



## Policy Number CHI 8

---

### Mathematics Calculation Policy

Produced by Childwall Church of England Primary School

Tel: 0151 722 1553

www.childwallce.com

---

### 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
Version 2	June 2022	
	Dec. 2022	Reviewed to reflect change in progression model, in line with WRM
Review Period	2 yearly	
Review Date	June 2024	



# 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 progressive success and confidence 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 focus on building pupils' secure knowledge, skills and understanding of number so that they demonstrate fluency in calculating, solving problems and reasoning about number.

- Pupils are taught the four operations (addition, subtraction, multiplication and division) showing varied written methods.
- Pupils are shown mental maths skills that can support their learning.
- Pupils have opportunities to develop their maths skills using the concrete, pictorial and abstract to develop their fluency and reasoning skills (including problem solving and real life application) within a given topic.

## 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

Progression: Our curriculum is designed broadly in line with White Rose Maths Plans and other resources are used to enrich the teaching of Maths.

Our curriculum is categorised in two ways:

- Breadth - which gives the children experiences of using real life maths and being able to apply their skills.
- Depth – Maths is taught every day in school and builds on the children's previous knowledge from the previous year. Children are given a wide range of experiences to develop and secure their understanding of each area of the maths curriculum and are also given opportunities to link their learning to others topics taught throughout school.

# ADDITION

**Skills needed**

**Method**

**Expectation**

## FOUNDATION STAGE

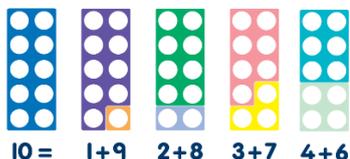
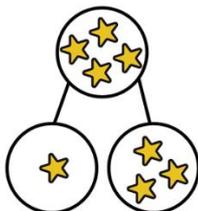
- A deep understanding of numbers to 10.
- Use appropriate vocabulary



|||| + |||



**Part whole model**



**Early Learning Goal:**

Have a deep understanding of numbers to 10, including the composition of each number.

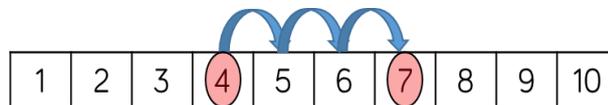
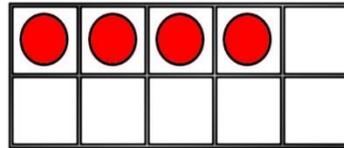
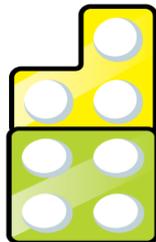
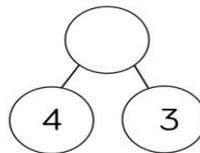
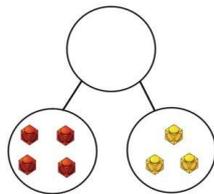
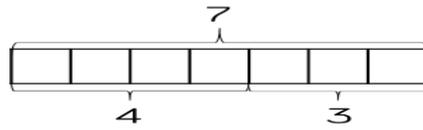
Subitise up to 5.

Automatic recall of number bonds to 5 (including subtraction facts) and some to 10 including double facts.

Within 10  
(pictures and objects)

# YEAR 1

- 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.



$$4 + 3 = 7$$

Children should add:

$$0 + 0$$

TO + 0 (up to 20 including zero).

Children should be able to solve one-step problems involving addition and missing number problems.

## Suitable Methods:

Practical

Part-whole model

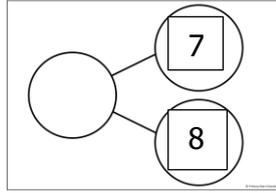
Number track

Bar model

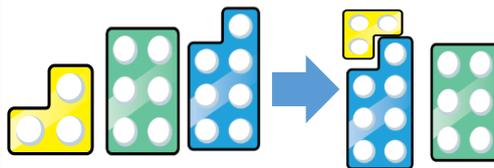
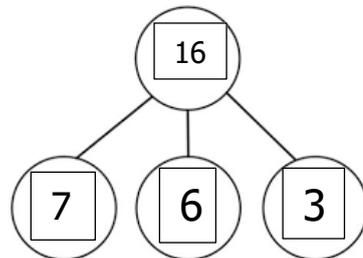
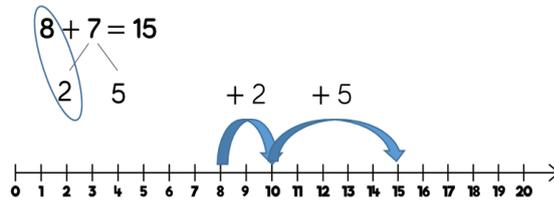
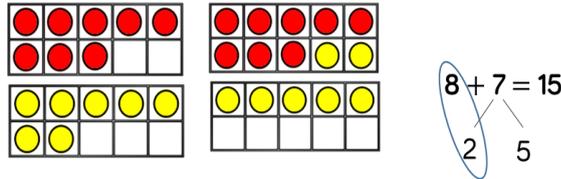
Tens frame

# YEAR 2

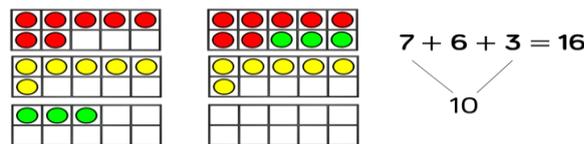
- Count in steps of 2, 3, 5 and 10 forwards and backwards from 0.
- Recognise the place value of each digit in a 2 digit number.
- Compare and order numbers from 0 up to 100.
- Read and write numbers to at least 100.
- Understand that addition is commutative ( can be done in any order)
- Solve problems.



$$8 + 7 = 15$$



$$7 + 6 + 3 = 16$$



$$48 + 36 = 84$$

	40	8	
+	30	6	
	70	14	84

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

Children should add:

TO + 0

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

Part-whole model

Number Line

Tens frames

Place value

counters

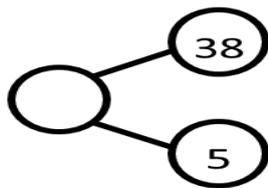
Base 10

Expanded columnar

Short

# YEAR 3

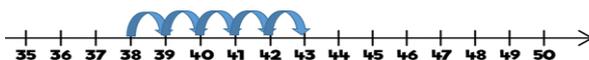
- Consolidate Year 2 skills
- Count from 0 in multiples of 4, 8, 50 and 100, finding 10 more or 100 less of a given number.
- Understand place value and partitioning of three digit numbers.
- Compare and order numbers up to 1000.
- Read and write numbers to at



?

--	--	--	--	--	--	--	--

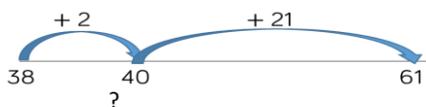
$38 + 5 = 43$



+ 2                      + 3

38                      40                      43

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



--	--	--	--	--	--	--	--

$38 + 23 = 61$

Tens	Ones
	. . . .
	. . . .

$$\begin{array}{r} 38 \\ + 23 \\ \hline 61 \\ 1 \end{array}$$

Tens	Ones
●●●●	●●●●
●●●●	●●●●

$148 + 36 = 184$

	100	40	8	
+		30	6	
	100	70	14	184

$265 + 164 = 429$

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.

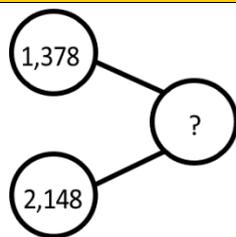
$$\begin{array}{r} 148 \\ + 36 \\ \hline 184 \\ 1 \end{array}$$

**Suitable methods:**

- Number line
- Part-whole model
- Bar model
- Base 10
- Place value counters
- 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.



	1	3	7	8
+	2	1	4	8
	3	5	2	6
			1	1

$$1,378 + 2,148 = 3,526$$

Thousands	Hundreds	Tens	Ones

Thousands	Hundreds	Tens	Ones

1111 + 1322 =

	1000	100	10	1
+	1000	300	20	2
	<b>2000</b>	<b>400</b>	<b>30</b>	<b>3</b>

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

Children should add:

THTO + HTO

THTO + THTO

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

Solve addition two-step problems.

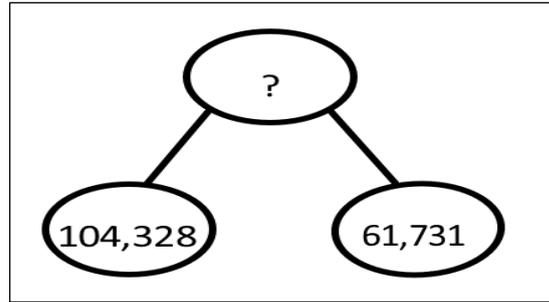
**Suitable methods:**

- Part-whole model
- Bar model
- Base 10
- Place value counters
- Expanded columnar
- 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 context, and calculate intervals across zero. Solve problems.



$$104,328 + 61,731 = 166,059$$

1	0	4	3	2	8
+	6	1	7	3	1
1	6	6	0	5	9

1

Children should add:

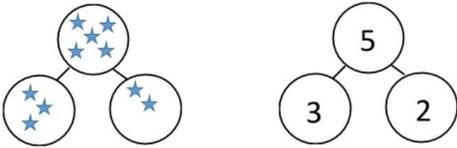
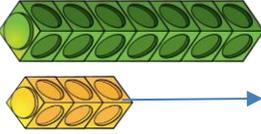
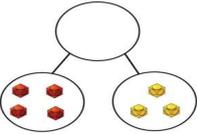
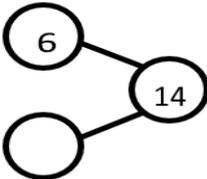
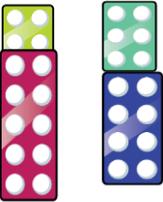
THTO.tht + THTO.tht

Solve addition multi-step problems.

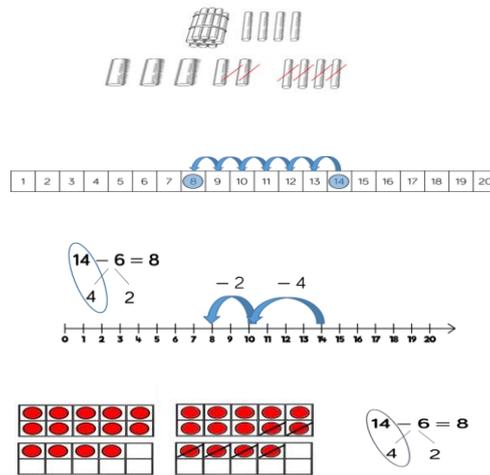
**Suitable methods:**

Column

# SUBTRACTION

Skills needed	Methods	Expectation
<b>FOUNDATION STAGE</b>		
<ul style="list-style-type: none"> <li>A deep understanding of numbers to 10.</li> <li>Use appropriate vocabulary</li> </ul>	<ul style="list-style-type: none"> <li>Practical activities</li> <li>Quantities and objects</li> </ul>  <p>Number line 0 – 10</p> <ul style="list-style-type: none"> <li>Part whole model</li> </ul> 	<p><b>Early Learning Goal:</b> To count back reliably with numbers from 1 to 10.</p> <p>Automatic recall of subtraction facts to 5.</p> <p>1 less than a given number to 10.</p> <p>Tell a subtraction story.</p>
<b>YEAR 1</b>		
<ul style="list-style-type: none"> <li>Read, write and interpret mathematical statements involving subtraction.</li> <li>Represent and use number bonds and related subtraction facts within 20.</li> <li>Subtract one-digit and two-digit numbers to 20.</li> <li>Solve simple problems using subtraction.</li> <li>Use appropriate vocabulary (subtract, take</li> </ul>	    <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <math>14 - 6 = 8</math> </div>	<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><b>Suitable Methods:</b></p> <p>Practical</p> <p>Number Line</p>

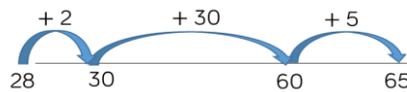
away, minus and find the difference, less).



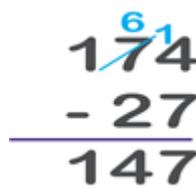
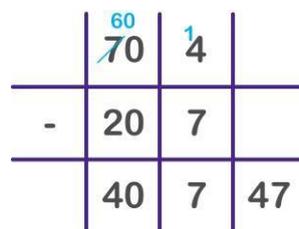
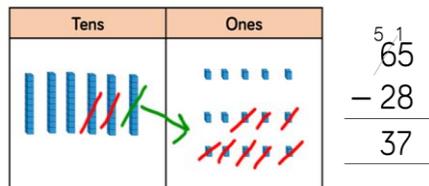
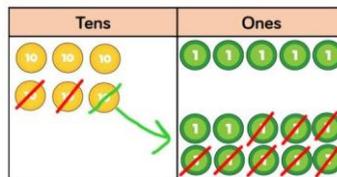
Mental Methods  
Part-whole model  
Bar model  
Tens frame  
Straws  
Number shapes

## 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).



$$65 - 28 = 37$$



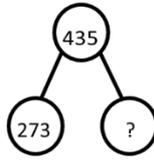
Children should subtract:  
TO - 0  
TO - multiples of 10.  
TO - TO  
O - O - O  
Solve problems involving subtraction including missing number problems.

### Suitable Methods:

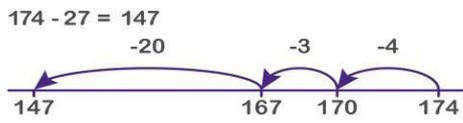
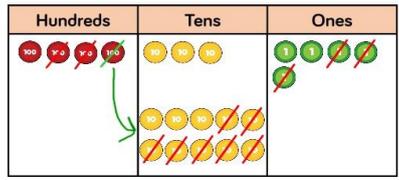
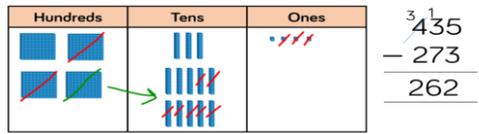
Practical  
Number Line  
Part-whole model  
Bar model  
Base 10  
Expanded Columnar  
Column

## YEAR 3

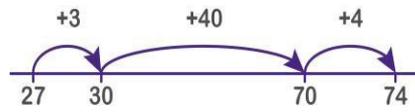
- Consolidate Year 2 skills.
- Subtract numbers mentally.
- Subtract numbers up to 3 digits.
- Estimate the answer to a calculation and use inverse operations to check answers.
- Solve problems, including missing number problems, using number facts, place value, and more complex subtraction.
- Use appropriate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



$$435 - 273 = 162$$



OR



OR



100	<del>70</del> <sup>60</sup>	4	
	20	7	
100	40	7	147

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

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.

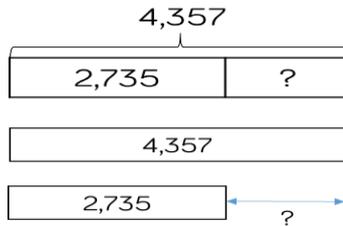
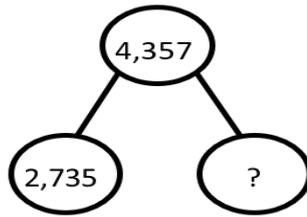
Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

**Suitable methods:**

- Part-whole model
- Bar model
- Number Line
- Base 10
- Place value counters
- Expanded Columnar
- Column

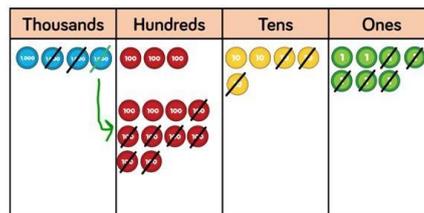
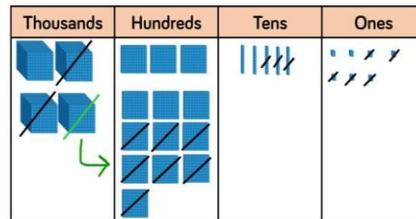
# YEAR 4

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



$$4,357 - 2,735 = 1,622$$

$$\begin{array}{r} \phantom{0}^3 \phantom{0}^1 \\ 4357 \\ - 2735 \\ \hline 1622 \end{array}$$



$$\begin{array}{r} \phantom{0}^2 \\ 1 \phantom{0}^3 \phantom{0}^{14} \phantom{0}^6 \\ -1 \phantom{0}^2 \phantom{0}^5 \phantom{0}^3 \\ \hline \phantom{0}^9 \phantom{0}^3 \end{array}$$

Children should subtract:

THTO – HTO

THTO – THTO

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

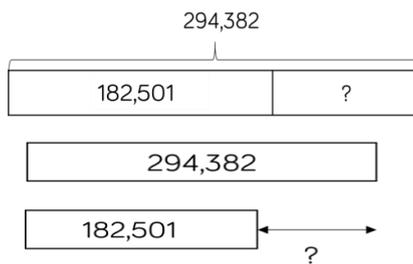
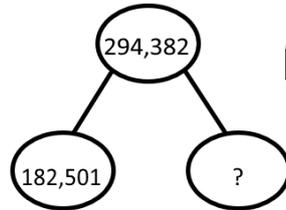
Solve two-step subtraction problems.

### Suitable methods:

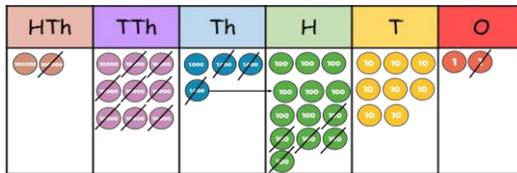
- Part-whole model
- Bar model
- Base 10
- Place value counters
- Expanded Columnar
- Column

## 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).

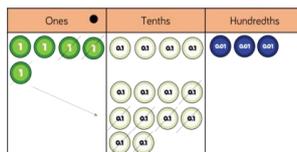


$$294,382 - 182,501 = 111,881$$



	2	9	<del>3</del>	<del>1</del> 3	8	2
-	1	8	2	5	0	1
	1	1	1	8	8	1

$$\begin{array}{r} 67\overset{13}{4}1 \\ - 367 \\ \hline 374 \end{array}$$



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

Children should subtract:

THTO.t – THTO.t

THTO.th – THTO.th

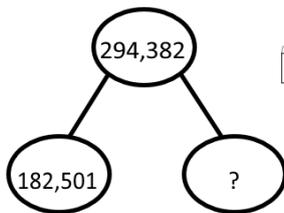
Solve subtraction multi-step problems.

### Suitable methods:

- Part-whole model
- Bar model
- Place value counters
- Column

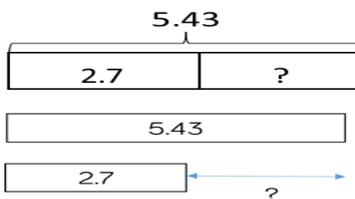
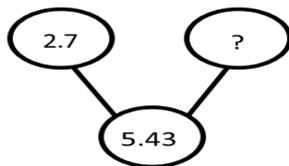
# YEAR 6

- 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).



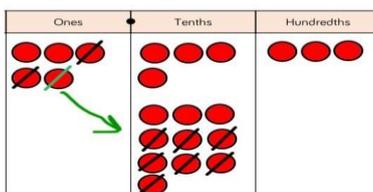
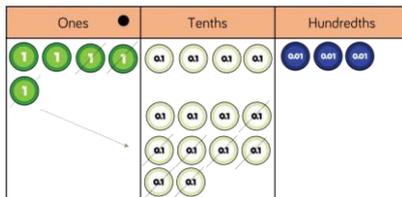
$$294,382 - 182,501 = 111,881$$

	2	9	<del>3</del>	1 <sub>3</sub>	8	2
-	1	8	2	5	0	1
	1	1	1	8	8	1



$$5.43 - 2.7 = 2.73$$

$$\begin{array}{r} 4 \quad 1 \\ \cancel{5}.43 \\ - 2.7 \\ \hline 2.73 \end{array}$$



Children should subtract:

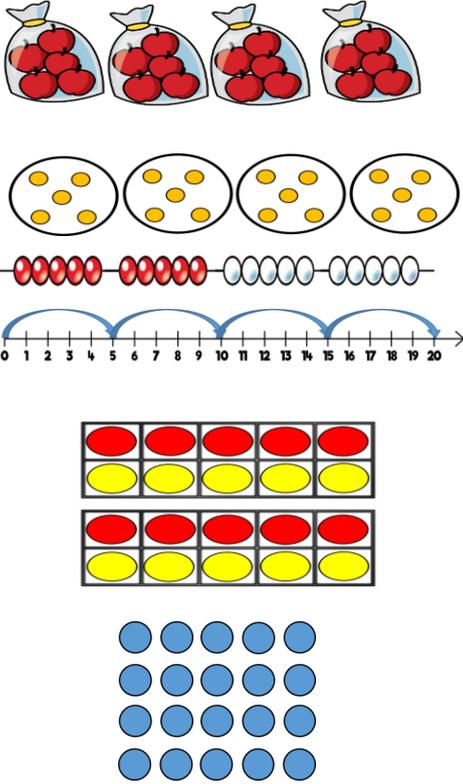
THTO.tht – THTO.tht

Solve subtraction multi-step problems.

### Suitable methods:

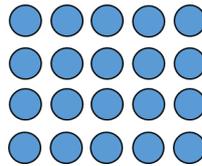
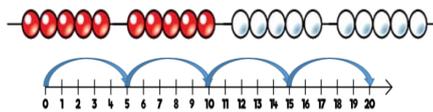
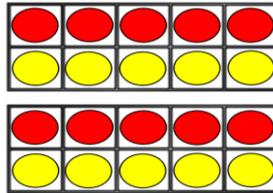
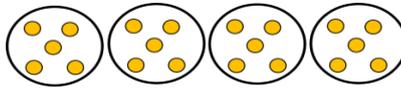
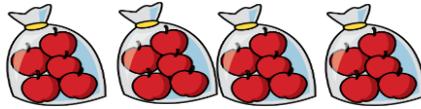
- Part-whole model
- Bar model
- Place value counters
- Column

# MULTIPLICATION

Skills needed	Method	Expectation
<b>YEAR 1</b>		
<ul style="list-style-type: none"> <li>Count forwards and backwards in 1s, 2s, 5s &amp; 10s</li> <li>Understand the concept of equal grouping</li> <li>Doubling numbers.</li> <li>Solve simple one-step problems involving multiplication, calculating the answer using concrete objects, pictorial representations and arrays with support from the teacher. Use correct mathematical language (multiply, lots of, times, multiplication, groups of, multiple of, repeated addition).</li> </ul>	 <p style="text-align: center;"> <math>5 + 5 + 5 + 5 = 20</math>  <math>4 \times 5 = 20</math>  <math>5 \times 4 = 20</math> </p> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center; margin-top: 10px;"> <p>One bag holds 5 apples. How many apples do 4 bags hold?</p> </div>	<p>Children should multiply:</p> <p><math>0 \times 0</math></p> <p>Solve one-step problems involving multiplication.</p> <p><b>Suitable Methods:</b></p> <p>Practical (repeated addition).</p> <p>Practical and pictorial arrays.</p> <p>Counters</p> <p>Number lines</p>

## 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 mathematical language (multiply, lots of, times, multiplication, groups of, multiple of, repeated addition).



$$5+5+5+5 = 20$$
$$4 \times 5 = 20$$
$$5 \times 4 = 20$$

One bag holds 5 apples.  
How many apples do 4 bags hold?

Children should multiply:

0 x 0

Solve problems involving multiplication.

### Suitable Methods:

Practical (repeated addition).

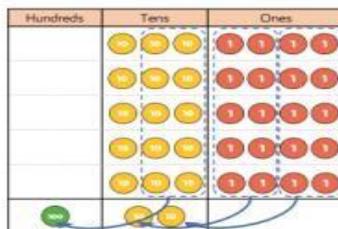
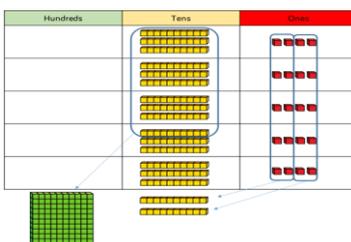
Practical and pictorial arrays.

Counters

Number lines

## YEAR 3

- 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 multiplication is the inverse of division.
- Missing numbers x
- =TO x O (teen numbers e.g. 17 x 4)



$$24 \times 3 = 72$$

$$\begin{array}{r} 24 \\ \times 3 \\ \hline 72 \\ \hline 1 \end{array}$$

Children should multiply:

TO x O

Solve problems, including missing number problems, involving multiplication.

### Suitable methods:

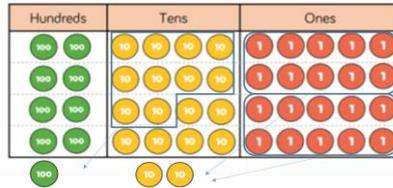
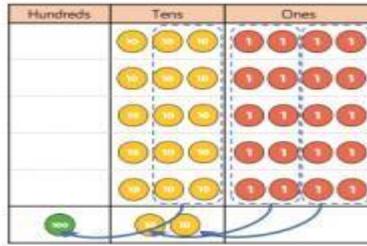
Place value counters

Base 10

Grouping on a number line progressing into Expanded (grid) and into Short.

# YEAR 4

- 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 in short column method without carrying.
- Use correct mathematical language.



$$24 \times 3 = 72$$

$$\begin{array}{r} 24 \\ \times 3 \\ \hline 72 \\ 1 \end{array}$$

	H	T	O		
		3	4		
×			5		
		2	0	(5 × 4)	
+	1	5	0	(5 × 30)	
	1	7	0		

	H	T	O
	2	4	5
×			4
	9	8	0
	1	2	

Children should multiply:

TO x O

HTO x O

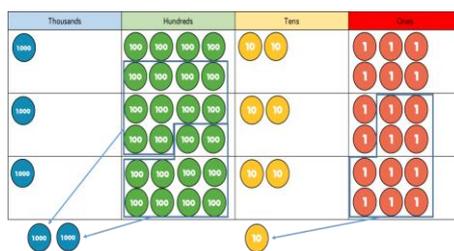
Solve problems involving multiplication.

### Suitable Methods:

Place value counters  
Base 10  
Expanded (grid)  
progressing into short.

# YEAR 5

- 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  $8 \times 0.7 = 5.6$
- $\times 2/3$  digit multiples of 10 mentally e.g.  $20 \times 50$
- Use correct mathematical language.
- Know factor pairs of a number, and common factors of two numbers.



×	200	30	4
30	6,000	900	120
2	400	60	8

$$21 \times 32 = 632$$

$$1,826 \times 3 = 5,478$$

	H	T	O
		2	2
×		3	1
		2	2
	6	6	0
	6	8	2

	Th	H	T	O
		2	3	4
×			3	2
		4	6	8
	1	7	1	0
	7	4	8	8

	Th	H	T	O
	2	7	3	9
×			2	8
	2	5	1	2
	1	5	4	1
	7	6	6	9

Children should multiply:

HTO x O

THTO x O

TO x TO

Solve problems involving multiplication.

### Suitable Methods:

Place value counters

Formal short written method

Formal long written method

## YEAR 6

- As Year 5
- Multiply whole and decimal numbers mentally

×	200	30	4
30	6,000	900	120
2	400	60	8

$$21 \times 32 = 632$$

$$1,826 \times 3 = 5,478$$

	H	T	O
		2	2
×		3	1
		2	2
	6	6	0
	6	8	2

Th	H	T	O
	2	3	4
×		3	2
	4	6	8
<u>1</u> 7	<u>1</u> 0	2	0
7	4	8	8

<u>Th</u>	Th	H	T	O
	2	7	3	9
×			2	8
<u>2</u>	<u>1</u>	<u>9</u>	<u>1</u>	<u>2</u>
2	5	3	7	
<u>1</u> 5	<u>1</u> 4	7	8	0
7	6	6	9	2

1

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

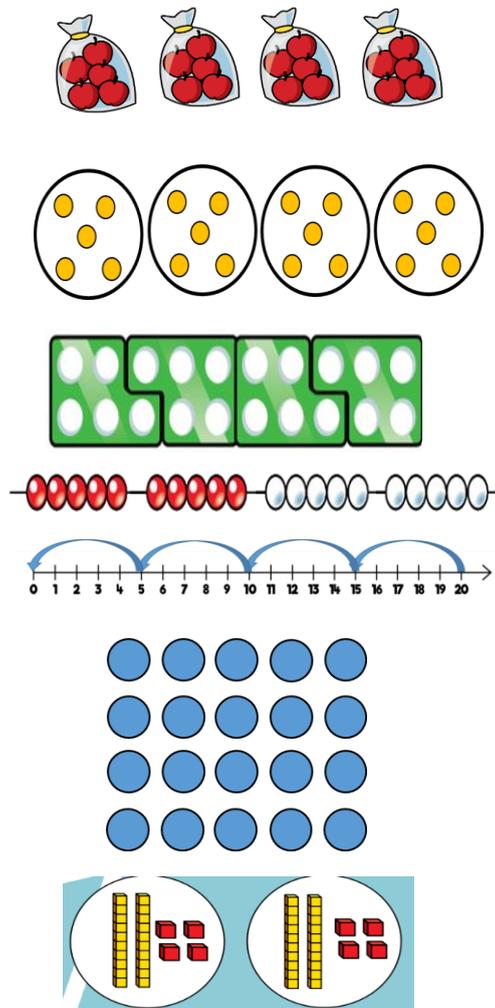
Solve multi-step problems.

### **Suitable methods:**

Formal short written method.

Formal long written method.

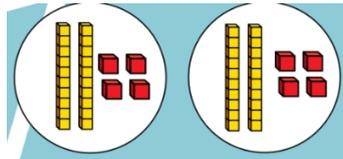
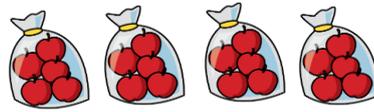
# DIVISION

Skills needed	Methods	Expectation
<b>FOUNDATION STAGE</b>		
<ul style="list-style-type: none"> <li>Sharing into equal groups</li> </ul>	<p>Practical activities through play led learning</p>	<p><b>Early Learning Goal:</b> Explain and represent how quantities can be distributed equally (sharing).</p>
<b>YEAR 1</b>		
<ul style="list-style-type: none"> <li>Identify halves within 10 (moving to 20)</li> <li>Make connections between arrays, number patterns and counting on and back in steps of 2, 5 and 10 (numbered number line).</li> <li>Find simple fractions of numbers, objects and quantities.</li> <li>Solve simple one step problems involving division, calculating the answer using concrete representations, pictorial representations and arrays with support of the teacher.</li> <li>Use correct mathematical language.</li> </ul>	 <p style="text-align: center;"><math>20 \div 5 = 4</math></p>	<p>In Year 1, children use concrete and pictorial representations to solve problems. They are not expected to record division formally.</p> <p>Children should divide:</p> <p><math>0 \div 0</math></p> <p><math>TO \div 0</math></p> <p>Solve one step problems with support of the teacher.</p> <p><b>Suitable Methods:</b></p> <p>Grouping.</p> <p>Practical sharing.</p> <p>Number-line</p>

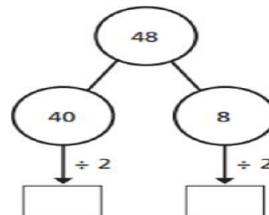
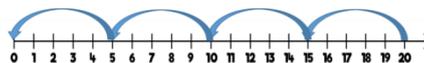
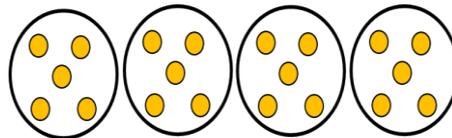
		grouping. Arrays Counters Bead strings Tens frame Number shapes
--	--	---

## 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



Tens	Ones
10 10	1 1 1 1
10 10	1 1 1 1



$$20 \div 5 = 4$$

There are 20 apples altogether.  
 They are shared equally between 5 bags.  
 How many apples are in each bag?

In Year 2, children are introduced to the division symbol.

Children should divide:

$$0 \div 0$$

$$0 \div 0$$

Solve problems involving division.

### Suitable Methods:

Grouping.

Practical sharing.

Number-line grouping.

Arrays

Counters

Bead strings

Tens frame

Number shapes

Represent repeated subtraction as division.

language for division.

## YEAR 3

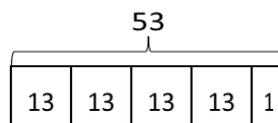
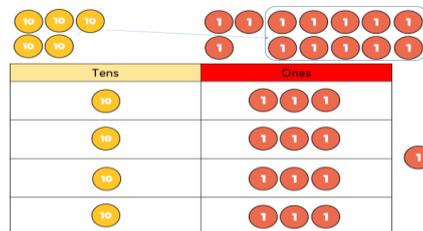
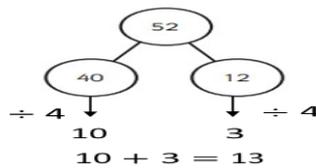
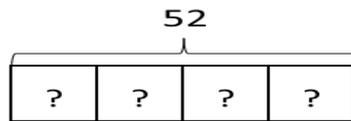
- Recall and use division facts for the 3, 4 and 8 times tables.
- Write and calculate mathematical statements using efficient written methods.
- Recognise multiples of 2, 5 and 10 up to 1000  
Use practical and informal written methods to divide two digit numbers e.g.  $(50 \div 4)$ , round remainders up or down depending on the context.

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

Solve problems, including missing number problems



$52 \div 4 = 13$



Children should divide:

$TO \div O$

Solve problems, including missing number problems, involving division.

### Suitable methods:

Grouping on a number line progressing into Short.

Place value counters

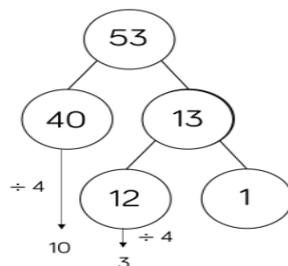
Part-whole model

Base 10

Bar model

involving division.

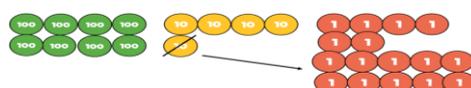
Use correct mathematical language.



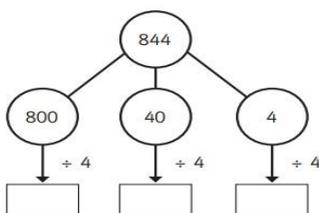
## YEAR 4

- 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.

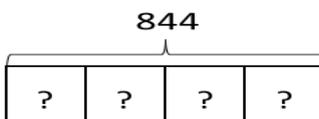
H	T	O
100 100	10	1
100 100	10	1
100 100	10	1
100 100	10	1



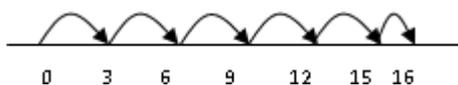
Hundreds	Tens	Ones
100 100	10	1 1 1 1 1
100 100	10	1 1 1 1 1
100 100	10	1 1 1 1 1
100 100	10	1 1 1 1 1



$844 \div 4 = 211$



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



$$\begin{array}{r} 14 \text{ r} 2 \\ 5 \overline{) 72} \end{array}$$

$372 \div 3 = 124$

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

Children should divide:

$TO \div O$

$HTO \div O$

Solve two step problems involving division.

### Suitable Methods:

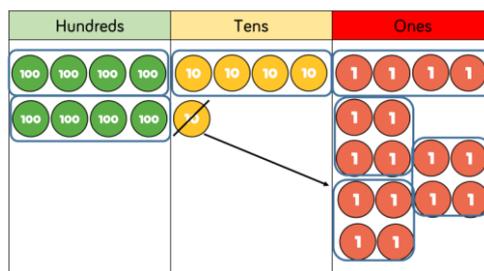
Grouping on a number line progressing into short.

Short (remainders expressed as r).

- Place value counters
- Part-whole model
- Base 10
- Bar model

## 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  $HTO \div O$ .
- Use correct mathematical language.



$$372 \div 3 = 124$$

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

$$8,532 \div 2 = 4,266$$

	4	2	6	6
2	8	5	13	12

Children should divide:

$HTO \div O$

$THTO \div O$

Solve problems involving division.

### Suitable methods:

Place value counters

Place value grid

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.

$$432 \div 12 = 36$$

		0	3	6
	12	4	4 <sub>3</sub>	7 <sub>2</sub>

		0	3	6
1	2	4	3	2
	-	3	6	0
			7	2
	-		7	2
				0

$$7,335 \div 15 = 489$$

	0	4	8	9
15	7	7 <sub>3</sub>	13 <sub>3</sub>	13 <sub>5</sub>

	0	4	8	9
15	7	3	3	5
-	6	0	0	0
	1	3	3	5
-	1	2	0	0
		1	3	5
-		1	3	5
				0

$$372 \div 15 = 24 \text{ r}12$$

$$372 \div 15 = 24 \frac{4}{5}$$

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).

			2	4	$\frac{4}{5}$
1	5	3	7	2	
	-	3	0	0	
			7	2	
	-		6	0	
			1	2	

$$\begin{array}{r}
 28.8 \\
 15 \overline{) 432} \\
 \underline{30} \phantom{0} \\
 132 \\
 \underline{135} \\
 3
 \end{array}$$

remainder as a decimal

