



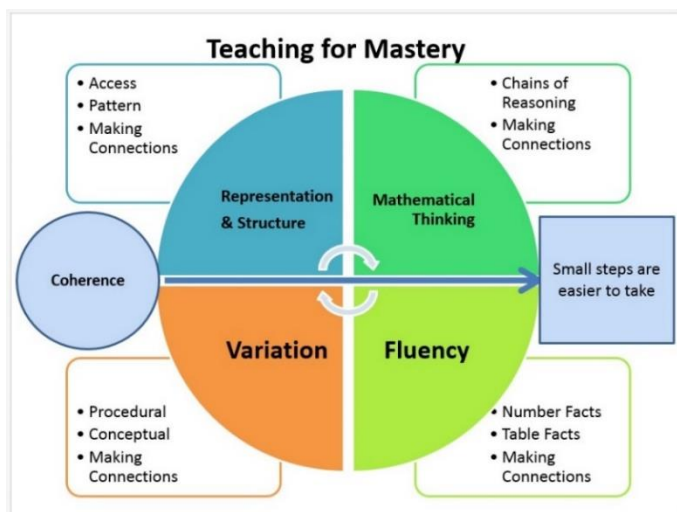
Maths Calculation Policy

EYFS – Year 6

Calculation policy Introduction

Our calculation policy has been developed from the White Rose Calculation Policy, which was written as a guide to indicate the progression through addition, subtraction, multiplication and division order from Years 1 – 6. In addition, this, we have also included our Early Years Foundation Stage approach to Numbers and Patterns to show the calculation strategies used to achieve the Early Learning Goals.

At Priory Rise we believe that in order for children to understand how to solve a calculation they need to fully understand the fundamental principles behind the calculation and to achieve this we follow a 'mastery' approach. To develop a full understanding of the fundamentals of mathematics, pupils need to be immersed in Maths through concrete, pictorial and abstract representations which demonstrates mathematical thinking and understanding. By exploring concepts in this way, we can ensure that all pupils are capable of success. To support this approach, we have invested in joining the Enigma Maths Hub and we are currently part of the sustaining mastery groups.



Mastery in Mathematics will follow the 'Big 5 ideas' (refer to image). Our teaching for mastery is underpinned by the NCETM's (National Centre for Excellence in the Teaching of Mathematics) 5 Big Ideas. Opportunities for **Mathematical Thinking** allow children to make chains of reasoning connected with the other areas of their mathematics. A focus on **Representation and Structure** ensures concepts are explored using concrete, pictorial and abstract (CPA approach) representations. Teachers use both procedural and conceptual **Variation** within their lessons and there remains an emphasis on **Fluency** with a focus on number and times table facts. Running through all of these areas of Mathematics is **Coherence** which is achieved through the planning of very small connected steps to link each skill and lesson within a topic.



Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically in order to become a 'Maths Master'. Children should be able to count confidently, develop a deep understanding of numbers to 5 and then 10, the relationships between them and the patterns within those numbers (Statutory Framework 2021)

The 5 Counting Principles (Gelman & Gallistel) underpin the teaching of maths in the EYFS. It is vital that all our children are secure with these key principles.

- The one-one principle: one number name to each object that is being counted.
- Stable -order principle: when counting numbers have to be said in a certain order
- The cardinal principle: number name assigned to the final object is the total number of objects in that group.
- The abstraction principle: understanding that anything can be counted (not just objects).
- The order irrelevance principle: the order we count a group of objects is irrelevant.

Number Sense


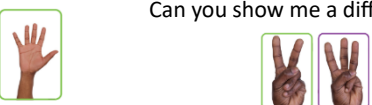
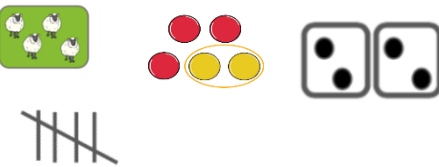

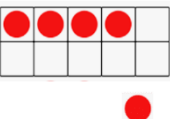
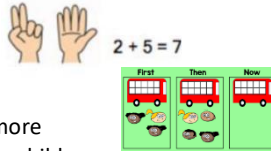

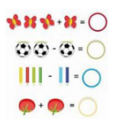

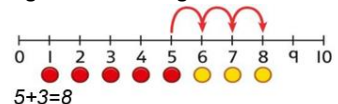

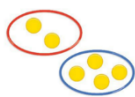
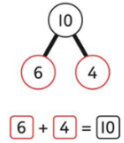
Children need to 'immerse' themselves in numbers in order to develop a deep 'number sense'. They need to understand the 'ness' of numbers, e.g. what makes six, six? We spend time learning all about and familiarising ourselves with each number:


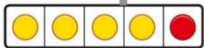

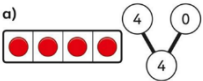
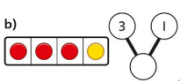
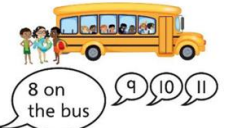
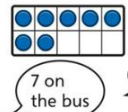

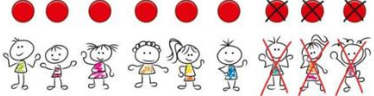

- The numeral
- The value (in different representations, both mathematical and non- mathematical)
- Representing the number on our fingers
- Spotting the number in our environment and where it 'sits' in relation to other numbers (place value).
- Subitising the number
- Composing (and decomposing) the number



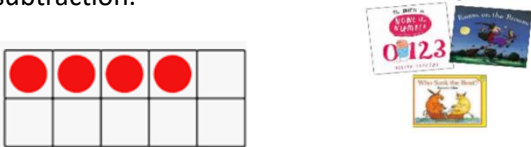
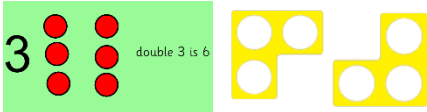
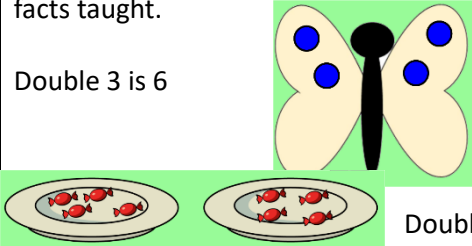
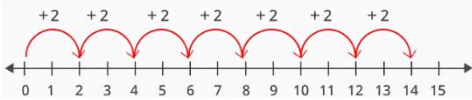
It is our aim to ensure children at Priory Rise become 'Maths Masters' by the end of their Reception Year.

- To become a mathematician who can use concrete resources, such as tens frames, to develop, explain and make links between mathematical concepts in the world in which they live, showing a growing number sense.
- To be able to explain how they know something or how they worked answers/conclusions out.
- To have a deep understanding of numbers to 10, which may include the composition of each number.
- To be ready and prepared for Mathematics in Year 1 National Curriculum.

EYFS

Addition	<p>Number sense Children are encouraged to gain a sense of the number system through the use of counting concrete objects and their fingers.</p>  <p>Can you show me 5? Can you show me a different way?</p> 	<p>Number sense Children learn to subitize objects up to 5 and begin to manipulate these number in their heads. They will be able to talk about what they notice.</p> 	<p>Number sense Children can recognise numerals and use their understanding of the sense of that number to represent it in different ways.</p> 
	<p>Counting and adding more Children add object to a group to find one more.</p>  <p>One more than 4 is 5.</p> <p>Using number stories to act out events. First there were 3 children on the bus. Then 4 more children got on. Now how many children are on the bus now?</p> 	<p>Counting and adding more Children add one more cube or counter to a group to represent one more.</p>  <p>One more than 4 is 5.</p>  <p>They begin to use + and =.</p>	<p>Counting and adding more Use a number line to understand how to link counting on with finding one more.</p>  <p>One more than 6 is 7. 7 is one more than 6.</p> <p>Learn to link counting on with adding more than one.</p> 
	<p>Understanding part-part-whole relationship Sort people and objects into parts and understand the relationship with the whole.</p> <p>The parts are 2 and 4. The whole is 6.</p> 	<p>Understanding part-part-whole relationship Children draw to represent the parts and understand the relationship with the whole.</p> <p>The parts are 1 and 5. The whole is 6.</p> 	<p>Understanding part-part-whole relationship Use a part-whole model to represent the numbers.</p> <p>6+4=10</p> 

	<p>Knowing and finding number bonds within 10 Break apart a group and put back together to find and form number bonds.</p>  <p>$3+4=7$</p>	<p>Knowing and finding number bonds within 10 Use five and ten frames and fingers to represent key number bonds.</p> <p>$4+1=5$</p>  <p>$1+4=5$ $2+3=5$</p> 	<p>Knowing and finding number bonds within 10 Use a part-whole model alongside other representations to find number bonds. Make sure to include examples where one of the parts is zero.</p> <p>a)  b) </p> <p>$4+0=4$ $3+1=4$</p>
	<p>Adding by counting on Children use knowledge of counting to 20 to find a total by counting on using people or objects.</p> 	<p>Adding by counting on Children use counters to support and represent their counting on strategy.</p> 	
Subtraction	<p>Counting back and taking away Children arrange objects and remove to find how many are left.</p>  <p>$9 - \square = \square$ There are \square children left.</p>	<p>Counting back and taking away Children draw and cross out or use counters to represent objects from a problem.</p>  <p>$9 - \square = \square$ There are \square children left.</p>	<p>Counting back and taking away Children count back to take away and use a number line or number track to support the method.</p>  <p>$9-3=6$</p>

	<p>Subtraction within 10 Understand when and how to subtract 1s efficiently. Use a bead string to subtract 1s efficiently.</p>  $5-3=2$	<p>Subtraction within 10 Understand when and how to subtract 1s efficiently. They begin to use - and =.</p>  $5-3=2$	<p>Subtraction within 10 Understand how to use knowledge of bonds within 10 to subtract efficiently.</p> $5-3=2$
	<p>Finding a missing part, when given a whole and a part Understand how separate a whole into parts and understand how one part can be found by subtraction.</p>  <p>Solving problems within stories to take away 1.</p>		
Multiplication	<p>Doubling Children use concrete objects to make and count equal groups of objects.</p> 	<p>Doubling Children use images to support doubling facts taught.</p> <p>Double 3 is 6</p>  <p>Double 4 is 8</p>	<p>Doubling Children count in groups and use a number line or number track to support the method.</p> 

Division	<p>Grouping Children share out real life objects and understand that equal amounts are even numbers and when there is some left over, they are an odd number.</p>	<p>Grouping Children learn to make equal groups from a whole and then find out how many equal groups can be made. Sort people and objects into equal groups.</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;">10 has been shared between 2 people. How many does each person have?</div>																					
	<p>Equal groups Children understand sharing and halving as dividing by 2.</p>	<p>Equal groups Children understand that amounts can be grouped. Mum has 6 socks. She grouped them into pairs. How many pairs did she make?</p>																					
Key Stage 1																							
	Concrete	Pictorial	Abstract																				
Addition	<p>Counting and adding more Children add one more person or object to a group to find one more.</p>	<p>Counting and adding more Children add one more cube or counter to a group to represent one more.</p> <p style="text-align: right;"><i>One more than 4 is 5.</i></p>	<table style="border-collapse: collapse; margin-left: auto; margin-right: auto;"> <tr><td style="border-right: 1px solid black; padding: 5px 10px;">3</td><td style="padding: 5px 10px;">+</td><td style="border-right: 1px solid black; padding: 5px 10px;">1</td><td style="padding: 5px 10px;">=</td><td style="border-right: 1px solid black; width: 20px;"></td></tr> <tr><td style="border-right: 1px solid black; padding: 5px 10px;">7</td><td style="padding: 5px 10px;">+</td><td style="border-right: 1px solid black; padding: 5px 10px;">1</td><td style="padding: 5px 10px;">=</td><td style="border-right: 1px solid black; width: 20px;"></td></tr> <tr><td style="border-right: 1px solid black; padding: 5px 10px;">5</td><td style="padding: 5px 10px;">+</td><td style="border-right: 1px solid black; padding: 5px 10px;">1</td><td style="padding: 5px 10px;">=</td><td style="border-right: 1px solid black; width: 20px;"></td></tr> <tr><td style="border-right: 1px solid black; padding: 5px 10px;">8</td><td style="padding: 5px 10px;">+</td><td style="border-right: 1px solid black; padding: 5px 10px;">1</td><td style="padding: 5px 10px;">=</td><td style="border-right: 1px solid black; width: 20px;"></td></tr> </table>	3	+	1	=		7	+	1	=		5	+	1	=		8	+	1	=	
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8	+	1	=																				

Understanding part-part-whole relationship

Sort people and objects into parts and understand the relationship with the whole.

Our Turn

As a class, lets play!



We will record our findings every time there is a new way of making 5...

- __ is a part.
- __ is a part.
- __ is a part.
- __ is a part.
- __ is a part.
- __ is the whole.
- __ is the whole.
- __ is the whole.

Parts and Whole

To finish, write the sentences on your whiteboard to explain the parts and whole of your shape.

- 1 is a part.
- 3 is a part.
- 4 is the whole.



Understanding part-part-whole relationship

Children draw to represent the parts and understand the relationship with the whole.

Complete my sentences...

__ is a part.
 __ is a part.
 __ is the whole.

8 2 6

This is the part-whole model. It can be drawn in these ways.

Understanding part-part-whole relationship

Use a part-whole model to represent the numbers.

Try this one! You have to read the sentences and draw the information in the part-whole model. Have a go on your whiteboards!

2 is a part.
 6 is a part.
 The whole is 8

8 is the whole!

$\square + \square = \square$
 $\square + \square = \square$

Understanding tens and 1's.

Complete a group of 10 objects and count more. Understand that one whole ten is the same as ten ones.

We now know that there are 10 ones in 1 ten!

Group objects into 10s and 1s.

Understanding tens and 1's.

Use a ten frame to support understanding of a complete 10 for teen numbers.

How many counters are there? Do we need to count? What do we know? Complete my stem sentence:

13 is 10 and 3 more.

Understanding tens and 1's.

1 ten and 3 ones equal 13.

$10 + 3 = 13$

Represent numbers on a place value grid, using equipment or numerals.

Tens	Ones
3	2
Tens	Ones
4	3

Adding the 1s

Children use bead strings to recognise how to add the 1s to find the total efficiently.

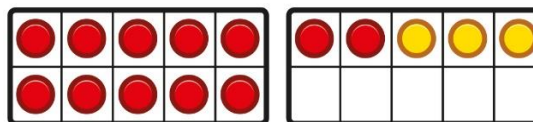


$$2 + 3 = 5$$

$$12 + 3 = 15$$

Adding the 1s

Children represent calculations using ten frames to add a teen and 1s.



$$2 + 3 = 5$$

$$12 + 3 = 15$$

Adding the 1s

Children recognise that a teen is made from a 10 and some 1s and use their knowledge of addition within 10 to work efficiently.

$$3 + 5 = 8$$

$$\text{So, } 13 + 5 = 18$$

Adding 10's

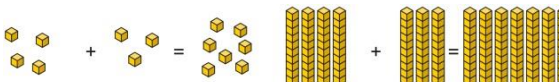
Use known bonds and unitising to add 10s.



*I know that $4 + 3 = 7$.
So, I know that 4 tens add 3 tens is 7 tens.*

Adding 10's

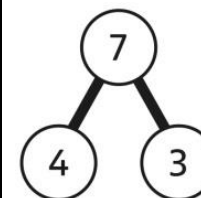
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Adding 10's

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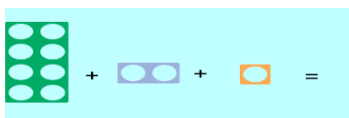
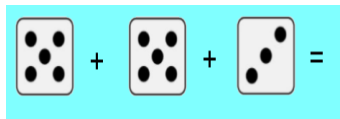
$$4 + 3 = \square$$

$$4 + 3 = 7$$

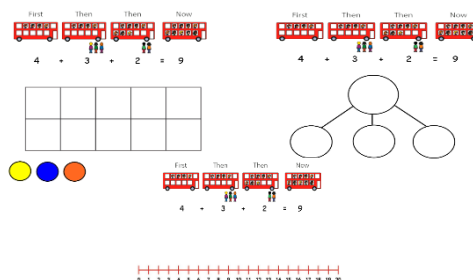
$$4 \text{ tens} + 3 \text{ tens} = 7 \text{ tens}$$

$$40 + 30 = 70$$

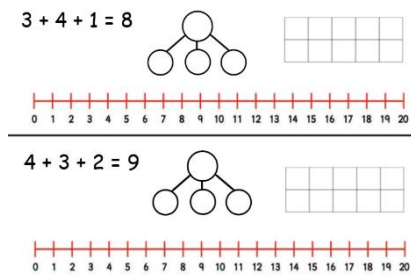
Add three 1 digit numbers – children will use a range of concrete resources to support their understanding.



Add three 1 digit numbers – children will have varied representation to support working out.



Add three 1 digit numbers



Subtraction

Finding a missing part, given a whole and a part

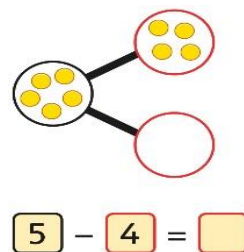
Children separate a whole into parts and understand how one part can be found by subtraction.

$8 - 5 = ?$



Finding a missing part, given a whole and a part

Children represent a whole and a part and understand how to find the missing part by subtraction.

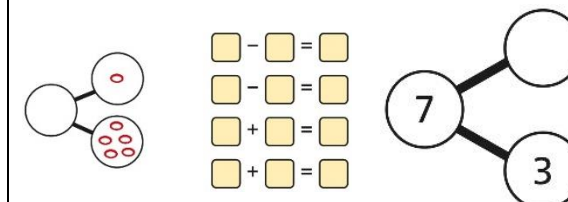



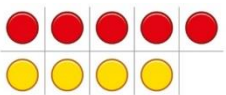



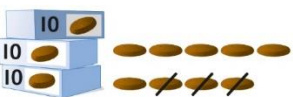
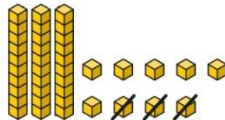
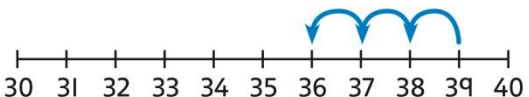
Finding a missing part, given a whole and a part

Children use a part-whole model to support the subtraction to find a missing part.

$7 - 3 = ?$

Children develop an understanding of the relationship between addition and subtraction facts in a part-whole model.



<p>Finding the difference Arrange two groups so that the difference between the groups can be worked out.</p>  <p>8 is 2 more than 6. 6 is 2 less than 8. The difference between 8 and 6 is 2.</p>	<p>Finding the difference Represent objects using sketches or counters to support finding the difference.</p>  <p>$5 - 4 = 1$ The difference between 5 and 4 is 1.</p>	<p>Finding the difference Children understand 'find the difference' as subtraction.</p>  <p>$10 - 4 = 6$ The difference between 10 and 6 is 4.</p>																														
<p>Subtraction within 20 Understand when and how to subtract 1s efficiently.</p> <p>Use a bead string to subtract 1s efficiently.</p>  <p>$5 - 3 = 2$ $15 - 3 = 12$</p>	<p>Subtraction within 20 Understand when and how to subtract 1s efficiently.</p>  <p>$5 - 3 = 2$ $15 - 3 = 12$</p>	<p>Subtraction within 20 Understand how to use knowledge of bonds within 10 to subtract efficiently.</p> <p>$5 - 3 = 2$ $15 - 3 = 12$</p>																														
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		$39 - 3 = 36$																														

Subtracting two, 2 digit numbers to 100.
Subtract by taking away.

$61 - 18$
I took away 1 ten and 8 ones.

Subtract the 10s and the 1s.
This can be represented on a 100 square.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Subtract the 10s and the 1s.
This can be represented on a number line.

$46 - 20 = 26$
 $26 - 5 = 21$
 $46 - 25 = 21$

Multiplication

Recognising and making equal groups
Children arrange objects in equal and unequal groups and understand how to recognise whether they are equal.

Each roll a dice and check if you have equal or unequal groups?

This time, grab some cubes in each hand.
Ask your partner are they equal or unequal?

Recognising and making equal groups
Children draw and represent equal and unequal groups.

Can you help me finish the drawing to make all groups equal?

Describe equal groups using words
There are ____ equal groups of ____

Complete the sentence

There are equal groups of

Recognise equal groups and write as repeated addition and as multiplication.



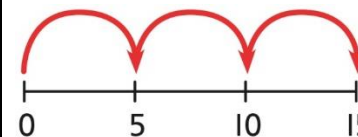
3 groups of 5 chairs
15 chairs altogether

Recognise equal groups and write as repeated addition and as multiplication.



3 groups of 5
15 in total

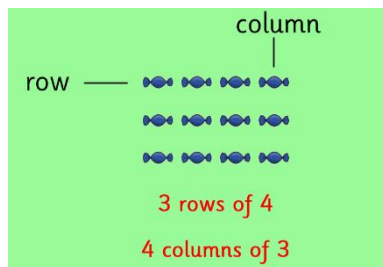
Recognise equal groups and write as repeated addition and as multiplication.



$5 + 5 + 5 = 15$
 $3 \times 5 = 15$

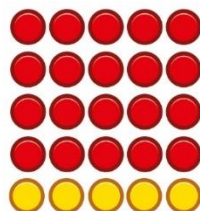
Using arrays

Understand the relationship between arrays, multiplication and repeated addition.



Using arrays

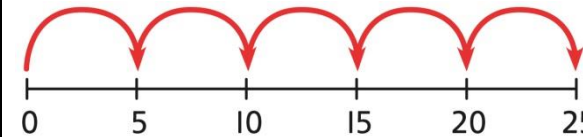
Understand the relationship between arrays, multiplication and repeated addition.



4 groups of 5 ... 5 groups of 5

Using arrays

Understand the relationship between arrays, multiplication and repeated addition.



$5 \times 5 = 25$

Understanding 2's, 5's and 10's.

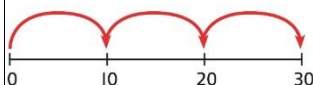
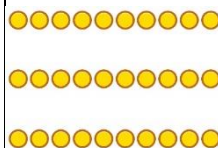
Develop an understanding of how to unitise groups of 2, 5 and 10 and learn corresponding times-table facts.



3 groups of 10 ... 10, 20, 30
 $3 \times 10 = 30$

Understanding 2's, 5's and 10's.

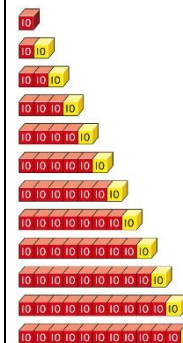
Understand how to relate counting in unitised groups and repeated addition with knowing key times-table facts.



$10 + 10 + 10 = 30$
 $3 \times 10 = 30$

Understanding 2's, 5's and 10's.

Understand how the times-tables increase and contain patterns.



- 1 x 10 =
- 2 x 10 =
- 3 x 10 =
- 4 x 10 =
- 5 x 10 =
- 6 x 10 =
- 7 x 10 =
- 8 x 10 =
- 9 x 10 =
- 10 x 10 =
- 11 x 10 =
- 12 x 10 =

$5 \times 10 = 50$
 $6 \times 10 = 60$

Division

Grouping

Learn to make equal groups from a whole and find how many equal groups of a certain size can be made.

Sort a whole set people and objects into equal groups.



There are 10 children altogether.
 There are 2 in each group.
 There are 5 groups.

Grouping

Represent a whole and work out how many equal groups.

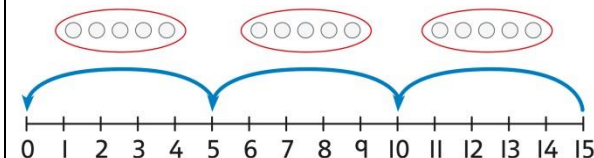
Share the cakes equally between the plates

There are ___ cakes

There are ___ cakes on each plate

Grouping

Children may relate this to counting back in steps of 2, 5 or 10.



Sharing

Start with a whole and share into equal parts, one at a time.

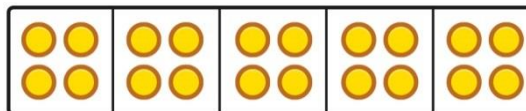


*12 shared equally between 2.
They get 6 each.*

Start to understand how this also relates to grouping. To share equally between 3 people, take a group of 3 and give 1 to each person. Keep going until all the objects have been shared

Sharing

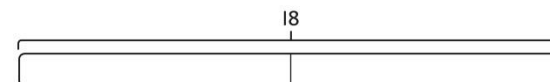
Represent the objects shared into equal parts using a bar model.



*20 shared into 5 equal parts.
There are 4 in each part.*

Sharing

Use a bar model to support understanding of the division.



$18 \div 2 = 9$

Key Stage 2

Key Stage 2			
	Concrete	Pictorial	Abstract
Addition	<p>Written Methods Children to use concrete resources to understand that they sometimes need to exchange. (E.g. 10 ones for 1 ten.) This creates a solid foundation for them to build upon.</p> <div style="text-align: center;"> <p style="margin-top: 10px;">$243 + 368 =$</p> </div>	<p>Written Methods Children can then build on this knowledge and create jottings to help them work out the answer to a calculation.</p> <div style="text-align: center;"> </div>	<p>Written Methods Once children have a strong understanding of the method and what they need to do and why (e.g. exchanging) they then move on to the formal written method.</p> <p>Children are encouraged to look for ways to find 10.</p> <div style="text-align: center;"> $36 + 25 =$ <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> $\begin{array}{r} 1 \quad 5 \\ 36 \end{array}$ <p>Formal method:</p> $\begin{array}{r} +25 \\ 36 \\ \hline 61 \\ 1 \end{array}$ </div> <div style="text-align: center;"> $\begin{array}{l} 30 + 20 = 50 \\ 5 + 5 = 10 \\ 50 + 10 + 1 = 61 \end{array}$ </div> </div> <div style="margin-top: 20px;"> $\begin{array}{r} 243 \\ + 368 \\ \hline 611 \end{array}$ </div> </div>

Decimals

Children to build on from previous knowledge of adding whole numbers. They can use place value grids populated with place value counters or cubes etc to represent the number

Use the place value grid to solve $0.453 + 0.664$

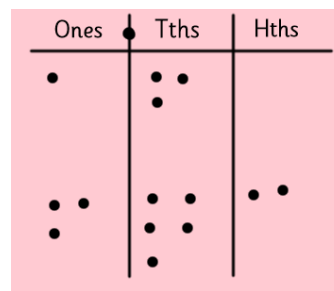
Ones	Tenths	Hundredths	Thousandths
	4 0.1 0.1	5 0.01 0.01	3 0.001
	6 0.1 0.1	6 0.01 0.01	4 0.001

Use the place value grid to add 1.3 and 3.52

Ones	Tenths	Hundredths
1 1	3 0.1 0.1	
3 1 1	5 0.1 0.1	2 0.01 0.01

Decimals

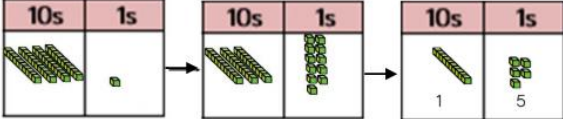
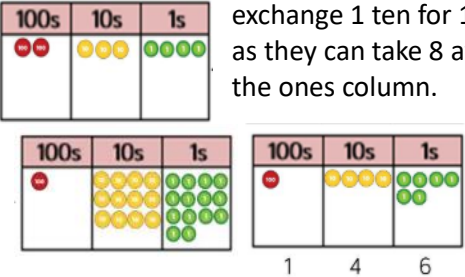
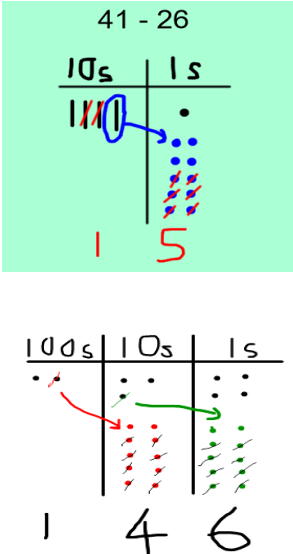
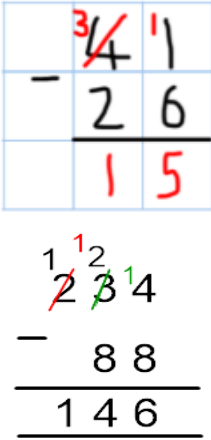
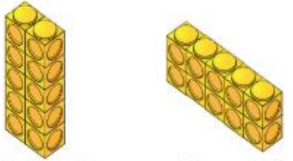

Children can then build on this knowledge and create jottings to help them work out the answer to a calculation.



Decimals

When moving onto abstract, children should have a solid understanding of place value and be able to apply it to the written method, ensuring all digits are in the correct place value column.

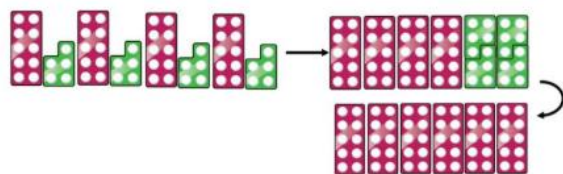
$$\begin{array}{r}
 1.3 \\
 + 3.52 \\
 \hline
 \\
 \hline
 \end{array}$$

<p>ion</p>	<p>Written Methods Children should use concept counters to learn the process of exchanging and to understand why they are doing this.</p> <p>Using Base 10 and having to exchange. $41 - 26$</p>  <p>=</p> <p>$234 - 88$</p>  <p>Children then have to exchange 1 ten for 10 ones as they can take 8 away from the ones column.</p>	<p>Written Methods Children can then build on this knowledge and create jottings to help them work out the answer to a calculation.</p> 	<p>Written Methods Once children have a strong understanding of the method and what they need to do and why (e.g. exchanging) they then move on to the formal written method.</p> <p>Children must understand that when they have exchanged the 10 it is still 41 as they have 30 and 11.</p> 
<p>Multiplication</p>	<p>Understanding Multiplication Children use blocks or counters to create arrays to show that multiplication is commutative (can be done in any order).</p>  <p>2 lots of 5 5 lots of 2</p>	<p>Understanding Multiplication Children to represent the arrays pictorially.</p> 	<p>Understanding Multiplication Children to be able to use an array to represent a range of calculations.</p> <p>$10 = 2 \times 5$ $5 \times 2 = 10$ $2 + 2 + 2 + 2 + 2 = 10$ $10 = 5 + 5$</p>

Partition to multiply

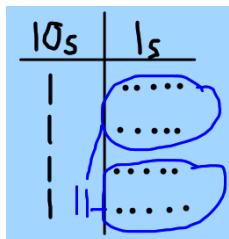
Children to use Numicon, Base 10 or Cuisenaire rods to partition the number and then multiply each part.

4×15



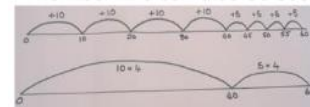
Partition to multiply

Children can represent the concrete manipulatives pictorially.



$= 6 \text{ tens} = 60$

A number line can also be used



Partition to multiply

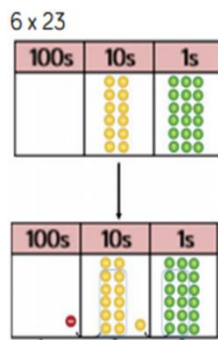
Children are encouraged to show the steps have used.

$$\begin{array}{r} 4 \times 15 \\ \swarrow \searrow \\ 10 \quad 5 \end{array}$$

$$\begin{array}{r} 10 \times 4 = 40 \\ 5 \times 4 = 20 \\ 40 + 20 = 60 \end{array}$$

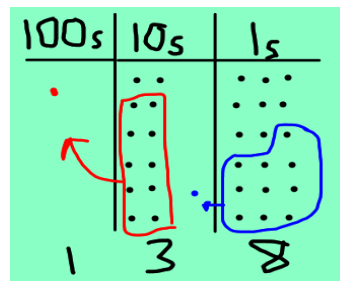
Column method

Children to be supported by base 10 with smaller numbers before representing numbers using concept counters.



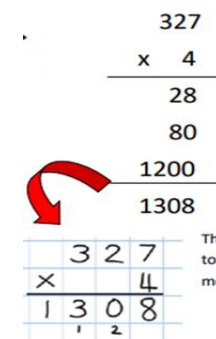
Column method

Children can represent the concrete manipulatives pictorially.



Column method

Start with long multiplication, reminding the children about lining up their numbers clearly in columns.



This may lead to a compact method.

Long Multiplication

When children start to multiply 3 digits by 2 digits or 4 digits by 2 digits, they should already have a solid understanding of the method from previous learning and should be confident with the abstract:


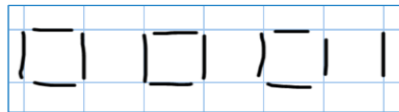
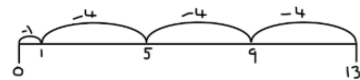
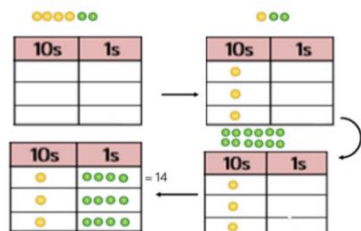
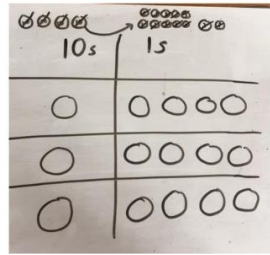
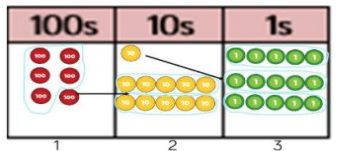
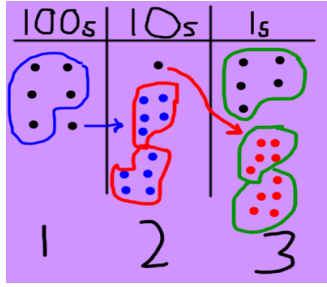
To get 744, children have solved 6×124

To get 2480, they have solved 20×124

124×26 becomes

$$\begin{array}{r}
 1 2 \\
 1 2 4 \\
 \times 2 6 \\
 \hline
 2 4 8 0 \\
 7 4 4 \\
 \hline
 3 2 2 4 \\
 \hline
 1 1
 \end{array}$$

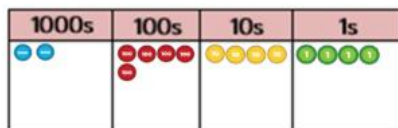
Answer: 3224

Division	<p>Dividing with remainders 2 digit divided by 1 digit using concrete resources to support understanding.</p> <p>Use of lollipop sticks to form wholes- squares are made because we are dividing by 4.</p>  <p>There are 3 whole squares, with 1 left over.</p>	<p>Dividing with remainders Children can represent the concrete manipulatives pictorially.</p>  <p>There are 3 whole squares, with 1 left over.</p>	<p>Dividing with remainders Children should be encouraged to use their times table facts; they could also represent repeated addition on a number line.</p> <p>'3 groups of 4, with 1 left over'</p>  <p>repeated addition on a number line.</p>
	<p>Sharing using place value counters to regroup Children to share out the tens until the don't have enough for all groups. They then exchange the left over tens for ones.</p> <p>$42 \div 3 = 14$</p> 	<p>Sharing using place value counters to regroup Children can represent this pictorially.</p> 	<p>Dividing by regrouping Once children can make sense of the process with the counters, they should be able to write calculations.</p> $42 \div 3$ $42 = 30 + 12$ $30 \div 3 = 10$ $12 \div 3 = 4$ $10 + 4 = 14$
	<p>Short Division Children to use concept counters to group.</p> <p>$615 \div 5$</p>  <ol style="list-style-type: none"> 1. Make 615 with place value counters. 2. How many groups of 5 hundreds can you make with 6 hundred counters? 3. Exchange 1 hundred for 10 tens. 4. How many groups of 5 tens can you make with 11 ten counters? 5. Exchange 1 ten for 10 ones. 6. How many groups of 5 ones can you make with 15 ones? 	<p>Short Division Children can represent this pictorially.</p> 	<p>Short Division Children can then move onto the written method of short division.</p> $5 \overline{) 615} \begin{matrix} 123 \\ \underline{5} \\ 11 \\ \underline{10} \\ 15 \\ \underline{15} \\ 0 \end{matrix}$

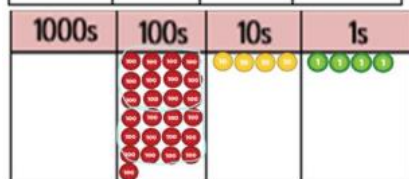
Long Division

Children to represent each stage of the process using concept counters. Once they are confident with this, they should show the written method of each stage as they are using the concrete manipulatives.

$$2544 \div 12$$

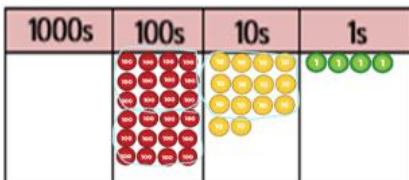


We can't group 2 thousands into groups of 12 so will exchange them.



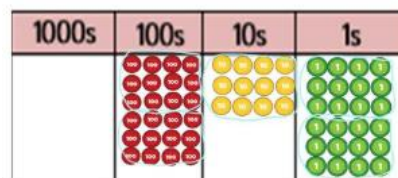
We can group 24 hundreds into groups of 12 which leaves with 1 hundred.

$$\begin{array}{r} 02 \\ 12 \overline{) 2544} \\ \underline{24} \\ 1 \end{array}$$



After exchanging the hundred, we have 14 tens. We can group 12 tens into a group of 12, which leaves 2 tens.

$$\begin{array}{r} 021 \\ 12 \overline{) 2544} \\ \underline{24} \\ 14 \\ \underline{12} \\ 2 \end{array}$$



After exchanging the 2 tens, we have 24 ones. We can group 24 ones into 2 groups of 12, which leaves no remainder.

$$\begin{array}{r} 0212 \\ 12 \overline{) 2544} \\ \underline{24} \\ 14 \\ \underline{12} \\ 24 \\ \underline{24} \\ 0 \end{array}$$