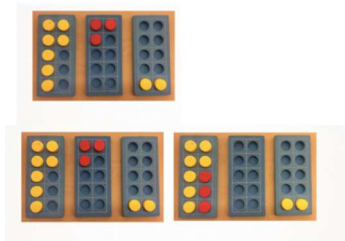


$$15 + 18 = 33$$



Using concrete objects and pictorial representations to add a 3 single digit numbers.

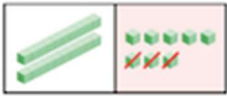
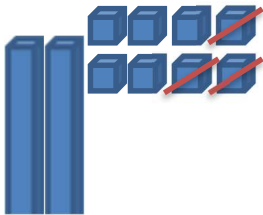
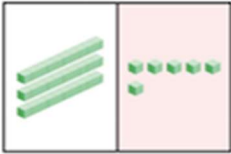
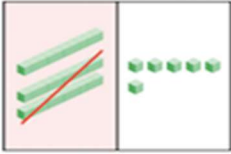
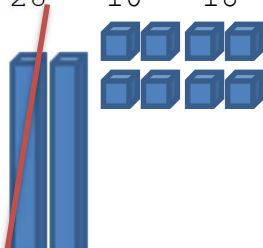
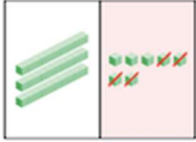
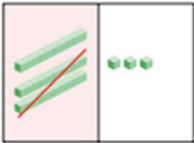
7+3+2 = leads to 10 + 2 =



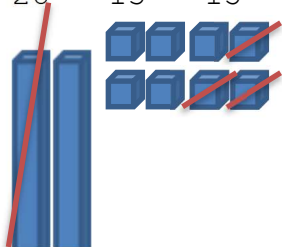
Using column method to add 2-digit numbers.

Tens	Ones
2	9
+	14
4	3
4	3

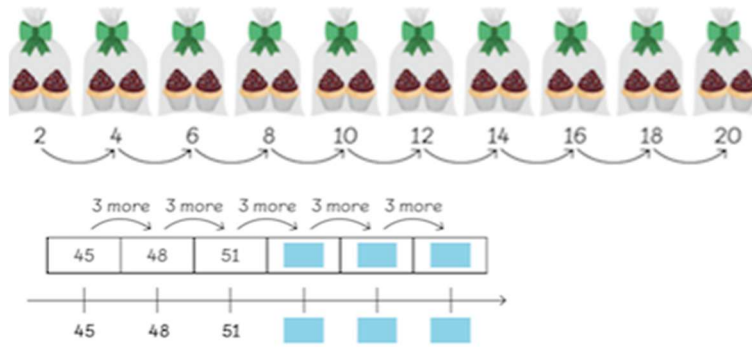
Subtraction

Using concrete objects and pictorial representations to subtract a 1 digit number from 2 digit number.	Step 1 Subtract the ones. 8 ones – 3 ones = 5 ones  <table border="1"> <thead> <tr> <th>tens</th> <th>ones</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>8</td> </tr> <tr> <td>-</td> <td>3</td> </tr> <tr> <td></td> <td>5</td> </tr> </tbody> </table> Step 2 Subtract the tens.  <table border="1"> <thead> <tr> <th>tens</th> <th>ones</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>8</td> </tr> <tr> <td>-</td> <td>3</td> </tr> <tr> <td>2</td> <td>5</td> </tr> </tbody> </table> 28 – 3 = 25 Concrete to pictorial: 28 – 3 = 25 	tens	ones	2	8	-	3		5	tens	ones	2	8	-	3	2	5		
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-	3																		
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Using concrete objects and pictorial representations to subtract a 10s number from 2-digit number. Then transition to mental techniques of 10 less.	Step 1 Subtract the ones.  <table border="1"> <thead> <tr> <th>tens</th> <th>ones</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>6</td> </tr> <tr> <td>-</td> <td>2</td> </tr> <tr> <td></td> <td>0</td> </tr> <tr> <td></td> <td>6</td> </tr> </tbody> </table> Step 2 Subtract the tens. 3 tens – 2 tens = 1 ten  <table border="1"> <thead> <tr> <th>tens</th> <th>ones</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>6</td> </tr> <tr> <td>-</td> <td>2</td> </tr> <tr> <td>1</td> <td>6</td> </tr> </tbody> </table> 36 – 20 = 16 Concrete to pictorial: 28 – 10 = 18 	tens	ones	3	6	-	2		0		6	tens	ones	3	6	-	2	1	6
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Using concrete objects and pictorial representations to subtract a 2 digit number from 2 digit number. Then move on to use column subtraction to take 1 digit from 2 digits.	Subtract 24 from 37. Step 1 Subtract the ones. 7 ones – 4 ones = 3 ones  <table border="1"> <thead> <tr> <th>tens</th> <th>ones</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>7</td> </tr> <tr> <td>-</td> <td>4</td> </tr> <tr> <td></td> <td>3</td> </tr> </tbody> </table> Step 2 Subtract the tens. 3 tens – 2 tens = 1 ten  <table border="1"> <thead> <tr> <th>tens</th> <th>ones</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>7</td> </tr> <tr> <td>-</td> <td>4</td> </tr> <tr> <td>1</td> <td>3</td> </tr> </tbody> </table> 37 – 24 = 13	tens	ones	3	7	-	4		3	tens	ones	3	7	-	4	1	3		
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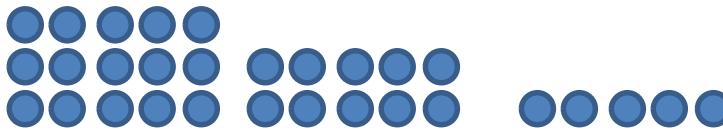
Concrete to pictorial:
28 – 13 = 15



Skip counting in multiples of 2, 5 and 10 from 0



Recall and use multiplication facts for the multiplication tables 2, 5 and 10.



$$\begin{aligned} 1 \times 5 &= 5 \\ 2 \times 5 &= 10 \\ 3 \times 5 &= 15 \end{aligned}$$

I can use multiplication (x) and equal (=) sign when writing out my times tables.

Multiplication is commutative

Pupils should understand that an array can represent different equations and that, as multiplication is commutative, the order of the multiplication does not affect the answer.

How many dots are there?

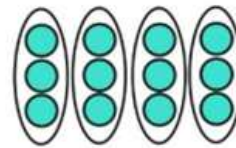


$$2 \times 5 = 10$$

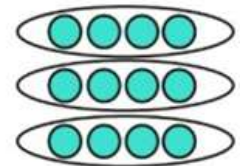


$$5 \times 2 = 10$$

2×5 is equal to 5×2 .

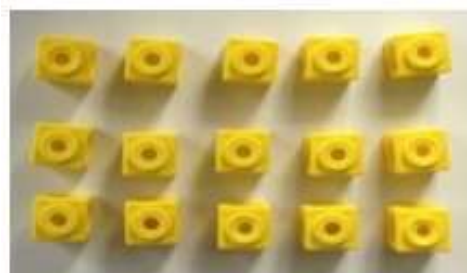


$$12 = 3 \times 4$$

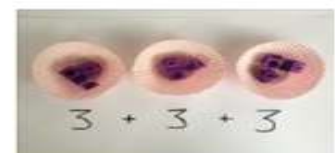


$$12 = 4 \times 3$$

Solve multiplication problems in context using arrays and repeated addition



$$\begin{aligned} 3 \times 5 &= \square \\ 5 \times 3 &= \square \end{aligned}$$



$$3 + 3 + 3$$



How many apples are there altogether?

$$3 + 3 + 3 = 9$$

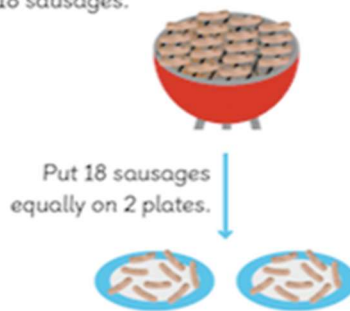
Division

Recall and use division facts for the multiplication tables 2, 5 and 10.

$10 \div 10$	•	•	5
$20 \div 10$	•	•	7
$70 \div 10$	•	•	2
$50 \div 10$	•	•	6
$60 \div 10$	•	•	1
$100 \div 10$	•	•	10

Solve division problems in context using concrete objects by sharing

There are 18 sausages.



Put 18 sausages equally on 2 plates.

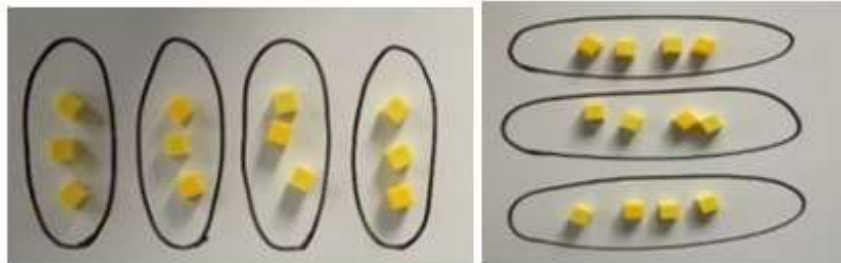
$$2 \times 9 = 18$$



There are 9 sausages on each plate.

$$18 \div 2 = 9$$

Solve division problems in context using arrays



I can solve division as grouping.

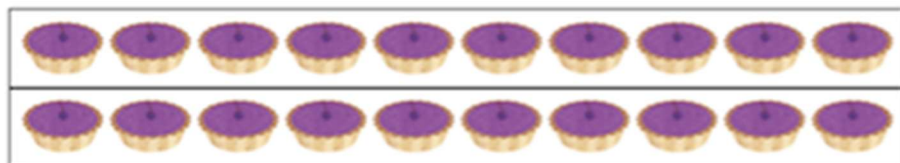
Put 10 buns in groups of 2.
How many plates are there?



I can use the inverse.

This should be taught alongside both multiplication and division.

Make a family of multiplication and division facts.



$$2 \times 10 = 20 \quad \text{—————} \quad 20 \div 10 = \boxed{}$$

$$10 \times 2 = 20 \quad \text{—————} \quad 20 \div 2 = \boxed{}$$

Addition

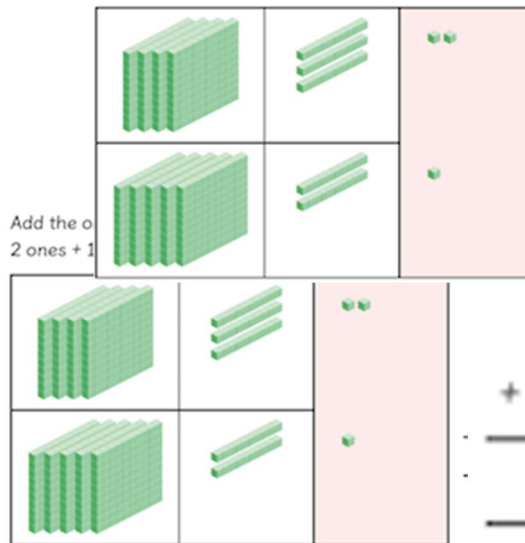
Add two three digit numbers.

Children need to use equipment first to support their understanding of place value.

Children to work gradually to three digit + three digit starting without carrying and gradually moving towards carrying.

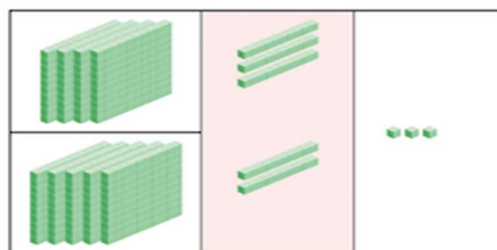
$$432 + 521 =$$

Step 1 Add the ones.
2 ones + 1 one = 3 ones



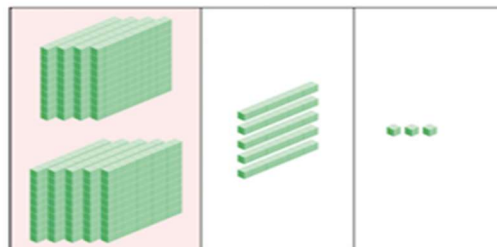
	h	t	o
	4	3	2
+	5	2	1
			3

Step 2 Add the tens.
3 tens + 2 tens = 5 tens



	h	t	o
	4	3	2
+	5	2	1
		5	3

Step 3 Add the hundreds.
4 hundreds + 5 hundreds = 9 hundreds



	h	t	o
	4	3	2
+	5	2	1
	9	5	3

$$432 + 521 = 953$$

There are 953 flowers altogether.

Bar



A man sold 230 balloons at a carnival in the morning. He sold another 86 balloons in the evening. How many balloons did he sell in all?

	?
230	86
Morning	Afternoon

Subtraction

Subtract up to 3 digits

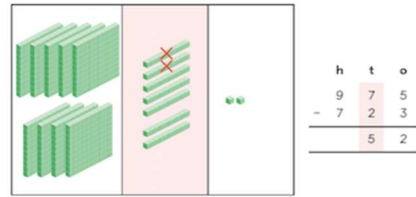
Only when secure with the method should exchanging be introduced.

from 3 digits.

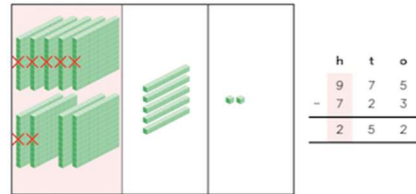
Very important for children to use dienes equipment along with a place value chart to support.

$$\begin{array}{r} 900 + 70 + 5 \\ - 700 + 20 + 3 \\ \hline 200 + 50 + 2 \end{array}$$

Step 2 Subtract the tens.
7 tens - 2 tens = 5 tens



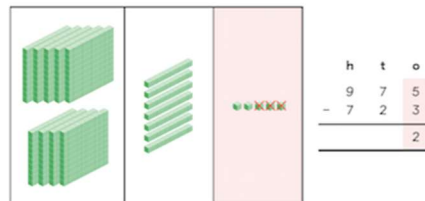
Step 3 Subtract the hundreds.
9 hundreds - 7 hundreds = 2 hundreds



$$975 - 723 = 252$$

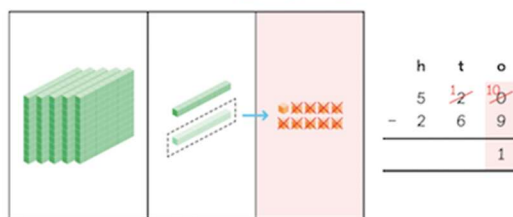
Subtract 723 from 975.

Step 1 Subtract the ones.
5 ones - 3 ones = 2 ones

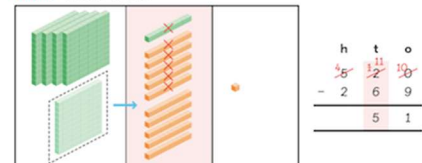


Subtract 269 from 520.

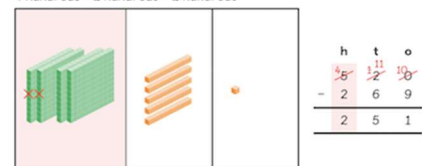
Step 1 Regroup 1 ten into 10 ones.
Subtract the ones.
10 ones - 9 ones = 1 one



Step 2 Regroup 1 hundred into 10 tens.
Subtract the tens.
11 tens - 6 tens = 5 tens



Step 3 Subtract the hundreds.
4 hundreds - 2 hundreds = 2 hundreds



$$520 - 269 = 251$$

Using the bar to find missing digits.

It is important for children to use the bar in this way to encourage the use of it to aid with problem

315	
185	?

$$315 - 185 = ?$$

$$185 + ? = 315$$

?	
185	315

$$185 + 315 = ?$$

$$? - 185 = 315$$

solving.

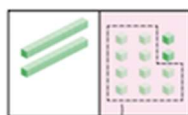
Multiplication

Children should be able to recall the 2, 5, 10, 3, 4 and 8 times tables.

Multiple a two digit number by a one digit.

Let's Learn

- 1 There are 4 groups of 23 fish. How do we multiply 23 by 4?

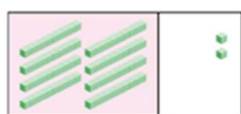


4 ones $\times$ 3 = 12 ones
12 ones = 1 ten 2 ones

Step 1 Multiply the ones by 4.

	t	o	
	2	3	
$\times$		4	
	1	2	

(3 $\times$ 4)

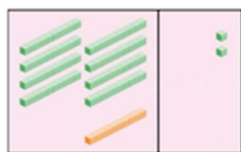


2 tens $\times$ 4 = 8 tens

Step 2 Multiply the tens by 4.

	t	o	
	2	3	
$\times$		4	
	1	2	
	8	0	

(3 $\times$ 4)
(20 $\times$ 4)



12 + 80 = 92

Step 3 Add the products.

	t	o	
	2	3	
$\times$		4	
	1	2	
+	8	0	
	9	2	

(3 $\times$ 4)
(20 $\times$ 4)

$23 \times 4 = 92$

There are 92 fish in 4 tanks.

When $\times$ and $\div$ by 10:

h t o . th

8

8 0

(8 $\times$ 10)

0 . 8

Using the bar to solve multiplication problems.

4 children go to the cinema. They each pay £15. How much do they spend altogether?

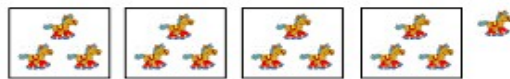
Whole unknown

?			
15	15	15	15

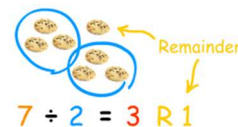
Division

Dividing by grouping understanding the concept of remainders.

Start with using the real objects-or objects that represent the calculation.



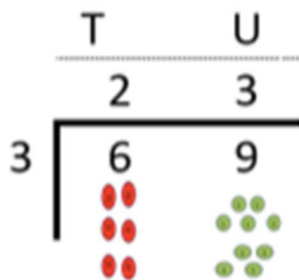
$$13 \div 4 = 3 \text{ Remainder } 1$$



$$7 \div 2 = 3 \text{ R } 1$$

Dividing using short division.

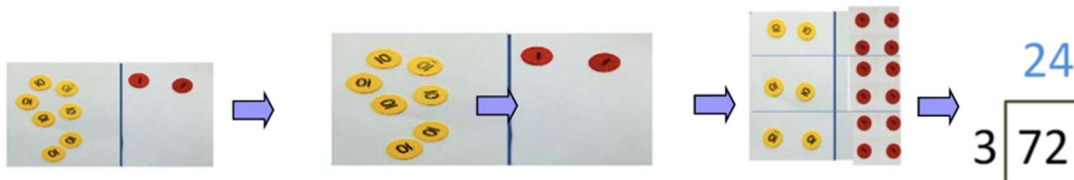
Once children are secure with division as grouping and demonstrate this using number lines, arrays etc., **short division** for larger 2-digit numbers should be introduced, initially with carefully selected examples requiring no calculating of remainders at all. Start by introducing the layout of short division by comparing it to an array.



Remind children of correct place value, that 69 is equal to 60 and 9, but in short division, pose:

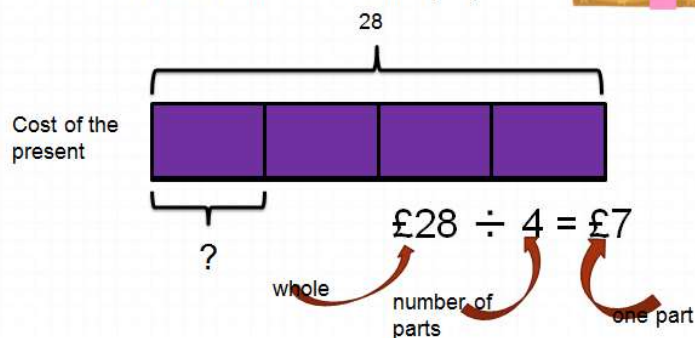
- How many 3's in 6? = 2, and record it above the **6 tens**.
- How many 3's in 9? = 3, and record it above the **9 ones**.

Once children demonstrate a full understanding of remainders, and also the short division method taught, they can be taught how to use the method when remainders occur within the calculation (e.g. $72 \div 3$), and be taught to 'carry' the remainder onto the next digit.



Using the bar to aid the solving of division problems.

Four children bought a present for £28. They shared the costs equally. How much did each child pay?

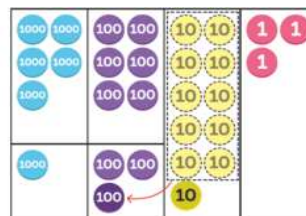
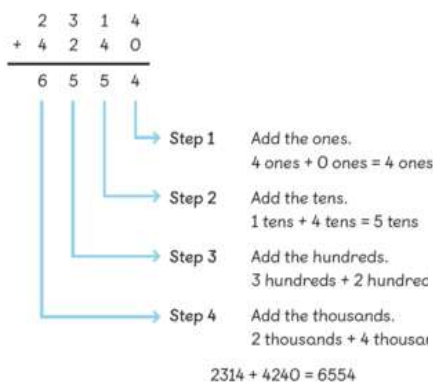


Year 4

Addition

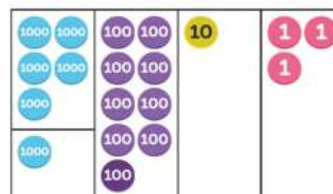
Adding numbers with up to 4 digits.

Again this should start with the children using dienes to support them with lots of discussion about the value of each digit.



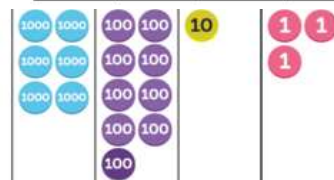
5678

X



5678

XX



5678

XX

Using the bar to find missing digits.

Alison jogs 6,860 metres and Sam jogs 5,470 metres. How far do they jog altogether?



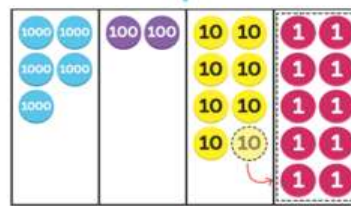
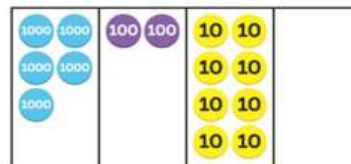
Subtraction

To subtract with numbers up to four digits including exchanging when children are secure.

Again children need to use dienes to support their learning.

$$\begin{array}{r} 3437 \\ - 2016 \\ \hline 1421 \end{array}$$

- Step 1 Subtract the ones.
7 ones - 6 ones = 1 one
- Step 2 Subtract the tens.
3 tens - 1 ten = 2 tens
- Step 3 Subtract the hundreds.
4 hundreds - 0 hundreds = 4 hundreds
- Step 4 Subtract the thousands.
3 thousands - 2 thousands = 1 thousand



There aren't enough ones.

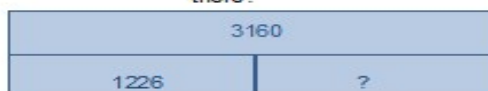


$$\begin{array}{r} 52\cancel{7}^{10}0 \\ - 3169 \\ \hline \end{array}$$

$$\begin{array}{r} 2\cancel{7}^{10}54 \\ - 1562 \\ \hline 1192 \end{array}$$

Using the bar to find missing digits.

There are 3,160 books in a shop. 1,226 are in English and the rest are in French. How many French books are there?



Multiplication

Children to know all times tables to 12 x 12.

Ladder method to be used with children multiplying both two and three digits by a one digit number.



$$\begin{array}{r} 473 \\ \times 2 \\ \hline \end{array}$$

This will only work with

$$\begin{array}{r} 314 \\ \times 3 \\ \hline 12 \quad (3 \times 4) \\ 30 \quad (3 \times 10) \\ + 900 \quad (3 \times 300) \\ \hline 942 \end{array}$$

into compact method...

$$\begin{array}{r} 314 \\ \times 3 \\ \hline 942 \\ 1 \end{array}$$

Multiplying using the bar.

A computer costs 5 times as much as a television. The television costs £429.

Cost of the computer

How much does the computer cost?



Division

Dividing up to three digit numbers by a one digit number using short division.

Only when the children are secure with dividing a two digit number should they move onto a 3 digit number.

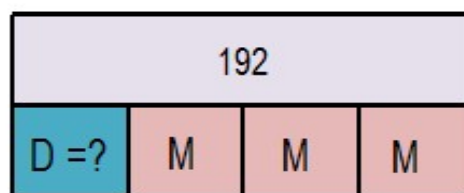


	H	T	U	
	0	2	5	r1
5	~~1~~	¹ 2	² 6	

$$\begin{array}{r}
 3 \overline{) 367} \\
 \underline{300} \quad 100 \times 3 \\
 67 \\
 \underline{60} \quad 20 \times 3 \\
 7 \\
 \underline{6} \quad 2 \times 3 \\
 1
 \end{array}$$

Dividing using the bar.

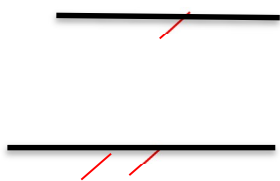
Desmond and Melissa collect cards. They have 192 cards in all. Melissa has three times as many cards as Desmond. How many cards does Desmond have?



Year 5

Addition

Adding numbers with more than 4 digits including

decimals Using place value charts are key to this as well as place value counters to help with the decimals.					
Using the bar to find missing digits.	This is not a form of getting the correct answer but helping to guide children to the correct operation. MacDonalds sold £9957.68 worth of hamburgers and £1238.5 worth of chicken nuggets. How much money did they take altogether? <table border="1" data-bbox="917 548 1380 683"> <tr> <td colspan="2">?</td> </tr> <tr> <td>£957.68</td> <td>£1238.5</td> </tr> </table>	?		£957.68	£1238.5
?					
£957.68	£1238.5				

Subtraction

Subtract with at least four digit numbers including two decimal places. Include money, measures and decimals ensuring that children do this practically before the abstract.	Subtract with decimal values, including mixtures of integers and decimals, aligning the decimal point. $\begin{array}{r} \overset{10}{\cancel{3}}\overset{10}{\cancel{2}}\overset{10}{\cancel{0}}\overset{10}{\cancel{8}}\overset{10}{\cancel{6}} \\ - \quad 2128 \\ \hline 28928 \end{array}$ $\begin{array}{r} \overset{10}{\cancel{7}}\overset{10}{\cancel{1}}\overset{10}{\cancel{6}}\overset{10}{\cancel{8}}\overset{10}{\cancel{0}} \\ - \quad 372.5 \\ \hline 6796.5 \end{array}$ Approximate, Calculate, Check.
--	---

Using the bar to find missing digits.	A whole to Lapland costs £5005 for a family of four, the Smith's have only saved £3787.75, how much money do they still need to find? <table border="1" data-bbox="702 1512 1157 1646"> <tr> <td colspan="2">£5005</td> </tr> <tr> <td>?</td> <td>£3787.75</td> </tr> </table>	£5005		?	£3787.75
£5005					
?	£3787.75				

Multiplication

Multiplying up to four digit numbers by two digits using long multiplication. Children need to	<table data-bbox="391 1870 686 2072"> <tr> <td>56</td> <td></td> </tr> <tr> <td>X 27</td> <td></td> </tr> <tr> <td>392</td> <td>(56x7)</td> </tr> <tr> <td>1120</td> <td>(56x20)</td> </tr> <tr> <td>1512</td> <td></td> </tr> </table> Approximate, Calculate, Check.	56		X 27		392	(56x7)	1120	(56x20)	1512	
56											
X 27											
392	(56x7)										
1120	(56x20)										
1512											

be taught to approximate first, e.g. for **72 x 38**, **they will use rounding: 72 x 38** is approximately $70 \times 40 = \mathbf{2800}$, and use the approximation to check the reasonableness of their answer.

- Explain that first we are multiplying the top number by 7 starting with the units. (any carrying needs to be done underneath the numbers).
- Now explain that we need to put a 0 underneath—explain that this is because we are multiplying the number by 20.. (2 tens) which is the same as multiplying 10 and 2.
- Now add the 2 numbers together to give you the answer.
- This will need lots of modeling to show the children.

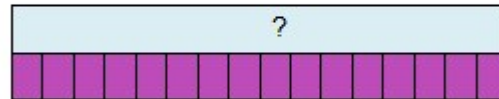
$$\begin{array}{r} 3652 \\ \times 8 \\ \hline 29216 \end{array}$$

$$\begin{array}{r} 1234 \\ \times 16 \\ \hline 7404 \\ 12340 \\ \hline 19744 \end{array} \quad \begin{array}{l} (1234 \times 6) \\ (1234 \times 10) \end{array}$$

Using the bar to support multiplication.

Pictorial representation first, then bar modelling:

The cost to run a sports centre is £4375 a week, how much would it cost to run for 16 weeks?



£4375
a week

Division

Diving with up to four digit numbers by one digit including numbers where remainders are left.

$$\begin{array}{r} 0663r5 \\ 8 \overline{) 5350^2 9} \end{array}$$

Short division with remainders: Now that pupils are introduced to examples that give rise to remainder answers, division needs to have a real life problem solving context, where **pupils consider the meaning of the remainder and how to express it**, i.e. as a fraction, a decimal, or as a rounded number or value, depending upon the context of the problem.

$$\begin{array}{r} 0663r5 \\ 8 \overline{) 5350^2 9} \end{array}$$

Fraction
the remainder divided by the divisor:
 $(5 \div 8 = 5/8)$

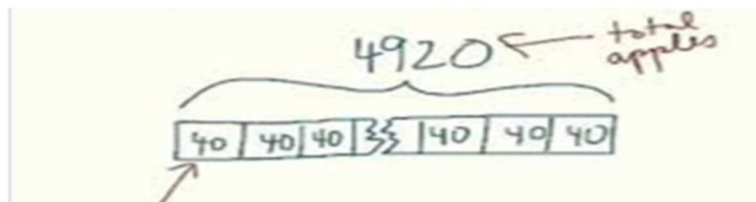
$$\begin{array}{r} 0663.625 \\ 8 \overline{) 5350^2 9.500^4} \end{array}$$

Use with **money and measure** as the context.

Using the bar to support division problems.

Bar Model to support understanding of problem solving:

Frank has 4920 apples. He needs to put them into baskets of 40. How many baskets does he need?



Adding several numbers with up to three decimal places.

$$\begin{array}{r} 233.61 \\ 90.80 \\ 597.70 \\ + 13.00 \\ \hline 935.11 \\ \text{2 1 2} \end{array}$$

Adding several numbers with different numbers of decimal places (including money and measures):

- Tenths, hundredths and thousandths should be correctly aligned, with the decimal point lined up vertically including in the answer row.

Empty decimal places should be filled with zero to show

Adding using the bar.

Jack went on holiday. His flight cost £70.50, the hotel £1295 and spending money £427.89. How much did Jack spend on his holiday?

?		
£70.50	£427.89	£1295

Subtraction

Subtracting with increasingly large and more complex numbers and decimal values.

$$\begin{array}{r} 480699 \\ - 89949 \\ \hline 60750 \end{array}$$

important to use in a range of measures and money.

$$\begin{array}{r} 4806.99 \text{ kg} \\ - 360.80 \text{ kg} \\ \hline 693.39 \text{ kg} \end{array}$$

Teachers use discretion to decide when it is better to use mental

Using the bar for subtraction.

Chloe wants to buy a new car for £6450. She has £4885.87 in her savings account. Her Dad gives her £150 for her birthday. How much more money does she need to save?

£6450		
£4885.87	£150	?

Multiplication

Short and long multiplication with up to two decimal places.

$$\begin{array}{r} 3.19 \\ \times 8 \\ \hline 25.52 \\ \text{1 7} \end{array}$$

Approximate, Calculate, Check.

Using the bar to help with multiplication

If 5 friends went on holiday and each paid £579.75 what was the total cost of the holiday?

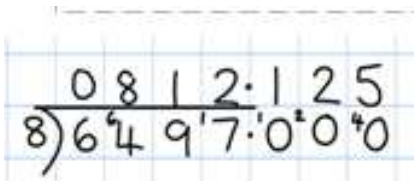
Cost of the holiday

?				
£579.75				

Division

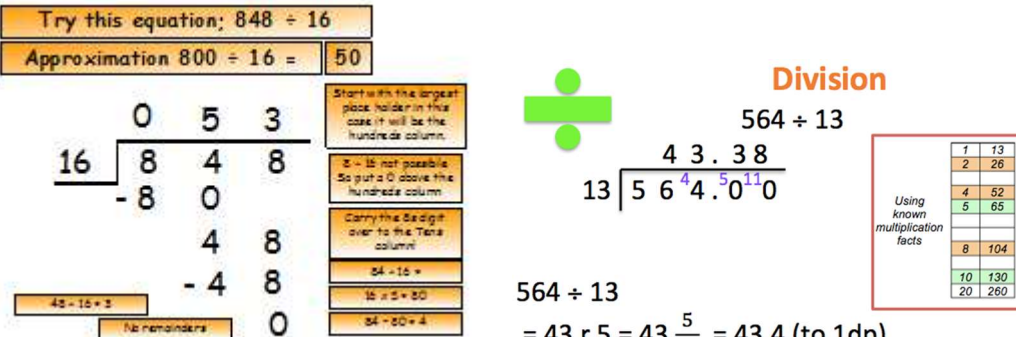
Divide at least 4 digits by both single-digit and 2-digit numbers (including decimal numbers and quantities)

Short division with remainders: Pupils should continue to use this method, but with numbers to at least 4 digits, and understand how to express remainders as fractions, decimals, whole number remainders, or rounded numbers. Real life problem solving contexts need to be the starting point, where pupils have to consider the most appropriate way to express the remainder, such as remainders in fractions and decimals.



Long division this is for when dividing by two digit numbers.

POST SATs method.



Using the bar to help divide.

Paul and David hire a car together at a cost of £297.50. Paul pays 6 times more than David. How much does David pay?

