



Policy Number CHI 8

Mathematics Calculation Policy

Produced by Childwall Church of England Primary School
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Our Mission Statement

“And the child grew and became strong; He was full of wisdom and God’s blessings were upon Him.” (Luke 2:40)

Our Vision

We strive, with God’s grace, to enable every child to grow academically, socially, morally, spiritually and culturally in the knowledge they are loved by God and are safe and valued within our school community. Our core Christian values are woven throughout our curriculum and wider school ethos to fully prepare each of our children to achieve the highest holistic outcomes.

Our mission statement, “And the child grew and became strong...” (Luke 2:40) embodies our vision and commitment to equip children with the values and tools to enable them to thrive and flourish, embracing both success and challenge, prepared for “life in all its fullness.” (John 10:10)

DOCUMENT STATUS

Version	Date	Action
Version 1	January 2020	Updated policy agreed by Standards & Quality Committee 7/2/2020
Review Period	2 yearly	
Review Date	January 2022	



Mathematics Calculation Policy



Introduction

Mathematics is a core subject in the national curriculum. At Childwall Church of England School our calculation policy supports the effective implementation of the Primary National Curriculum (2013). Our policy focuses on the four operations of addition, subtraction, multiplication and division and includes a list of key mental maths skills that support written methods. Childwall Church of England School promotes the development of key knowledge and skills and the ability to use and apply these to solve problems. We also expect all children to learn and apply their tables. This is an important skill to help achieve success in all areas of mathematics.

Aims and objectives

Our aim in mathematics is for all children to be given the opportunity to achieve success at their own level. To support this, maths work is varied depending on each individual's needs. Support may include individual, small group/large group work and class work. At Childwall Church of England School, we promote flexibility within year groups to encourage higher achievement so that children can perform beyond their age related expectation. Conversely, for children who require extra support, previous years' targets will also be revisited.

Home/School Link

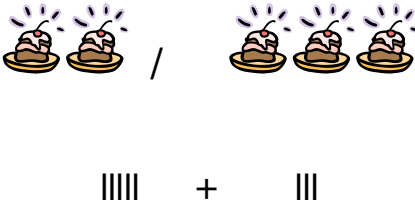

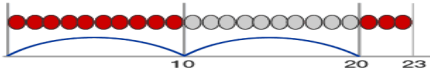
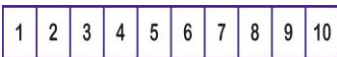


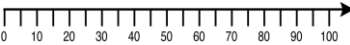
Parental support is important to allow children to reach their full potential. Teachers may set suitable homework tasks and revision to be completed at home. Weekly times tables are set which will need to be revised at home.

Teaching Sequence

At Childwall Church of England school, each teacher follows the same teaching sequence for each type of calculation to facilitate a cohesive standard of teaching between year groups.

The Calculation Sequence – applying the skills.	
The Sequence.	Prompts.
Provide an estimate for the calculation.	Using knowledge of number and the number system, rounding and approximating, make a reasonable estimate.
Teach the calculation skill.	What is the objective you are teaching? Include example questions, increasing in complexity, for both operations.
Ensure you have the inverse.	Plan example questions, increasing in complexity. Ensure methods used are in line with school calculation policy. Check that children understand the inverse can also be used to check calculations.
Devise similar calculations but include units.	Which units do you need to include? Check the measures applicable to your year group for length, weight, capacity, money and time.
Complete missing box questions.	Include questions in these units above. The box may cover single digits or an entire number. Vary the position of the missing box within the calculation.
Complete word problems, 1 and 2 step, including units.	Write problems, ensuring the numbers are sized correctly in line with the objective and that units are also used.
Provide opportunities for open ended investigations.	Plan example questions and investigations. Ensure children are working with the correct operations, appropriate size of numbers and use of units for context.

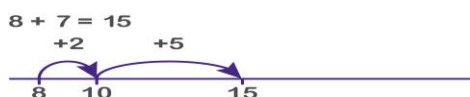
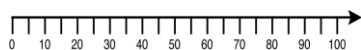
ADDITION

Skills needed	Method	Expectation
FOUNDATION STAGE		
<ul style="list-style-type: none"> Counting and ordering numbers 1 – 20. Use appropriate vocabulary 	 	<p>Early Learning Goal: Counting on reliably with numbers from 1 to 20.</p> <p>Within 20 (pictures and objects)</p> <p>Tell an addition story</p>
YEAR 1		
<ul style="list-style-type: none"> Counting and ordering numbers 1 – 100 Count in 2s and 5s and in 10s to 100 Number bonds to 20 Use appropriate vocabulary (add, total, altogether, plus, increase, more, addition). Solve problems. 	    	<p>Children should add:</p> <p>$0 + 0$</p> <p>$TO + O$ (up to 20 including zero).</p> <p>Children should be able to solve one-step problems involving addition and missing number problems.</p> <p>Suitable Methods:</p> <p>Practical</p> <p>Number line</p>

YEAR 2

- Count in steps of 2, 3, 5 and 10 forwards and backwards from 0.
- Recognise the place value of each digit in a 2 digit number.
- Compare and order numbers from 0 up to 100.
- Read and write numbers to at least 100.
- Understand that addition is commutative (can be done in any order)
- Solve problems.

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



$$48 + 36 = 84$$

	40	8	
+	30	6	
		70	14
			84

$$\begin{array}{r} 148 \\ + 36 \\ \hline 184 \\ \hline 1 \end{array}$$

Children should add:

TO + O

TO + multiples of 10

TO + TO

O + O + O

Recall and use addition facts to 20 fluently, and derive and use related facts up to 100.

Solve missing number problems.

Solve problems involving addition.

Suitable Methods:

Practical
Number Line
Expanded columnar
Short

YEAR 3

- Consolidate Year 2 skills
- Count from 0 in multiples of 4, 8, 50 and 100, finding 10 more or 100 less of a given number.
- Understand place value and partitioning of three digit numbers.
- Compare and order numbers up to 1000.
- Read and write numbers to at



$$148 + 36 = 184$$

	100	40	8	
+		30	6	
		100	70	14
				184

Children should add:

HTO + O

HTO + TO

HTO + HTO

Solve problems including missing number problems, using number facts, place value and more complex addition.

least 1000 in numerals and words.

- Solve more complex problems, including missing number problems, using number facts and place value.

$$\begin{array}{r} 148 \\ + 36 \\ \hline 184 \\ \small{1} \end{array}$$

Suitable methods:

Number line

Expanded columnar

Column

YEAR 4

- Count in multiples of 6, 7, 9, 25 and 1000.
- Find 1000 more or less than a given number.
- Count backwards through zero to include negative numbers.
- Recognise the place value of each digit in a four-digit numbers.
- Order and compare numbers beyond 1000.
- Round any number to the nearest 10, 100 or 1000.
- Add numbers with up to 4 digits.
- Solve addition two step problems.

1111 + 1322 =

	1000	100	10	1
+	1000	300	20	2
	2000	400	30	3

$$\begin{array}{r} 3587 \\ + 675 \\ \hline 4262 \\ \small{111} \end{array}$$

Children should add:

THTO + HTO

THTO + THTO

Estimate and use inverse operations to check answers to a calculation.

Solve addition two-step problems.

Suitable methods:

Expanded columnar

Column

YEAR 5

- Read, write, order and compare numbers to at least 1 000 000 and determine the value.
- Count forwards and backwards in steps of powers of 10 for any given number up to 1 000 000.
- Round any number up to 1 000 000 to the nearest 10,100,1000, 10 000 and 1 000 000.
- Read and write Roman Numerals up to 1000.
- Solve problems.

$$401.2 + 26.85 + 0.07 =$$

401.2	+	26.85	+	0.07	=
401.2	+	26.85	+	0.07	
		428.12			
		11			

Children should add:

THTO.t + THTO.t

THTO.th + THTO.th

Solve addition multi-step problems.

Suitable methods:

Column

YEAR 6

- Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.
- Round any whole number to a required degree of accuracy.
- Use negative numbers in

	2	3	.	3	6	1	
		9	.	0	8	0	
	5	9	.	7	7	0	
+	1	.	3	0	0	0	
	9	3	.	5	1	1	
	2	1		2			

Children should add:


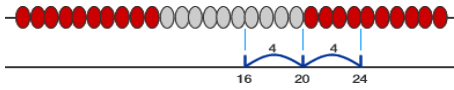


THTO.tht + THTO.tht

Solve addition multi-step problems.

Suitable methods:

Column

context, and calculate intervals across zero. <ul style="list-style-type: none"> Solve problems. 		
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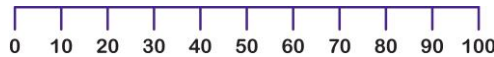
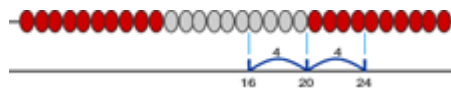
SUBTRACTION		
Skills needed	Methods	Expectation
FOUNDATION STAGE		
<ul style="list-style-type: none"> Counting and ordering numbers 1 – 20 and back Use appropriate vocabulary 	<ul style="list-style-type: none"> Practical activities Quantities and objects  <p>Number line 0 - 20</p>	<p>Early Learning Goal: To count back reliably with numbers from 1 to 20.</p> <p>Within 20</p> <p>1 less than a given number to 20.</p> <p>Tell a subtraction story.</p>
YEAR 1		
<ul style="list-style-type: none"> Read, write and interpret mathematical statements involving subtraction. Represent and use number bonds and related subtraction facts within 20. Subtract one-digit and two-digit numbers to 20. Solve simple problems using subtraction. Use appropriate vocabulary (subtract, take 	  	<p>Children should subtract:</p> <p>0 – 0</p> <p>TO – 0 (to 20 including zero)</p> <p>Solve one-step problems involving addition and missing number problems.</p> <p>Suitable Methods:</p> <p>Practical</p> <p>Number Line</p>

away, minus and find the difference, less).

Mental Methods

YEAR 2

- Recall and use subtraction facts to 20 fluently, and derive and use related facts up to 100.
- Subtract numbers using concrete objects, pictorial representations and mentally.
- Understand that subtraction is not commutative (cannot be done in any order).
- Solve problems using subtraction.
- Use appropriate vocabulary (subtract, take away, minus and find the difference, less).



	60	1	
	70	4	
-	20	7	
	40	7	47

$$\begin{array}{r} 61 \\ 174 \\ - 27 \\ \hline 147 \end{array}$$

Children should subtract:

TO – O

TO – multiples of 10.

TO – TO

O – O – O

Solve problems involving subtraction including missing number problems.

Suitable Methods:

Practical

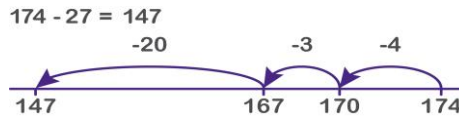
Number Line

Expanded Columnar

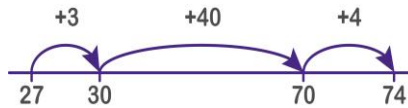
Column

YEAR 3

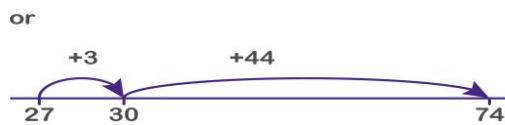
- Consolidate Year 2 skills.
- Subtract numbers mentally.
- Subtract numbers up to 3 digits.
- Estimate the answer to a calculation and use inverse operations to check answers.
- Solve problems, including missing number problems, using number facts, place value, and more complex subtraction.
- Use appropriate vocabulary (subtract, take away, minus and find the difference, less, fewer, decrease).



OR



OR



	100	⁶⁰ 70	14	
		20	7	
	100	40	7	147

$$\begin{array}{r}
 \overset{6}{1}74 \\
 - 27 \\
 \hline
 147
 \end{array}$$

Children should subtract:

HTO – O

HTO – TO

HTO – HTO

Be able to estimate the answer to a calculation and use inverse operations to check answers.

Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

Suitable methods:

Number Line

Expanded Columnar

Column

YEAR 4

- Subtract numbers with up to 4 digits using efficient methods.
- Estimate and use inverse operations to check answers and a calculation.
- Solve subtraction two step problems.
- Use appropriate vocabulary (subtract, take

$$\begin{array}{r}
 1254 \\
 - 172 \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 1000 \\
 - 200 \\
 \hline
 800
 \end{array}
 + 150 + 4$$

$$\begin{array}{r}
 100 + 70 + 2 \\
 \hline
 172
 \end{array}$$

$$0 + 80 + 2 = 82$$

$$\begin{array}{r}
 \overset{6}{7} \overset{13}{4} 11 \\
 - 367 \\
 \hline
 374
 \end{array}$$

Children should subtract:

THTO – HTO

THTO – THTO

Estimate and use inverse operations to check answers to a calculation.

Solve two-step

away, minus and find the difference, less, fewer, decrease).

$$\begin{array}{r} 13146 \\ -1253 \\ \hline 93 \end{array}$$

subtraction problems.

Suitable methods:

Expanded Columnar

Column

YEAR 5

- Understand place value and partitioning of four digit numbers and decimals to two places.
- Subtract whole numbers with more than 4 digits.
- Mentally subtract multiples of 10, 100 and 1000
- Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.
- Solve subtraction multi-step problems.
- Use appropriate vocabulary (subtract, take away, minus and find the difference, less, fewer, decrease).

$$\begin{array}{r} 6741 \\ -367 \\ \hline 374 \end{array}$$

$$\begin{array}{r} 48.56 \\ -32.23 \\ \hline 16.33 \end{array}$$

$$\begin{array}{r} 2234.47 \\ -1123.35 \\ \hline 1111.12 \end{array}$$

Children should subtract:

THTO.t – THTO.t

THTO.th – THTO.th

Solve subtraction multi-step problems.

Suitable methods:

Column

YEAR 6

- Understand place value and partitioning of four digit numbers and above and decimals to three places
- Mentally subtract decimal numbers
- Use their knowledge of the order of operations to carry out calculations involving the four operations.
- Solve subtraction multi-step problems in contexts.
- Use appropriate vocabulary (subtract, take away, minus and find the difference, less, fewer, decrease).

$$\begin{array}{r} \overset{12}{2} \overset{12}{3} \overset{9}{0} \overset{12}{2} \\ - \quad \quad 6.57 \\ \hline 16.45 \end{array}$$

Children should subtract:

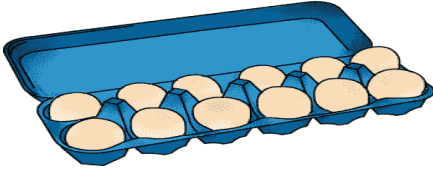

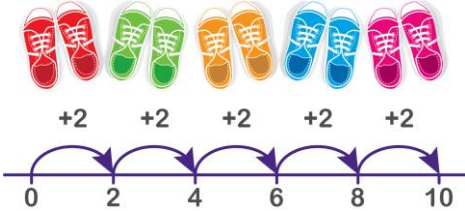
THTO.tht – THTO.tht

Solve subtraction multi-step problems.

Suitable methods:

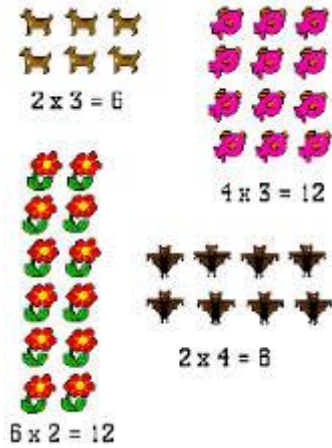
Column

MULTIPLICATION

Skills needed	Method	Expectation
FOUNDATION STAGE		
<ul style="list-style-type: none"> • Talk about groups of objects • Use appropriate vocabulary • Make equal sets of objects (counting 2s, 5s, 10s) • Doubles to 10 • Use appropriate vocabulary (lots of, multiply, groups of). 	<p>Practical; through play-led learning</p>   $3 \times 2 = 6$	<p>Early Learning Goal: To solve problems including doubling.</p> <p>Link to practical problem solving activities involving equal sets of groups through play-led learning.</p>
YEAR 1		
<ul style="list-style-type: none"> • Count forwards and backwards in 1s, 2s, 5s & 10s • Understand the concept of equal grouping • Doubling numbers. • Solve simple one-step problems involving multiplication, calculating the answer using concrete objects, pictorial representations and arrays with 		<p>Children should multiply:</p> <p>0×0</p> <p>Solve one-step problems involving multiplication.</p> <p>Suitable Methods:</p> <p>Practical (repeated addition).</p> <p>Practical and pictorial</p>

support from the teacher.

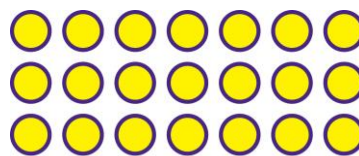
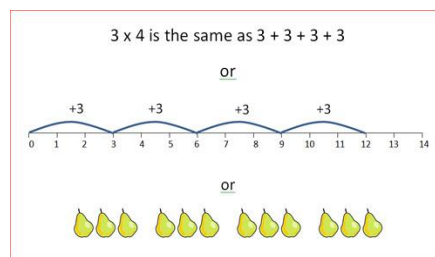
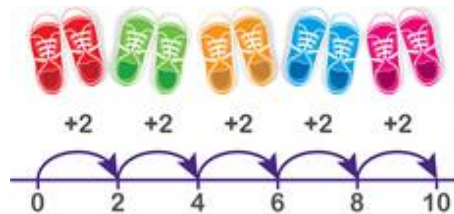
- Use correct mathematical language (multiply, lots of, times, multiplication, groups of, multiple of, repeated addition).



arrays.

YEAR 2

- Recall and use multiplication facts for the 2, 3, 5 and 10 times tables, including recognizing odds and evens.
- Recognise and talk about an array.
- Jump on equal steps along a numbered number line.
- Count on using a number line.
- Doubles to 50.
- Show that the multiplication of any numbers can be done in any order (commutative)
- Solve one-step problems involving multiplication.
- Use correct



$$7 \times 3 = 21$$

Children should multiply:

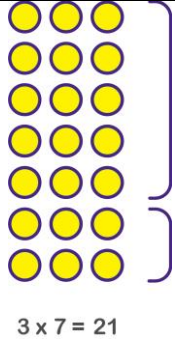
0 x 0

Solve problems involving multiplication.

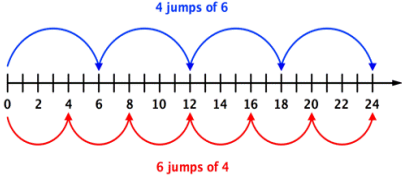
Suitable Methods:

Practical (repeated addition).

Practical and pictorial arrays.

<p>mathematical language (multiply, lots of, times, multiplication, groups of, multiple of, repeated addition).</p>	 <p>$3 \times 7 = 21$</p>	
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YEAR 3

<ul style="list-style-type: none"> Recall and use multiplication facts for the 3, 4 and 8 times tables (building on 2, 3, 5 and 10 from Year 2). Through doubling, connect the 2, 4 and 8 times tables. Times a 2 digit number with a one digit number, using mental and progressing to efficient written methods. Solve problems using multiplication. Use correct mathematical language (multiply, lots of, times, multiplication, groups of, multiple of, repeated addition). Understand that 	 <p style="text-align: center;">$24 \times 3 = 72$</p> $ \begin{array}{r} 24 \\ \times 3 \\ \hline 72 \\ \hline 1 \end{array} $	<p>Children should multiply:</p> <p>TO x O</p> <p>Solve problems, including missing number problems, involving multiplication.</p> <p><u>Suitable methods:</u></p> <p>Grouping on a number line progressing into Expanded (grid) and into Short.</p>
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<p>multiplication is the inverse of division.</p> <ul style="list-style-type: none"> Missing numbers x = TO x O (teen numbers e.g. 17 x 4) 		
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YEAR 4

<ul style="list-style-type: none"> As Year 3 Multiply 2 and 3 digit numbers mentally by 10 and 100 Know by heart all times tables to 12x12. Use known facts to calculate unknown Explain mental x strategies orally Develop and use written grid methods to record, support and explain multiplication of two digit numbers by a one digit number (56 x 6) – all X tables and introduce 2 digits x 2 digits in grid. Introduce TO x O 	<p>$24 \times 3 = 72$</p> <table style="border-collapse: collapse; margin: 10px auto;"> <tr> <td style="border-right: 1px solid black; padding: 5px;">x</td> <td style="border-right: 1px solid black; padding: 5px;">20</td> <td style="border-right: 1px solid black; padding: 5px;">4</td> <td style="padding: 5px;"></td> </tr> <tr> <td style="border-top: 1px solid black; border-right: 1px solid black; padding: 5px;">3</td> <td style="border-top: 1px solid black; border-right: 1px solid black; padding: 5px;">60</td> <td style="border-top: 1px solid black; border-right: 1px solid black; padding: 5px;">12</td> <td style="border-top: 1px solid black; padding: 5px;">72</td> </tr> </table> <p style="text-align: center; margin: 10px 0;">$24 \times 3 = 72$</p> <table style="margin: 10px auto;"> <tr><td style="text-align: right;">24</td></tr> <tr><td style="text-align: right;">x 3</td></tr> <tr><td style="border-top: 1px solid black; text-align: right;">72</td></tr> <tr><td style="text-align: right; color: blue;">1</td></tr> </table> <p style="text-align: center; margin: 10px 0;">123×5</p> <table style="margin: 10px auto;"> <tr> <td style="border-right: 1px solid black; padding: 5px;">x</td> <td style="border-right: 1px solid black; padding: 5px;">100</td> <td style="border-right: 1px solid black; padding: 5px;">20</td> <td style="padding: 5px;">3</td> </tr> <tr> <td style="border-top: 1px solid black; border-right: 1px solid black; padding: 5px;">5</td> <td style="border-top: 1px solid black; border-right: 1px solid black; padding: 5px;">500</td> <td style="border-top: 1px solid black; border-right: 1px solid black; padding: 5px;">100</td> <td style="border-top: 1px solid black; padding: 5px;">15</td> </tr> </table> <table style="margin: 10px auto;"> <tr><td style="text-align: right;">500</td></tr> <tr><td style="text-align: right;">+ 100</td></tr> <tr><td style="text-align: right;">+ 15</td></tr> <tr><td style="border-top: 1px solid black; text-align: right;">615</td></tr> </table>	x	20	4		3	60	12	72	24	x 3	72	1	x	100	20	3	5	500	100	15	500	+ 100	+ 15	615	<p>Children should multiply:</p> <p>TO x O</p> <p>HTO x O</p> <p>Solve problems involving multiplication.</p> <p><u>Suitable Methods:</u></p> <p>Expanded (grid) progressing into short.</p>
x	20	4																								
3	60	12	72																							
24																										
x 3																										
72																										
1																										
x	100	20	3																							
5	500	100	15																							
500																										
+ 100																										
+ 15																										
615																										

<p>in short column method without carrying.</p> <ul style="list-style-type: none"> • Use correct mathematical language. 		
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YEAR 5		
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<ul style="list-style-type: none"> • As Year 4 • Understand place value of decimals to 2 places • Know by heart all x facts to 12 x 12 • Relate $8 \times 7 = 56$ to $8 \times 0.7 = 5.6$ • x 2/3 digit multiples of 10 mentally e.g. 20×50 • Use correct mathematical language. • Know factor pairs of a number, and common factors of two numbers. 	<p>Column method short multiplication HTO x O</p> $\begin{array}{r} 326 \\ \times 4 \\ \hline 1304 \\ 1 \end{array}$ <p>1241 x 3 = 3723</p> $\begin{array}{r} 1241 \\ \times 3 \\ \hline 3723 \\ 1 \end{array}$ $\begin{array}{r} 326 \\ \times 44 \\ \hline 1304 \\ 1 \\ 13040 \\ \\ \hline 14344 \end{array}$	<p>Children should multiply:</p> <p>HTO x O</p> <p>THTO x O</p> <p>TO x TO</p> <p>Solve problems involving multiplication.</p> <p><u>Suitable Methods:</u></p> <p>Formal short written method.</p> <p>Formal long written method.</p>
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YEAR 6

- As Year 5
- Multiply whole and decimal numbers mentally

$$\begin{array}{r}
 2451 \\
 \times 63 \\
 \hline
 7353 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 1245 \times 13 \\
 1245 \\
 \times 13 \\
 \hline
 3735 \\
 12450 \\
 \hline
 16185
 \end{array}$$

Children should multiply:

THTO x O

TO x TO

HTO x TO
THTO x TO

O.t x O
O.th x O

O.t x TO
O.t x TO

Solve multi-step problems.

Suitable methods:

Formal short written method.

Formal long written method.

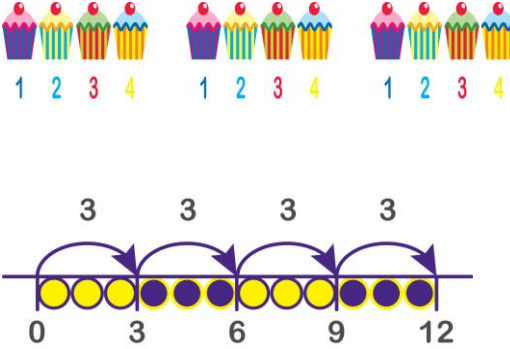
DIVISION

Skills needed	Methods	Expectation
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FOUNDATION STAGE

<ul style="list-style-type: none"> • Talk about grouping • Sharing into equal groups • Tell the story of sharing 	<p>Practical activities through play led learning</p>	<p>Early Learning Goal: To solve problems including halving.</p> <p>Link to practical problem solving activities involving equal sets and groups</p>
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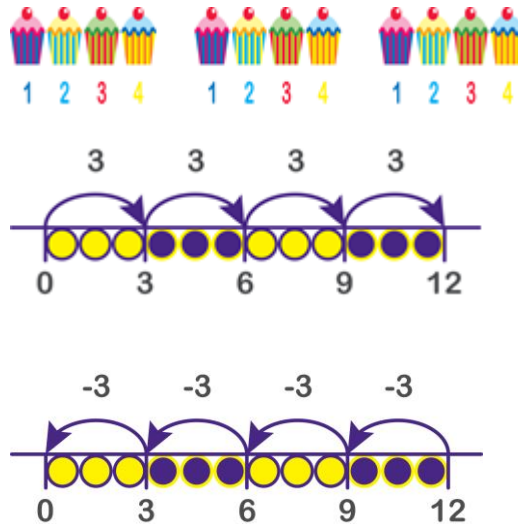
YEAR 1

<ul style="list-style-type: none"> • Identify halves within 10 (moving to 20) • Make connections between arrays, number patterns and counting on and back in steps of 2, 5 and 10 (numbered number line). • Find simple fractions of numbers, objects and quantities. • Solve simple one step problems involving division, calculating the answer using concrete representations, pictorial representations and arrays with support of the teacher. 	 <p>The image shows three groups of four colorful ice cream cones, each group labeled with numbers 1, 2, 3, 4. Below this is a number line from 0 to 12 with yellow circles at each number. Four purple arrows indicate jumps of 3 units: from 0 to 3, 3 to 6, 6 to 9, and 9 to 12.</p>	<p>Children should divide:</p> <p>$0 \div 0$</p> <p>$TO \div 0$</p> <p>Solve one step problems with support of the teacher.</p> <p>Suitable Methods:</p> <p>Grouping.</p> <p>Practical sharing.</p> <p>Number-line grouping.</p>
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- Use correct mathematical language.

YEAR 2

- Halves within 50
- Recall division facts for the 2, 3, 5 and 10 times tables including recognizing odd and even numbers.
- Calculate mathematical statements for division within the multiplication tables.
- Recognise the inverse relationship between multiplication and division.
- Understand that division is not commutative.
- Solve on step problems involving division, using materials, arrays, mental methods and division facts, including problems in context.
- Use correct mathematical



Arrays
 6 grouped into 2s is 3
 6 grouped into 3s is 2
 $6 \div 2 = 3$
 $6 \div 3 = 2$

Children should divide:

$$0 \div 0$$

$$TO \div 0$$

Solve problems involving division.

Suitable Methods:

Grouping.

Practical sharing.

Number-line grouping.

Represent repeated subtraction as division.

language for division.

YEAR 3

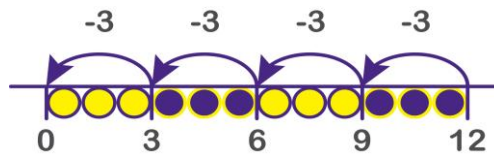
- Recall and use division facts for the 3, 4 and 8 times tables.

- Write and calculate mathematical statements using efficient written methods.

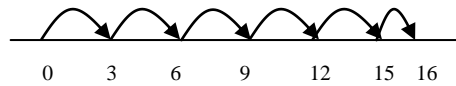
- Recognise multiples of 2, 5 and 10 up to 1000
Use practical and informal written methods to divide two digit numbers e.g. $(50 \div 4)$, round remainders up or down depending on the context.

Understand that division is the inverse of multiplication – derive related facts.

Solve problems, including missing number problems



$$16 \div 3 = 5 \text{ r } 1$$



(Still making full use of x table knowledge and corresponding facts)

$$10 \div 2 = 5$$

$$2 \overline{)10}$$

$$372 \div 3 = 124$$

$$\begin{array}{r} 124 \\ 3 \overline{)372} \end{array}$$

Children should divide:

$$TO \div O$$


Solve problems, including missing number problems, involving division.

Suitable methods:

Grouping on a number line progressing into Short.

involving division. Use correct mathematical language.		
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YEAR 4		
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<ul style="list-style-type: none"> • As Year 3 • Divide multiples of 10 by 10 mentally • Know X facts up to 12 X 12 • Know how to derive corresponding division facts up to 12 x 12. • Halve two digit numbers and halve multiples of 10 and 100 • Divide 2-digit and 3-digit whole numbers by 10 and 100 • Develop and use written methods to record, support and explain division of three digit numbers by a one digit number, including remainders. • Use correct mathematical language. 	<p>$16 \div 3 = 5 \text{ r } 1$</p>  <p style="text-align: center;">'Bus Stop' Method</p> $\begin{array}{r} 14 \text{ r} 2 \\ 5 \overline{) 72} \end{array}$ <p style="text-align: center;">$372 \div 3 = 124$</p> $\begin{array}{r} 124 \\ 3 \overline{) 372} \end{array}$	<p>Children should divide:</p> <p>TO \div O</p> <p>HTO \div O</p> <p>Solve two step problems involving division.</p> <p><u>Suitable Methods:</u></p> <p>Grouping on a number line progressing into short.</p> <p>Short (remainders expressed as r).</p>
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YEAR 5

- As Year 4
- Understand place value of decimals to 2 places (money and measure)
- Know by heart all division facts related to times tables to 12 x 12
- Divide numbers up to 4 digits by one digit using the efficient written method of short division and interpret remainders appropriately for the context.
- Divide whole numbers and those involving decimals by 10, 100 and 1000.
- Refine and use efficient methods to divide $\text{HTO} \div \text{O}$.
- Use correct mathematical language.

$$372 \div 3 = 124$$

$$\begin{array}{r} 124 \\ 3 \overline{)372} \end{array}$$

Children should divide:

$\text{HTO} \div \text{O}$

$\text{THTO} \div \text{O}$

Solve problems involving division.

Suitable methods:

Short (remainders to be expressed as r, then as a fraction and as a decimal).

YEAR 6

- As Year 5
- Estimate the size of an appropriate grouping
- Use efficient written methods to divide numbers up to 4 digits by a two-digit number using the efficient written method of long division, and interpret remainders as whole numbers remainders, fractions or by rounding, as appropriate for the context.
- Use correct mathematical language.

$$\begin{array}{r}
 28\frac{4}{5} \\
 15 \overline{) 432}
 \end{array}$$

$$\begin{array}{r}
 28.8 \\
 15 \overline{) 432}
 \end{array}$$

remainder as a decimal

$$560 \div 24 = 23 \text{ r}8$$

$$\begin{array}{r}
 23\text{r}8 \\
 24 \overline{) 560} \\
 \underline{48} \\
 80 \\
 \underline{72} \\
 8
 \end{array}$$

$$432 \div 15 = 28 \text{ r}12$$

$$\begin{array}{r}
 28\text{r}12 \\
 15 \overline{) 432} \\
 \underline{300} \quad 15 \times 20 \\
 132 \\
 \underline{120} \quad 15 \times 8 \\
 12
 \end{array}$$

Children should Divide:

THTO \div O

HTO \div TO

THTO \div TO

O.th \div O

TO.th \div O

HTO.th \div O

THTO.th \div O

Solve problems involving division.

Suitable Methods:

Short (remainders to be expressed as r, then as a fraction and as a decimal).

Long (remainders to be expressed as r, then as a fraction and as a decimal).

Short (remainders to be expressed as a decimal).

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

$$(12 \div 15 = 0.8)$$

remainder as a decimal

$$\begin{array}{r}
 28 \frac{4}{5} \\
 15 \overline{)432} \\
 \underline{30} \downarrow \\
 132 \\
 \underline{120} \\
 12 \\
 12
 \end{array}$$

$$(0.8 = \frac{4}{5})$$

remainder as a fraction