

This progression document has been designed to support children's learning through the use of concrete, pictorial and abstract representations at each stage of their education. These representations do not need to be used in this order, nor are they necessary in every maths lesson. Teachers will decide on their most effective use at each stage of pupils' learning.

**Concrete** - 'doing stage': a pupil is first introduced to an idea or skill by using real objects to model a problem. This is a 'hands on' component using real objects and is a foundation for conceptual understanding. **Pictorial** - 'seeing stage': a pupil has sufficiently understood the 'hands on' experiences performed and can now relate them to representations, such as a diagram or picture of the problem. **Abstract** – 'symbolic stage': a pupil is now capable of representing problems by using mathematical notation, for example 12 x 6 = 72.

It is important that conceptual understanding, supported by the use of representation, is secure for all procedures and at every stage of primary education. Reinforcement is achieved by going back and forth between these representations.

We follow the Maths No Problem scheme of exploration. This provides clear progression in learning calculation within the Maths No Problem teacher hub for all teachers.



#### **Mathematics Mastery**

At the centre of the mastery approach to the teaching of mathematics is the belief that all children have the potential to succeed. They should have access to the same curriculum content and, rather than being extended with new learning, they should deepen their conceptual understanding by tackling challenging and varied problems. Pupils are taught through whole-class interactive teaching, enabling all to master the concepts necessary for the next part of the curriculum sequence.

In a typical lesson, the teacher leads back and forth interaction, including questioning, short tasks, explanation, demonstration, and discussion, enabling pupils to think, reason and apply their knowledge to solve problems. Maths No Problem supports the teacher in planning using this approach. Use of precise mathematical language enables all pupils to communicate their reasoning and thinking effectively

Maths mastery is a transformational approach to maths teaching:

- It helps pupils develop a deep, long-term, and adaptable understanding of maths
- It's an inclusive approach where all children achieve
- It goes at a slower pace with deeper learning, which results in greater progress



*	Additi	on: EYFS	
Vocabulary: add, more, ar	nd, make, altogether, total, equa	al to, equals, double, most, count	: on, part-whole
Early Learning Goals	Concrete	Pictorial	Abstract
<ul> <li>Have a deep understanding of number to 10, including the composition of each number.</li> <li>Subitise (recognise quantities without counting) up to 5.</li> <li>Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 and some number bonds to 10, including double facts.</li> <li>Compare quantities up to 10 in different</li> </ul>	Use toys and general classroom resources for children to physical manipulate, group and re- group. Use specific maths resources such as counters, cubes, number shapes, etc.	Two groups of pictures so children are able to count the total Bar model using visuals, picture/icons or colours, especially for number composition	Focus on symbols and numbers to form an equation. 3 3 3 3 5 Written number formation 5 yort whole 2 part No expectation for children to be able to record a written equation.



contexts, recognising when one quantity is greater than, less than or the same as the other quantity.



Use visual supports such as Ten frames, part-whole models and addition mats with physical objects and resources that can be manipulated.







•	Addition: Year 1					
Vocabulary:	Vocabulary: add, more, plus, and, make, altogether, total, equal to, equals, double, most, count on, number line,					
balancing, pa	irt-whole					
Objective	Concrete	Pictorial	Abstract			
<ul> <li>Add two</li> </ul>	Ten frames (within 10)	Part-whole model	Written equation			
1-digit numbers to 10		4 3	from part-whole model A + 3 = 7			
	Bead strings (10)	Bar model	4+3=7			
	Number tracks	4	Written equation from number track			
	1 2 3 4 5 6 7 8 9 10	Number shapes	4 + 3 = 7			
	Cubes/counters					
	Part-whole models with cubes/counters					







Addition: Year 2				
Vocabulary: ad	dd, more, plus, and, make, altogether, tota	l, equal to, equals, double, most, coun	t on, number line,	
sum, Tens, On	es, partition, addition, column, part-whole			
Objective	Concrete	Pictorial	Abstract	
<ul> <li>Add three</li> </ul>	Ten frames (within 10/20)	Part-whole model	Make Ten first, then	
1-digit numbers			add on the rest $7 + 6 + 3 = 16$	
		7   6   3     Bar model	10	
	Bead strings (10/20) Cubes/counters	- 16		
	Part-whole models with cubes/counters Groups of objects			
	Number shapes	Ten frames (within 20)		
		Jumps on a number line (counting on)		
		Groups of objects		







• Add two 2-	Number lines	(blank)		Number lines (bla	ank)	Written equation
digit	Number lines	(labelled)		Number lines (lab	pelled)	from pictorial
numbers	Hundred squa	re		Hundred square		representation
(without	Straws			Part-whole mode	9	24 + 15 = 39
re- grouping)	Place value gri value counters	es id with Base s	10 or place	24		Column recording with partitioning
	т	о				20 + 4 10 + 5
				Bar model		$\frac{10+5}{30+9} = 39$
	10s	1s	_	24	15	
	••	••••		Straws		
	•			Number shapes		
			•			
• Add two 2-	Number lines	(blank)		Number lines (bla	ank)	Written equation
digit	Number lines	(labelled)				from pictorial







*	Addition: Year 3					
Vocabulary: addit	Vocabulary: addition, add, more, and, make, sum, total, altogether, double, near double, half, halve, Hundreds, Tens,					
Ones, partition, co	olumn		ſ			
Objective	Concrete	Pictorial	Abstract			
• Add 1 and 2- digit numbers	Number lines (blank) + 2 + 3 38 40 43 Straws Straws IIIII • 0 0 0 IIII Hundred square (blank)	Part-whole model 38 5 Bar model ? Hundred square labelled $\frac{38}{1000}$ $\frac{1}{2}$ $\frac{1}{38}$ Hundred square labelled	Written equation from pictorial representation <b>38 + 5 = 43</b> Count on from the larger number Apply knowledge of number bonds			
		Number lines labelled				



Add two 2-	Number lines (blank)	Number lines (blank)	Written equation
digit numbers	Number lines (labelled)	Number lines (labelled)	from pictorial
(without re-	Hundred square	Hundred square	representation
grouping)	Straws	Part-whole model	24 + 15 = 39
	Number shapes	(38)	
	Place value grid with Base		Column recording
	value counters		with partitioning
	т о		20 + 4
		Bar model	$\frac{10+5}{20}$
		38 23	30 + 9 = 39
		Straws	
	10s 1s	Number shapes	
• Add two 2-	Number lines (blank)	Number lines (blank)	Written equation
digit numbers	Number lines (labelled)	+ 2 + 21	from pictorial
(with re-	Hundred square		representation
grouping)	Straws	38 40 61	38 + 23 = 61
		Number lines (labelled)	



	Base 10 Place value grid with Base 10 or place value counters	Hundred square Part-whole model Bar model Straws Place value grid with Base 10 or place value counters	Column recording with partitioning 30 + 8 20 + 3 50 + 11 = 61
<ul> <li>Add numbers</li> </ul>	Base 10	Part-whole model	Column addition
with up to 3	Place value counters		with partitioning
digits	Place value grids with Base 10 or		200 + 60 + 5
	counters		<u>100 + 60 + 4</u>







Addition: Year 4							
Vocabulary: addition, add	Vocabulary: addition, add, more, and, make, sum, total, altogether, double, near double, half, halve, Thousands,						
Hundreds, Tens, Ones, pa	rtition, column, decimal, decimal	point					
Objective	Concrete	Pictorial	Abstract				
• Add numbers with up to 4 digits	Base 10 Place value counters Place value grids with Base 10 or PV counters	Part-whole model	Column addition with exchange notation1378+21483526				
	Hundreds     Tens     Ones       Image: Constraint of the second	2,138 1,378 Place value grids with Base 10 or counters					



	Addi	tion: Year 5/6	
Vocabulary	addition, add, more, and, make, sum, tota	al, altogether, double, near double, ha	lf, halve, Thousands
Hundreds, T	ens, Ones, partition, column, decimal, dec	imal point	
Objective	Concrete	Pictorial	Abstract
<ul> <li>Add number s with more than 4 digits</li> </ul>	Place value counters Place value grids with counters (PV or blank) HTh TTh Th H T O O O O O O O O O O O O O O	Part-whole model ? 104,328 Bar model 104,328 61,731 104,328 61,731 ? 61,731 Place value grids with counters	Column addition with exchange notation         1       0       4       3       2       8         +       6       11       7       3       1         1       6       6       0       5       9
A . I . I		Deut wie ele use del	
• Add	Place value counters	Part-whole model	Column addition with
with up	Place value grids with counters (PV or		exchange notation







nore, how many fewer/les Pictorial roup of pictures for Idrep to cross out or	s than, most, least, count Abstract Focus on symbols and
Pictorial	Abstract
group of pictures for	Focus on symbols and
Pictorial	Abstract
group of pictures for	Focus on symbols and
roup of pictures for Idren to cross out or	Focus on symbols and
e visual supports such as a frames,	numbers to form an equation.
a + b + c + c + c + c + c + c + c + c + c	3 7 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	traction 3 - 1 = 5  visual supports such as a frames, 1  visual supports such as a frames, 1  visual supports such as a frames,







	Subtraction: Year 1						
Vocabulary:	Vocabulary: equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many						
fewer/less the	an, most, least, count back, how many left, l	now much less is					
Objective	Concrete	Pictorial	Abstract				
<ul> <li>Subtract</li> </ul>	Ten frames (within 10)	Part-whole model	Written				
two 1- digit numbers to 10		7 (?) (3)	equation from part-whole model				
	Bead strings (10)		7 _ 2 - 1				
	Number tracks	Bar model	7 - 3 = 4				
	Part-whole models with cubes/counters Number shapes	? 3					











Subtraction: Year 2						
Vocabulary:	Vocabulary: equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many					
fewer/less th	nan, most, least, count back, how many left, ho	w much less is, difference, count on, stra	tegy, partition,			
Tens, Ones						
Objective	Concrete	Pictorial	Abstract			
<ul> <li>Subtract</li> </ul>	Ten frames (within 20)	Cross out drawn objects to show what	Written			
1 and 2-		has been taken away	equation from			
digit			part-whole			
numbers		Part-whole model	model			
to 20		(6)				
		$\smile$ $\overbrace{14}^{14}$	Make Ten			
	Bead strings (20)	$\sim$	first, then			
	Number tracks	$\bigcirc$	subtract the			
		Bar model	rest			
		14	14 - 6 = 8			
	Straws		$\langle \cdot \cdot \rangle = 0$			
		6	4 2			
		8	$\bigcirc$ -			
		Ten frames (within 20)				
		lumps on a number line (counting back)				
		sumps on a number line (counting back)				



	Number shapes	-2 -4 0 1 2 3 4 5 6 7 8 9 10 11 12 13 16 15 16 17 18 19 20	
<ul> <li>Subtract</li> </ul>	Number lines (labelled)	Part-whole model	Written
1 and 2-	Number lines (blank)	$\cap$	equation from
digit	Straws	$\sim$	part-whole
numbers	mmm mmmm		model
to 100	\$	(28)	
10 100		Bar model	Written
		65	equation from
	Hundred square		pictorial
	Place value grid with Base 10 or place value	? 28	' representation
	counters	Number shapes	
		Number lines (labelled)	5_1_
		Number lines (blank)	65
		+2 +30 +5	- 28
		28 30 60 65	37



Tens	Ones	Place value grid with Base 10 or place	
<b>   ///</b> /-	> 111	value counters	
Tens	Ones		
ØØØ	00000 00000 00000 00000		



any more, how many
on, strategy, partition,
Abstract
Column subtraction with exchange notation alongside concrete/ pictorial resources "5 – 8? We need to exchange." 3435 – 273
262
Co w al pi e>



Subtraction: Year 4					
Vocabulary: equal t	Vocabulary: equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many				
fewer/less than, mo	ost, least, count back, how many left, how mu	uch less is, difference, count	t on, strategy, partition,		
Thousands, Hundre	ds, Tens, Ones, exchange				
Objective	Concrete	Pictorial	Abstract		
<ul> <li>Subtract with</li> </ul>	Base 10	Part-whole model	Column subtraction		
up to 4-digits	Place value counters		with exchange		
	Place value grids with Base 10 or counters	(4,357)	notation alongside		
	(PV or plain)	$\sim$	concrete/ pictorial		
	Thousands Hundreds Tens Ones		resources		
			"50 – 80? We need to		
			exchange."		
		Bar model	7.4		
	477				
		4,357	4357		
		2775 2	0775		
	Thousands Hundreds Tens Ones	2,735 ?	- 2735		
		4,357	1622		
	900000		1022		
	ØØ	2,735			



	Place value grids with	
	Base 10 or counters	



Subtraction: Year 5				
Vocabulary: equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many				
fewer/less than	, most, least, count back, how many left, ho	ow much less is, difference, count	on, strategy, partition,	
Thousands, Hur	dreds, Tens, Ones, tenths, hundredths, tho	usandths, exchange	1	
Objective	Concrete	Pictorial	Abstract	
<ul> <li>Subtract</li> </ul>	Base 10	Part-whole model	Column subtraction	
with more	Place value counters	$\bigcirc$	with exchange	
than 4-	Place value grids with Base 10 or	(294,382)	notation alongside	
digits	counters (PV or plain)	$\sim$	concrete/ pictorial	
	HTh TTh Th H T O	182,501       ?         Bar model       294,382         182,501       ?         294,382       ?         182,501       ?         182,501       ?         182,501       ?         ?       ?	resources "500 − 800? We need to exchange." 2 9 3 13 8 2 - 1 8 2 5 0 1 1 1 1 8 8 1	



		Place value grids with Base 10 or counters	
<ul> <li>Subtract with up to 3 decimal places</li> </ul>	Base 10 Place value counters Place value grids with Base 10 or counters (PV or plain)	Part-whole model 2.7 5.43 Bar model 5.43 2.7 ? Place value grids with Base 10 or counters	Column subtraction with exchange notation alongside concrete/ pictorial resources " $0.5 - 0.8$ ? We need to exchange." Include a variety of decimal places and contexts, e.g. money. $\frac{45.43}{5.43}$ $-2.7$ $2.73$

Subtraction: Year 6



**Vocabulary:** equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many fewer/less than, most, least, count back, how many left, how much less is..., difference, count on, strategy, partition, Thousands, Hundreds, Tens, Ones, tenths, hundredths, thousandths, exchange

Objective	Concrete	Pictorial	Abstract
<ul> <li>Subtract with up to 3</li> </ul>	Base 10	Part-whole model	Column subtraction with
decimal places	Place value counters	$\left(\begin{array}{c} 2 \end{array}\right)$	exchange notation
	Place value grids with Base 10		alongside concrete/
	or counters (PV or plain)		pictorial resources
	Ones Tenths Hundredths	5.43	"0.5 – 0.8? We need to
		$\bigcirc$	exchange."
		Bar model	Include a variety of
		5.43	decimal places and
			contexts, e.g. money.
		2.7 ?	1 1
	Ones Tenths Hundredths	++	5/3
		5.43	2.45
			-2.7
		2.7	
		Place velue gride with Dece	2.73
		Place value grius with Base	
		10 or counters	







	-00-00-00-00-00-00-00-		
	Number lines		
	Ten frames		
<ul> <li>Recall and use</li> </ul>	Number shapes	Bar model	Written multiplication
multiplication and		Number shapes	facts alongside pictorial
division facts for the		Number lines	representations
5-times table	Counters	Ten frames	
	1 2 3 4 5 6 7 8 9 10		Daily counting in
	11 12 13 14 (15) 16 17 18 19 (20)		multiples forwards and
	21 22 23 24 25 26 27 28 29 30		backwards; support
	31 32 33 34 35 36 37 38 39 40		bundred square
			nanarca square.
			Look for patterns using
	Money		concrete manipulatives
	(280)(280)(280)(280)(280)		to support; notice the
			pattern in the Ones and
	Everyday objects		highlight the odd, even,
			odd, even pattern.
	Bead strings		
	-00000-00000-		











Times Tables: Year 3				
Vocabulary: multiply, multiplication, times, lots of, groups of, divide, division, shared between, how many are in				
Objective	Concrete	Pictorial	Abstract	
<ul> <li>Recall and use multiplication and division facts for the 3- times table</li> </ul>	Hundred square Number shapes Counters Bead strings Number lines Everyday objects	Bar model Number shapes Number lines	Written multiplication facts Daily counting in multiples forwards and backwards; support using number line or hundred square	
3	1       2       3       4       5       6       7       8       9       10         11       12       13       14       15       15       17       18       19       20         20       22       23       24       25       26       22       22       23         31       32       33       34       35       39       37       38       39       40         41       42       43       44       45       46       47       48       49       50	$ \begin{array}{c}                                     $	Look for patterns using concrete manipulatives to support; notice the odd, even, odd, even pattern using number shapes to support; highlight the pattern in the Ones using a hundred square.	
	-999-999-99	9-900-000-		
	0 3 6 9 12 15 18	+ + + + + → 21 24 27 30 33 36		


<ul> <li>Recall and use multiplication and division facts for the 4- times table</li> </ul>	Hundred square Number shapes Counters Bead strings Number lines Everyday objects	Bar model Number shapes Number lines	Written multiplication facts Daily counting in multiples forwards and backwards; support using number line or hundred square.
4	1       2       3       4       5       6       7       8       9       10         1       12       13       14       15       16       17       18       19       20         21       22       23       20       25       26       27       29       30         31       30       33       34       35       35       37       38       39       40         41       42       43       44       46       47       49       950         4       8       12       16       20       24       28       32       36       40         44       48       52       56       60       94       94       950       94       94       950       94       94       94       950       94       94       950       94       94       950       94       94       950       94       94       950       94       94       950       94       94       950       94       94       950       94       94       950       94       94       950       94       94       94       94       94       94       94		Look for patterns using concrete manipulatives to support; make links to the 2-times table, seeing how each multiple is double the twos; notice the pattern in the Ones within each group of five multiples; highlight that all the multiples are even using number shapes to support.



<ul> <li>Recall and use</li> </ul>	Hundred square	Bar model	Written multiplication facts
multiplication and	Number shapes	Number shapes	
division facts for the 8-	Bead strings	Number lines	Daily counting in multiples
times table	Number lines		forwards and backwards;
	Everyday objects		support using number line
			or hundred square.
8	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1       2       3       4       5       6       7       8       9       10         11       12       13       14       15       16       17       18       19       20         12       12       23       23       25       26       27       28       29       30         31       30       33       34       35       36       37       38       39       40         41       42       43       44       45       46       47       49       49       50         51       52       53       54       55       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	Look for patterns using concrete manipulatives to support; make links to the 4-times table, seeing how each multiple is double the fours; notice the pattern in the Ones within each group of five multiples; highlight that all the multiples are even using number shapes to support.
	Hundred square	Bar model	Written multiplication facts



Recall and use	Numb	er sha	apes			Nu	mb	er	sha	ape	es				
multiplication and	Bead	strings	5			Nu	mb	er	lin	es					Daily counting in multiples
division facts for the 6-	Numb	er line	es												forwards and backwards;
times table	Every	day ob	ojects												support using number line
	-	-	-												or hundred square.
6	6 36 66	12 42 72	18 18 48 78	24 54 84	30 60 90		1 11 21 31 41 51 61 71 81 91	2 22 32 52 62 72 82 92	3 13 13 23 33 3 43 43 43 43 43 43 43 43	4       5         14       1£         22       22         23       22         24       34         34       88         34       99	3     6       5     16       5     26       5     36       5     5       5     5       5     66       5     76       5     86       5     96	7         5       17         5       27         37       5         5       47         5       57         5       67         5       87         97	8 28 38 68 78 88 98	9     10       19     20       29     39       39     40       49     50       59     69       70     80       89     90       99     100	or hundred square. Look for patterns using concrete manipulatives to support; make links to the 3-times table, seeing how each multiple is double the threes; notice the pattern in the Ones within each group of five multiples; highlight that all the multiples are even using number shapes to support.
			12 18	B 24 3	0 36	+ 42	48	35		+ 50	66	-  72	2	>	





 Recall and use multiplication and division facts for the 9times table



n and for the 9-       Number shapes Bead strings Number lines       Number shapes Number lines       Daily counting in multiples forwards and backwards; support using number line or hundred square.         Image: Construction of the first stress	е	Hundred square	Bar model	Written multiplication facts
for the 9- Bead strings Number lines Daily counting in multiples forwards and backwards; support using number line or hundred square. Look for patterns using concrete manipulatives to support; notice the pattern in the Tens and Ones using the hundred square to support; notice the odd, even pattern within the multiples. Daily counting in multiples forwards and backwards; support using number line or hundred square. Look for patterns using concrete manipulatives to support; notice the pattern in the Tens and Ones using the hundred square to support; notice the odd, even pattern within the multiples.	n and	Number shapes	Number shapes	
Number linesImage: Number linesIm	for the 9-	Bead strings	Number lines	Daily counting in multiples
$\frac{9}{18} \frac{27}{72} \frac{36}{81} \frac{45}{90}$ $\frac{9}{18} \frac{27}{72} \frac{36}{81} \frac{45}{90}$ $\frac{9}{9} \frac{18}{18} \frac{27}{72} \frac{36}{81} \frac{45}{90}$ $\frac{9}{9} \frac{18}{18} \frac{27}{72} \frac{36}{81} \frac{45}{90}$ $\frac{9}{9} \frac{18}{18} \frac{27}{72} \frac{36}{81} \frac{45}{90}$ $\frac{9}{9} \frac{18}{92} \frac{27}{36} \frac{45}{81} \frac{5}{90}$ $\frac{9}{9} \frac{18}{92} \frac{27}{36} \frac{45}{85} \frac{5}{84} \frac{63}{63} \frac{72}{81} \frac{8}{90} \frac{9}{90}$ $\frac{9}{9} \frac{18}{92} \frac{27}{36} \frac{45}{85} \frac{5}{84} \frac{63}{63} \frac{72}{81} \frac{8}{90} \frac{9}{90}$ $\frac{9}{9} \frac{18}{92} \frac{27}{36} \frac{45}{85} \frac{5}{84} \frac{63}{63} \frac{72}{81} \frac{8}{90} \frac{9}{90}$ $\frac{9}{9} \frac{18}{92} \frac{27}{36} \frac{45}{85} \frac{5}{84} \frac{63}{63} \frac{72}{81} \frac{8}{90} \frac{9}{90}$		Number lines		forwards and backwards;
9       18       27       36       45       5       6       7       8       9       10 <td></td> <td></td> <td></td> <td>support using number line</td>				support using number line
$\frac{9}{18} \frac{27}{72} \frac{36}{81} \frac{45}{90} \frac{5}{9} \frac{5}{$				or hundred square.
9       18       27       36       45         54       63       72       81       90         9       22       23       24       25       26       29       30         11       12       13       4       46       44       49       50         12       22       23       34       35       69       37       88       99       100         14       42       43       44       66       66       67       86       97       100			1 2 3 4 5 6 7 8 9 10	
2       22       23       24       25       26       29       30         3       32       33       34       35       36       37       38       39       40         41       42       43       44       66       47       48       49       50         54       63       72       81       90       55       56       57       56       59       60         61       62       66       67       68       69       70       77       78       79       80         69       12       83       84       85       66       77       78       79       80         69       12       85       84       85       66       97       98       69       69       79       98       69       69       69       79       88       89       69       69       69       79       98       69       69       69       79       88       89       69       69       69       69       79       88       89       69       69       69       69       69       69       69       69       69       69       69			11 12 13 14 15 16 17 18 19 20	Look for patterns using
$\frac{3}{14} \frac{3}{42} \frac{2}{43} \frac{3}{44} \frac{3}{69} \frac{3}{64} \frac{3}{7} \frac{3}{88} \frac{3}{99} \frac{40}{40}$ $\frac{3}{14} \frac{42}{42} \frac{43}{44} \frac{44}{69} \frac{46}{64} \frac{47}{48} \frac{49}{49} \frac{50}{60}$ $\frac{5}{15} \frac{5}{25} \frac{5}{5} \frac{5}{5} \frac{5}{5} \frac{5}{5} \frac{5}{5} \frac{5}{6} \frac{5}{7} \frac{7}{88} \frac{59}{99} \frac{60}{60}$ $\frac{5}{16} \frac{5}{22} \frac{2}{63} \frac{5}{29} \frac{5}{5} \frac{5}{5} \frac{5}{6} \frac{5}{7} \frac{7}{88} \frac{79}{98} \frac{70}{60}$ $\frac{6}{19} \frac{22}{23} \frac{2}{3} \frac{3}{4} \frac{45}{5} \frac{5}{56} \frac{6}{67} \frac{7}{88} \frac{79}{89} \frac{70}{60}$ $\frac{9}{19} \frac{22}{23} \frac{2}{3} \frac{3}{4} \frac{45}{5} \frac{5}{56} \frac{6}{97} \frac{7}{88} \frac{79}{89} \frac{70}{100}$ $\frac{9}{19} \frac{18}{27} \frac{27}{36} \frac{45}{45} \frac{5}{54} \frac{5}{63} \frac{72}{72} \frac{81}{81} \frac{90}{99} \frac{99}{108}$ $\frac{9}{100} \frac{1}{100} 1$			21 22 23 24 25 26 27 28 29 30	concrete manipulatives to
9       18       27       36       45         54       63       72       81       90         1       1/2       2/3       2/4       1/4			31 32 33 34 35 36 37 38 39 40	support: notice the pattern
3       13       27       30       43         54       63       72       81       90         1       10       12       13       14       15       16 <t< td=""><td></td><td>0 18 27 36 44</td><td></td><td>in the Tens and Ones using</td></t<>		0 18 27 36 44		in the Tens and Ones using
54       63       72       81       90       Image: state of the state o		9 10 27 50 43		the hundred square to
Image: State of the state		54 63 72 81 90		support: notice the odd
91 92 93 94 95 96 97 98 99 100       even pattern within the multiples.         ••••••••••••••••••••••••••••••••••••			81 82 83 84 85 86 87 88 89 99	support, notice the odd,
Image: Comparison of the second se			91 92 93 94 95 96 97 98 99 100	even pattern within the
••••••••••••••••••••••••••••••••••••				multiples.
		-000000000-00000		
0 9 18 27 36 45 54 63 72 81 90 99 108				
0 9 18 27 36 45 54 63 72 81 90 99 108				
		0 9 18 27 36 45 5	4 63 72 81 90 99 108	



Recall and use	Hundred	squa	re			Bai	Bar model							Written multiplication facts	
multiplication and	Base 10					Nu	Number lines								
division facts for the 11-	Place val	ue co	unte	ers											Daily counting in multiples
times table	Number	lines													forwards and backwards;
															support using number line
						ſ	1	2 7	4	5	6	7	9 C	10	or hundred square.
	11 22	.33	44	55	66		- -	2 13	14	15	16	17	18 19	20	
(11)	77 88	99	110	121	132		21 (	2 23	24	25	26	27	28 29	3 30	Look for patterns using
				II		-	31 3	2 33	) 34	35	36	37	38 3	9 40	
	10 1	10				, [	41 4	2 43	44	45	46	47	48 4	9 50	concrete manipulatives to
			ŏ			. [	51 5	i2 53	54	65	56	57	58 5	9 60	support; notice the pattern
							61 6	63	64	65	66	67	68 6	9 70	in the Tens and Ones using
				•	•) []	)	71 7	2 73	74	75	76	$\bigcirc$	78 79	80	the hundred square to
						-	81 8	2 83	84	85	86	87 (	88 8	90	support; consider the
						L	91 9	93	94	95	96	97	98 98	100	pattern after crossing 100.
	P	<b>B B</b>				PI							<b>A</b> A		
					•									<u> </u>	
		<b>H</b>			•								EE	•	
								<b>.</b>							
		$\vdash$	+	+	+	+	+	-		+	+	_		$\geq$	
	0 1	1 22	33	44 5	55 66	77	88	9	9 1	10	121	13	2		
	Hundred	squa	re			Bai	r m	ode	l						Written multiplication facts



Recall and use	Base 1	LO				Nu	mb	er l	ines					
multiplication and	Place value counters													Daily counting in multiples
division facts for the 12-	Numb									forwards and backwards;				
times table														support using number line
														or hundred square.
							1	2	z _ /	5	6 7	7 8	9 10	
	12	24	36	48	60		11	12 1	3 14	15 1	16 1	7 18	19 20	Look for patterns using
	72	84	96	108	120		21	22 2	3 24	25 2	26 2	27 28	29 30	concrete manipulatives to
	170		50	100			31	32 3	3 34	35 🤇	36 3	57 38	39 40	support: make links to the
17	132	144					41	42 4	3 44	45 4	46 4	17 (48)	49 50	6-times table seeing how
				1			51	52 5	3 54	55 5	56 5	57 58	59 🙆	each multiple is double the
			$\ge$	$\rightarrow$		$\mathbf{i}$	61 71	62 6	3 64	65 E	56 6 76 7	7 68	69 70 79 80	sives: notice the nattorn in
							81	82 8	3 84	85 8	36 8	37 88	89 90	sixes, notice the pattern in
					10		91	92 9	3 94	95 🤇	9	97 98	99 100	the Ones within each group
														of five multiples using the
			88.					1						hundred square to support.
		-									EE		E	
					1 1						1	1	\	
		6	2 2	4 36	48 60 7	2 84	. 9	6 10	08 12	ют	32	144	~	
		•			+0 00 /	- 01	•							
	1													l



Multiplication: EYFS								
Vocabulary: even, odd, double, doubling, equal groups, groups of, lots of, adding								
Early Learning Goals	Concrete	Pictorial	Abs	Abstract				
<ul> <li>Early Learning Goals</li> <li>Explore and represent patterns within numbers up to 1, including evens and odds, double facts and how quantities can be distributed equally.</li> </ul>	Concrete Physical and real life examples that encourage children to see the concept of doubling as adding two equal groups	Pictorial Pictures and icons that encourage children to see the concept of doubling as adding two equal groups 1 2 2 2 2 4 2 2 4 4	Abs Addition equa model adding groups 1+1 = $2+2 =$ $3+3 =$ $4+4 =$ $5+5 =$ $6+6 =$	tract         ations to         ations to         two equal $7 + 7 =$ $8 + 8 =$ $9 + 9 =$ $10 + 10 =$ $11 + 11 =$ $12 + 12 =$				



Multiplication: Year 1								
Vocabulary: groups of, lots of	of, times, array, altogether, mu	ltiply, multiples, doubling, rep	eated addition, array					
Objective	Concrete	Pictorial	Abstract					
<ul> <li>Doubling</li> <li>Counting in multiples</li> <li>Repeated addition</li> <li>Understanding arrays</li> </ul>	Number shapes	Bar model	Written repeated addition 2 + 2 + 2 + 2 + 2 = 10 Written multiplication alongside repeated addition can be modelled $2 \times 5 = 10$ $5 \times 2 = 10$ No expectation for children to record multiplication formally.					



	Blocks/cubes Everyday objects (esp. pairs) Making arrays		
<ul> <li>Solve 1-step problems using multiplication</li> </ul>	Number shapes Counters Counters Ten frames Bead strings Number lines Blocks/cubes Everyday objects (esp.	Bar model	One bag hold five apples. How many apples do 5 bags hold? Written repeated addition 5 + 5 + 5 + 5 = 20 Written multiplication alongside repeated addition can be modelled







Multiplication: Year 2								
Vocabulary: groups of, lots of	of, times, array, altogether, mu	ltiply, multiply by, repeated ac	ldition, sets of, equal groups,					
times as big as, commutative								
Objective	Concrete	Pictorial	Abstract					
<ul> <li>Counting in multiples of 2, 3, 4, 5 and 10</li> <li>Repeated addition</li> <li>Understanding arrays</li> <li>Multiplication is commutative</li> <li>Using the inverse (alongside division)</li> </ul>	Counting sticks Number shapes Counters Number squares 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 Ten frames Bead strings	Bar model 3 3 3 3 7 Ten frames 10 0 0 0 0 0 10 20 30 40 50 60 70 80 90 100 0	Written multiplication: introduction to the multiplication symbol. 4 x 5 = 20 2 x 6 = 12 Write sequences with multiples of numbers. 2,4,6,8,10 3,6,9,12,15					



	83 83 83		
	Fingers		
	Arrays		
	$\star$		
	***		
	$\star \star \star$		
	Everyday objects		
<ul> <li>Solve 1-step problems</li> </ul>	Number shapes	Bar model	One bag hold five apples.
using multiplication			How many apples do 5 bags hold?
	Counters	10	
		5 5	Written repeated addition
		Ten frames	5 + 5 + 5 + 5 = 20
	Ten frames	Number lines	Written multiplication
	Bead strings	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	alongside repeated
	-999999-999999-000000-000000-	Arrays	addition can be modelled



	Number lines Blocks/cubes	$\bigcirc \bigcirc $	$4 \times 5 = 20$
	Everyday objects (esp. pairs)		$5 \times 4 = 20$
		s	Introduction to the multiplication symbol and written equations. 4 x 5 = 20
	Multiplicat	ion: Year 3	
Vocabulary: groups of, lots of times as big as, commutative	f, times, array, altogether, mu e, product, multiples of, scale u	ltiply, multiply by, repeated ac p, multiplication facts, Ones, T	dition, sets of, equal groups, ens
Objective	Concrete	Pictorial	Abstract
<ul> <li>Multiply 2-digit numbers by 1-digit numbers</li> </ul>	Place value counters	Place value counters on place value chart	Column multiplication with partitioning 24 x 3 20 x 3 = 60 4 x 3 = <u>12</u> 72
			Column multiplication







		methods.				
Solve problems involving scaling	Cubes or counters	methods. Bar models $4 \times = 20$ 20 4	Written methods as above			
Multiplication: Year 4						
Vocabulary: groups of, lots o	f, times, array, altogether, mu	ltiply, multiply by, repeated ad	ldition, sets of, equal groups,			



times as big as, commutative, product, multiples of, scale up, inverse, derive, multiplication facts, Ones, Tens, Hundreds

Objective	Concrete	Pictorial		Abstra	act		
<ul> <li>Multiply 3-digit numbers</li> </ul>	Place value counters	Place value counters on	Column	nultipl	icatio	n	
by 1-digit numbers	Base 10	place value chart	expande	b			
		Hundreds Tens Ones	24				
			<u>x 3</u>				
			3				
			120				
		Base 10 on place value	<u>600</u>				
		chart	721				
		Hundreds Tens Dires					
			Column multiplication with				
			exchang	e notat	ion		
			H	Т	0		
					_		
			2	4	5		
			<u>x</u>	2	4		
			ç	8	0		
		Bar modelling and number			-		
		lines can support learners					
		when solving problems					



	with multiplication,	Always multiply the Ones
	alongside the written	first.
	methods.	
		Limit number of exchanges
		needed in questions and
		move children away from
		resources when multiplying
		larger numbers.



	Multiplication: Year 5						
Vocabulary: groups of, lots c	f, times, array, altogether, multiply, multiply by, repeated ad	dition, sets d	of, equal groups,				
times as big as, commutative	product, multiples of, scale up, inverse, derive, factor pairs,	, composite r	numbers, prime				
numbers, factors, squared, c	ibed, Ones, Tens, Hundreds, Thousands						
Objective	Concrete Pictorial	Α	bstract				
• Multiply 4-digit numbers	Place value counters Place value counters on	Column mu	ultiplication				
by 1-digit numbers	Multiplication grids (to place value chart	expanded in	f needed				
	support times table facts)						
	1     2     3     4     5     6     7     8     10	Column mu	ultiplication with				
		exchange n	otation				
	31     32     33     34     35     36     37     38     39     40	Th	H T O				
	51 52 53 64 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 Bar modelling and number	1	8 2 6				
	71 72 73 74 75 76 77 78 79 80						
	81         82         83         84         85         86         87         88         89         90         when solving problems	_ <b>X</b> 2	<u> </u>				
	91 92 93 94 95 96 97 98 99 100 with multiplication	5	4 7 8				
	alongside the written		ltiply the Open				
	methods	Always IIIui	htply the ones				
	methods.		7 5 470				
		1,826 ×	5 = 5,478				
		Limit numb	er of exchanges				
		needed in c	questions and				



Multiply 2-digit numbers     by 2-digit numbers	Base 10 on area model	Base 10 on area model	move children away from resources when multiplying larger numbers. Grid method to match area model					
by 2 digit numbers	area model			20	2			
				20				
			30	600	60			
	0         00         00         0         0           0         00         00         00         0         0		1	20	2			
		Place value counters on	Place value counters on	Place value counters on	Column exchang	multiplica se notatio	ation with n	
		area model	Н	ΤΟ				
				2 6				
			x	<b>1</b> ₁ 3				
			21	7 8 6 0				
			3	3 8				



<b>*</b>							
Multiply 3-digit numbers	Place value counters on	Place value counters on	Grid	meth	od to	o mato	ch area
by 2-digit numbers	area model	area model	mode	elifn	eede	d	
			×	2	00	30	4
			30	6,0	000	900	120
			2	4	00	60	8
			Colur	nn m	ultip	licatio	on with
			excha	ange	nota	tion	
				т	Н	т	0
					2	3	4
			x		<b>X</b> 1	1 <b>3</b>	2
					4	6	8
				7	0	2	0
				7	4	8	8



Multiplication: Year 6								
Vocabulary: groups of, lots o	f, times, array, altogether, mu	ltiply, multiply by, repeated ac	ldition	, set	s of,	equa	al grou	ups,
times as big as, commutative	, product, multiples of, scale u	p, inverse, derive, factor pairs	, comp	osite	e nur	mbei	rs, pri	me
numbers, factors, squared, c	ubed, Ones, Tens, Hundreds, T	housands, Ten Thousands						
Objective	Concrete	Pictorial			Abst	tract		
<ul> <li>Multiply 4-digit numbers</li> </ul>	Children should be	Children should be	Colui	mn n	nulti	plica	tion v	vith
by 2-digit numbers	confident in the written	confident in the written	exch	ange	not	atior	า	
	method.	method.	тть	Th	н	т	0	
	1 2 3 4 5 6 7 8 9 10				-	•	0	
	11 12 13 14 15 16 17 18 19 20	Bar modelling can support		2	7	3	9	
	21 22 23 24 25 26 27 28 29 30	learners when solving				2	8	
	31 32 33 34 35 36 37 38 39 40	problems with		5	3	<b>Z</b> 7	, 0	
	41 42 43 44 43 46 47 48 49 50	multiplication, alongside	2	1	9 1	1	2	
	61 62 63 64 65 66 67 68 69 70	the written methods.	5	4	7	8	0	
	71 73 74 75 76 77 78 79 80			1				
	81         82         83         84         85         86         87         88         89         90		7	6	6	9	2	
	91 92 93 94 95 96 97 98 99 100							
• Multiply decimals up to 2	Place value counters on	Place value counters on	Colu	nn n	nulti	plica	tion v	vith
decimal places by	area model	area model	exch	ange	not	atior	ו	
integers	3.2 x 3			-				
-		Bar modelling can support						
		learners when solving						
		problems with						



Ones     Tenths       1     1     1       1     1     1       1     1     1	multiplication, alongside the written methods.	x	3	• 7	2 3	
			0	• 0 • 1	6 0	
		1	9	0	0 6	

	Division: EYFS					
Vocabulary: even, odd, share	e, share equally, one each, two e	each, group, groups of, lots of, h	alf, halving			
Early Learning Goals	Concrete	Pictorial	Abstract			
• Explore and represent patterns in numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.	Children have the opportunity to physically cut objects, food or shapes in half. Counting and other maths resources for children to share into two equal groups.	Pictures and icons that encourage children to see the concept of halving in relation to subitising; addition and subtracting knowledge, i.e. knowing that 4 is made of 2 groups of 2 so half of 4 is 2.	Not applicable at this age/stage			



*			
	Counting and other maths	Bar model with pictures or	
	resources for children to	icons to support	
	explore sharing between	understanding of finding 2	
	three or more.	equal parts of a number, to	
		further understand how two	
	Use visual supports such as	halves make a whole.	
	halving mats and part-part		
	whole models with physical	Pictures for children to	
	objects and resources that	create and visualize 3 or	
	can be manipulated.	more equal groups.	
	explore sharing between three or more. Use visual supports such as halving mats and part-part whole models with physical objects and resources that can be manipulated.	equal parts of a number, to further understand how two halves make a whole. Pictures for children to create and visualize 3 or more equal groups.	



Division: Year 1							
Vocabulary: share, share equally, one each, two each, group, groups of, lots of, array							
Objective	Concrete	Pictorial	Abstract				
• Solve one-step problems with division (sharing)	Real life objects Cubes/counters Cubes/counters Cubes/counters Cubes/counters Cubes/counters Cubes/counters	Bar model 20 ? ? ? ? ? Arrays	Worded equation, e.g. Share20 apples equally between 5 bags. Written multiplication alongside worded equation No expectation for children to record division formally.				
<ul> <li>Solve one-step problems with division (grouping)</li> </ul>	Real life objects	Arrays	Worded equation, e.g. There are 20 apples altogether. They are put in bags of 5. How many bags are there? Written multiplication alongside worded equation				



-00000-		
Ten fra	nes	Repeated subtraction
		alongside number line No expectation for children to record division formally.
Cubes/o	counters	



Division: Year 2				
<b>Vocabulary:</b> share, share equally, one each, two each, group, groups of, lots of, array, divide, divided by, divided into, division, grouping, number line, left, left over, partition				
Objective	Concrete	Pictorial	Abstract	
• Solve one-step problems with division (sharing)	Real life objects Cubes/counters Cubes/counters Cubes/counters Cubes/counters Cubes/counters	Bar model 20 ? ? ? ? ? Arrays • • • • • • • • • •	Worded equation, e.g. Share20 apples equally between 5 bags. Written multiplication alongside worded equation Introduction to the division symbol and written equations. $20 \div 5 = 4$	
• Solve one-step problems with division (grouping)	Real life objects	Arrays	Worded equation, e.g. There are 20 apples altogether. They are put in bags of 5. How many bags are there?	



	Bead strings Ten frames		Written multiplication alongside worded equation Repeated subtraction alongside number line Introduction to the division symbol and written equations. $20 \div 5 = 4$
• Divide 2-digits by 1-digit (sharing with no exchange)	Straws	Place value counters on place value chart Tens Ones O O O O O O O O O O O Base 10 on place value chart Part-whole model	Worded equation, e.g. Share 48 stickers between 2 people Written multiplication alongside worded equation Repeated subtraction alongside number line Part-whole partition model







Division: Year 3				
Vocabulary: share, share equally, one each, two each, group, groups of, lots of, array, divide, divided by, divided into,				
division, grouping, number li	ne, left, left over, remainder, p	artition, product		
Objective	Concrete	Pictorial	Abstract	
• Solve one-step problems with division (grouping)	Real life objects Number shapes Bead strings Ten frames Cubes/counters	Arrays Number line (repeated subtraction)	Worded equation, e.g. There are 20 apples altogether. They are put in bags of 5. How many bags are there? Written multiplication alongside worded equation Repeated subtraction alongside number line Introduction to the division symbol and written equations. $20 \div 5 = 4$	



<ul> <li>Solve one-step problems with division (arrays)</li> </ul>	Real life objects Number shapes Bead strings Ten frames Other shapes Other shapes	Arrays Drawn arrays with lines to split the array into groups to make multiplication and division sentences	Written division 28 ÷ 4 = 7 28 ÷ 7 = 4
<ul> <li>Divide 2-digits by 1-digit (sharing with no exchange)</li> </ul>	Straws	Place value counters on place value chart	Worded equation, e.g. Share 48 sweets between 2 people Written multiplication



	Base 10 Place value counters	Tens     Ones       Image: Construction of the second secon	alongside worded equation Repeated subtraction alongside number line Part-whole partition model Written equations $48 \div 2 = 24$
• Divide 2-digits by 1-digit	Base 10	Place value counters on	Worded equation
(sharing with exchange		Pace 10 on place value	alongsido wordod ogustion
and no remainder)		Base to on place value	alongside worded equation
			Repeated Subtraction
		Part-whole model	alongside number line











Division: Year 4					
Vocabulary: share, share equally, one each, two each, group, groups of, lots of, array, divide, divided by, divided into,					
division, grouping,	division, grouping, number line, left, left over, remainder, partition, product, division facts, inverse, derive				
Objective	C	Concrete	Pictorial	Abstract	
<ul> <li>Divide 2-digits</li> </ul>	Base 10		Place value counters on place	Worded equation	
by 1-digit			value chart	Written multiplication	
(sharing with	Tens	Ones	Base 10 on place value chart	alongside worded	
exchange and	(TETTED)		Part-whole model	equation	
no remainder)			$\bigcirc$	Repeated subtraction	
			( 52 )	alongside number line	
			$\sim$		
	Place value c	ounters		Part-whole partition	
				model	
		000000	$ \downarrow  \downarrow  \downarrow  \downarrow  \downarrow  \downarrow  \downarrow  \downarrow  \downarrow  \downarrow$		
	Tens	Ones	$\div 4 \checkmark \checkmark \checkmark \uparrow$	Use of the division	
	<u> </u>	000	10 3	symbol and written	
	<b>•</b>	000	10 + 3 = 13	equations.	
	•	000	Bar model		
	<b>1</b>	000		52÷ 4 = 13	



		52	
<ul> <li>Divide 2-digits by 1-digit (sharing with exchange and remainder)</li> </ul>	Base 10	Place value counters on place value chart Base 10 on place value chart Part-whole model 53 40 13 +4 12 10 $+4$ 1 12 1 Bar model	Worded equation Written multiplication alongside worded equation Repeated subtraction alongside number line Part-whole partition model Use of the division symbol and written equations. $53 \div 4 = 13 \text{ r } 1$


		53 13 13 13 13 1	
• Divide up to 3 digit numbers by 1 digit (sharing)	Place value counters to share 3- digit numbers into equal groups.	Flexible partitioning in a part- whole model supports this method. Bar models:	Begin with divisions that divide equally with no remainder. 844 ÷ 4 = 211 Children should be aware that a 0 is used to keep place value, if the number is not divisible. Move onto divisions with a remainder. No formal method



		84	44		
This can help highlight remainders.	?	?	?	?	



	Division: Year 5												
Vo	Vocabulary: share, share equally, one each, two each, group, groups of, lots of, array, divide, divided by, divided into,												
div	division, grouping, number line, left, left over, remainder, partition, product, division facts, inverse, derive, formal												
wri	written method.												
	Objective	Concrete	Abstract										
•	Divide up to 3-digit numbers by 1 digit (grouping)	Place value counters or plain counters can be used on a place value grid to support this understanding. Hundreds Tens Oner Solution Solution (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Children can draw their own counters and group them through a more pictorial method.	$856 \div 4 = 214$									
•	Divide up to 4-digit	Place value counters or plain counters can be used on a	Children can draw their own counters and group them	Children should be encouraged to move away									
	numbers by 1	place value grid to support this	through a more pictorial	from the concrete and									
	digit	understanding.	method.	pictorial when dividing									
	(grouping)			numbers with multiple									
				exchanges.									







					Division	:Year 6						
Voc divi writ	<b>abulary:</b> share, sha sion, grouping, nur ten method, quoti	are equal nber line ent, divis	ly, one ea , left, left or, divide	ch, two e over, rem nd, vincu	ach, grou Iainder, p Ium.	p, group: artition,	s of, lots of product, di	of, array, divide, divided by, divided in division facts, inverse, derive, formal	nto,			
	Objective					Α	bstract					
•	To divide multi- digits by 2 digits(short				0	3	6	When children beg divide up 4-digits b digits, written meth	in to y 2- hods			
division)			12	4	<sup>4</sup> 3	7 2	become the most accurate as concret and pictorial becon	t rete ome				
			432	÷ 12	= 36	Children can write	Children can write out					
			0	4	8	9	number bank to support with their	3				
							15	7	73	13 3	13 <sub>5</sub>	calculations. Children will also so
			7,3	5 <b>3</b> 5 -	÷ 15	= 4	189	problems with remainders where quotient can ba	the			



T											rounded as appropriate.
	15	30	45	60	75	90	105	120	135	150	



Divide multi • digits by 2-digits (long division)

•	37	72	÷	1	5	=	2	4	r12
				2	4	r	1	2	
	1	5	3	7	2				
		-	3	0	0				
				7	2				
		-		6	0				
				1	2				

 $1 \times 15 = 15$ 

$$3 \times 15 = 45$$

$$4 \times 15 = 60$$

 $10 \times 15 = 150$ 

When a remainder is left at the end of a calculation, children can either leave it as a remainder or convert it to a fraction. This will depend on the context of the question. Children can also answer questions where the quotient needs to be rounded according to context.



• Divide multi		Г									1	When a remainder is
digits by 2-di	gits					2	4	r	1	2	$1 \times 15 = 15$	left at the end of a
(long division	)		1	5	3	7	2				$2 \times 15 = 30$	calculation, children can either leave it as a
				-	3	0	0	_			3 × 15 = 45	remainder or convert it
				_	_	7	2	-	-		$4 \times 15 = 60$	to a fraction. This will depend on the
		+	_	-	_	1	0	-	-		5 × 15 = 75	context of the
		$10 \times 15 = 150$					question.					
		3	72	2÷	- 1	15 = 2			<b>4</b> I	12	2	Children can also
								2	4	$\frac{4}{5}$		
			1	5	2	5	7	2				needs to be rounded
				-	13	3	0	0				according to context.
							7	2			Λ	
				-			6	0			$372 \div 15 = 24 \frac{4}{5}$	
							1	2			C C	