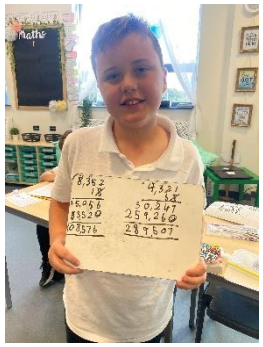
Christopher Pickering Primary School

Be the Best you can Be!

CHRISTOPHER PICKERING PRIMARY SCHOOL



Calculation Policy

Headteacher: Mrs J Marson Date: Autumn 2024 Review Date: Autumn 2025

Subject Leads: Mrs T Yardley and Mrs J Coulter

Christopher Pickering Primary School Maths Calculation Policy 2024-2025

Aims:

1. Provide high quality mathematics education: our aim is to provide depth, variety and enjoyment each day in every class, to provide the optimum environment for all children to succeed.
2. Deliver consistency in pedagogy: it is crucial for children to develop procedural fluency alongside a deep grasp of the base ten number system, which stems from all staff teaching the right thing at the right time.
3. Enable aspiration: secure mathematical skills underpin success in everyday life and facilitate the pursuit of fulfilling and well-paid careers.

Context:

The aims of The National Curriculum (2013) state that all children should progress at broadly the same rate whilst developing fluency in fundamental number work, reasoning abilities (in terms of both language and mathematical proof) and the capacity to solve problems (demonstrating flexible and creative thinking in a range of situations).

Mastery:

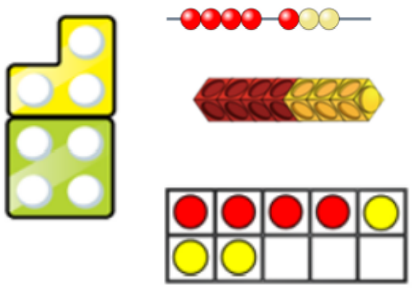
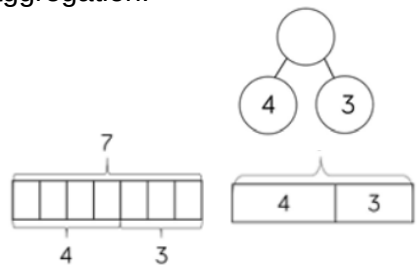
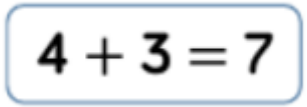
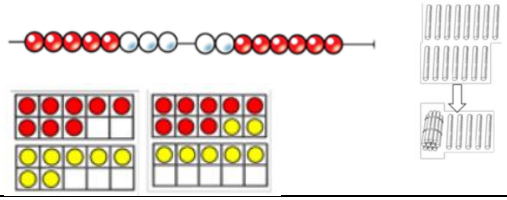
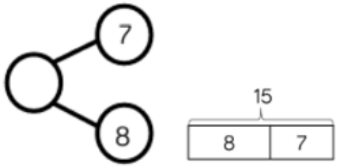
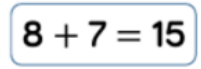
Maths is a mastery subject. At Christopher Pickering, this means that we believe that all children are capable of understanding and doing mathematics, given the appropriate resources and sufficient time. Children need to build solid foundations so that their mathematical ability broadens and deepens over time: this requires looking at concept in detail using a variety of representations and contexts and committing key facts, such as number bonds and times tables, to memory. Opportunities to acquire and practise mathematical knowledge need to be carefully designed to deliver rich experiences within which calculation algorithms are taught consistently throughout the school across year groups.

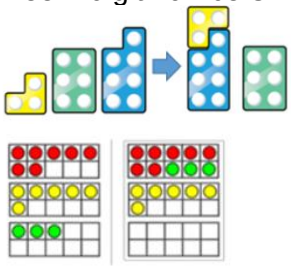
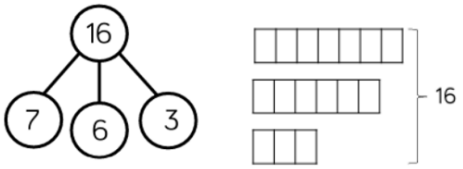
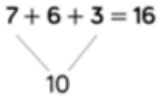
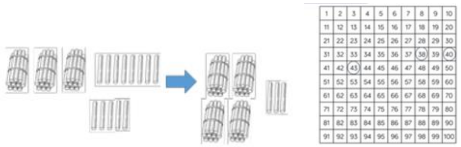
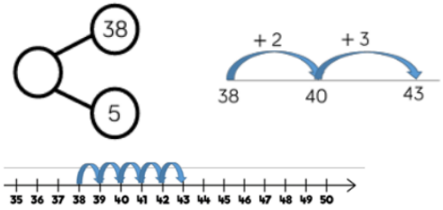
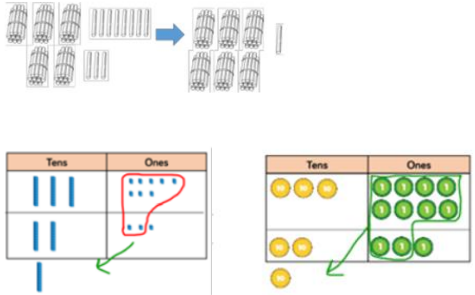
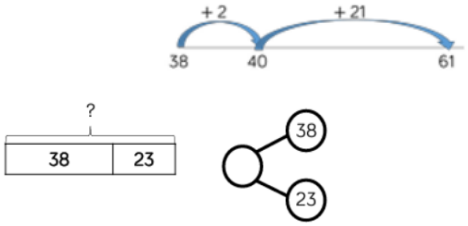
Guidance on using the Christopher Pickering Maths Calculation Policy

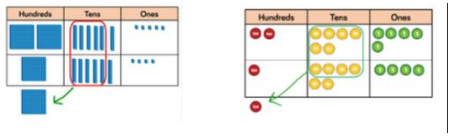
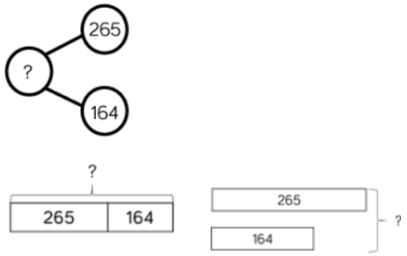
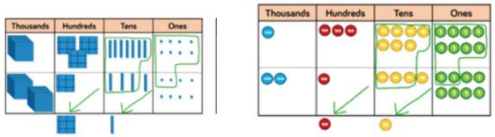
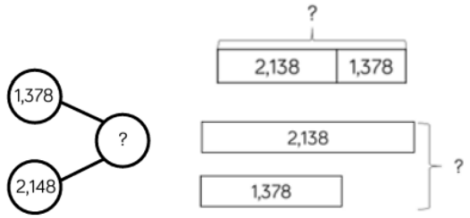
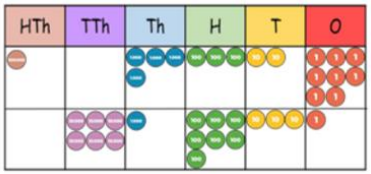
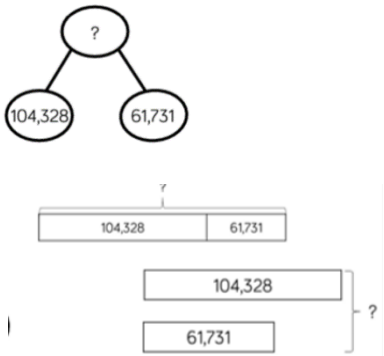
- This calculation policy is taken from the White Rose calculation policy
- Teaching written calculation methods does not replace the need to revisit and use mental strategies. These are the building blocks of solid number work.
- All the images selected should act as guidance and not constraints.
- Children should be encouraged to first approximate their answers before calculating, and then check their answers after calculating using an appropriate strategy.
- Children should be encouraged to consider if a mental calculation would be more appropriate before using a written method.

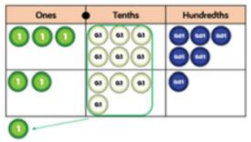
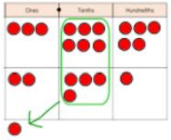
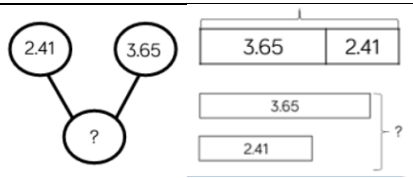
Addition

Skill	Year	Representations and models	
Add two 1-digit numbers to 10	FS and 1	Part-whole model Bar model Number shapes	Ten frames (within 10) Bead strings (10) Number Tracks
Add 1 and 2-digit numbers to 20	1	Part-whole model Bar model Number shapes Ten frames (within 20)	Bead strings (20) Number tracks Number lines (labelled) Straws
Add three 1-digit numbers	2	Part-whole model Bar model	Ten frames (within 20) Number shapes
Add 1 and 2-digit numbers to 100	2	Part-whole model Bar model Number lines (labelled)	Number lines (blank) Straws Hundred square
Add two 2-digit numbers	2	Part-whole model Bar model Number lines (blank)	Straws Base 10 Place value counters
Add with up to 3-digits	3	Part-whole model Bar model Base 10	Place value counters Column addition
Add with up to 4-digits	4	Part-whole model Bar model Base 10	Place value counters Column addition
Add with more than 4 digits	5/6	Part-whole model Bar model	Place value counters Column addition
Add with up to 3 decimal places	5/6	Part-whole model Bar model	Place value counters Column addition

Addition				
Year Group	**Objective**	**Concrete**	**Pictorial**	**Abstract**
FS2 and Y1	Add two 1-digit numbers to 10	The combination bar model, ten frame, bead string and number track all support augmentation. 	The part-whole model, discrete and continuous bar model, number shapes and ten frame support aggregation. 	When adding numbers to 10, children can explore both aggregation and augmentation. 
Y1	Add 1 and 2-digit numbers to 20	In Year 1, this is only done just by counting on. From Year 2, use different manipulatives can be used to represent this exchange alongside number lines to support children in understanding how to partition their jumps. 		When adding one digit numbers that cross 10, it is important to highlight the importance of ten ones equalling one ten. 

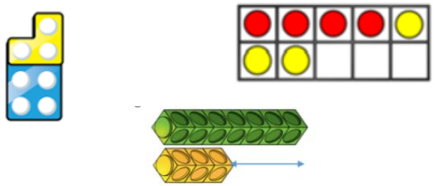
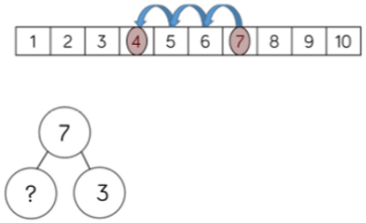
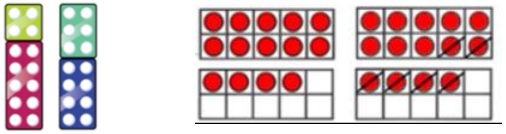
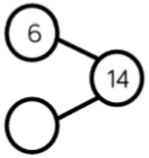
Y2	Add three 1-digit numbers	Manipulatives that highlight number bonds to 10 are effective when adding three 1-digit numbers. 		When adding three 1digit numbers, children should be encouraged to look for number bonds to 10 or doubles to add the numbers more efficiently. This supports children in their understanding of commutativity. $7 + 6 + 3 = 16$ 
Y2/3	Add 1 and 2-digit numbers to 100	Hundred squares and straws can support children to find the number bond to 10. 		When adding single digits to a two-digit number, children should be encouraged to count on from the larger number. They should also apply their knowledge of number bonds to add more efficiently e.g. 8 +5 =13 so 38 +5 =43. $38 + 5 = 43$
Y2/3	Add two 2-digit numbers	As numbers become larger, straws become less efficient. 	Children can use a blank number line and other representations to count on to find the total. Encourage them to jump to multiples of 10 to become more efficient. 	From Year 3, encourage children to use the formal column method when calculating alongside straws, base 10 or place value counters. $38 + 23 = 61$ 38 + 23 61 1

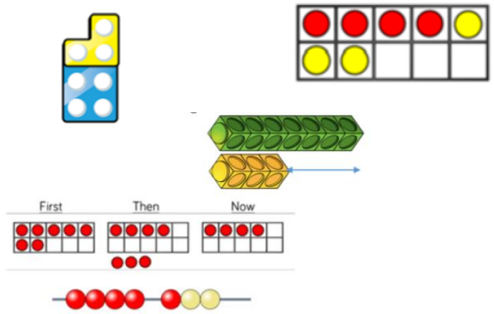
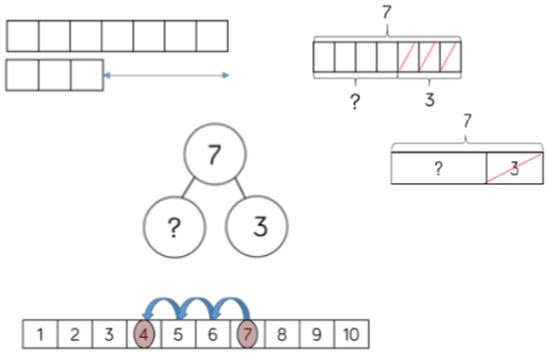
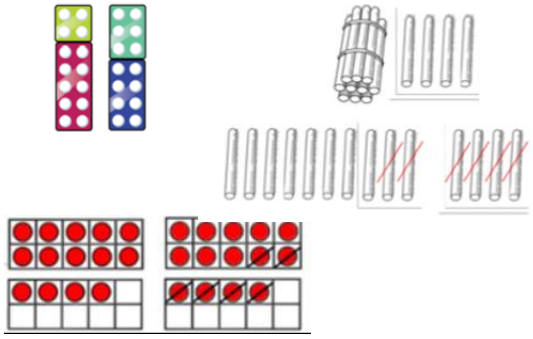
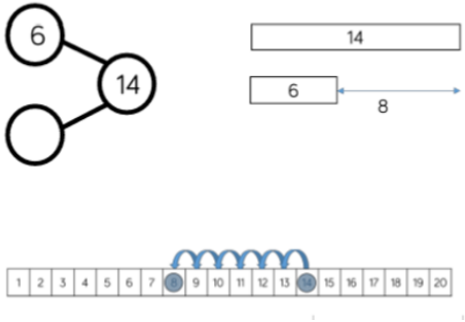
Y3	Add with up to 3-digits	Base 10 and place value counters are the most effective manipulatives when adding numbers with up to 3 digits. Plain counters on a place value grid can also be used to support learning. 		Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method. 265 + 164 = 429 265 + 164 429 1
Y4	Add with up to 4-digits	Base 10 and place value counters are the most effective manipulatives when adding numbers with up to 4 digits. Plain counters on a place value grid can also be used to support learning. 		Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method. 1 3 7 8 + 2 1 4 8 3 5 2 6 1 1 1,378 + 2,148 = 3,526
Y5/6	Add with more than 4 digits	Place value counters or plain counters on a place value grid are the most effective concrete resources when adding numbers with more than 4 digits. 		At this stage, children should be encouraged to work in the abstract, using the column method to add larger numbers efficiently. 1 0 4 3 2 8 + 6 1 7 3 1 1 6 6 0 5 9 1 104,328 + 61,731 = 166,059

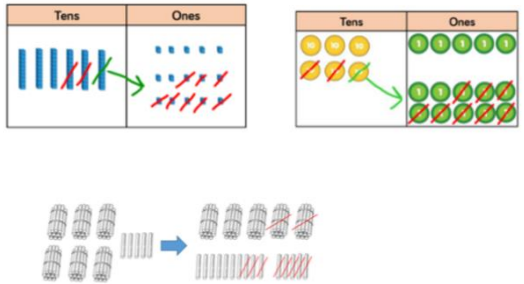
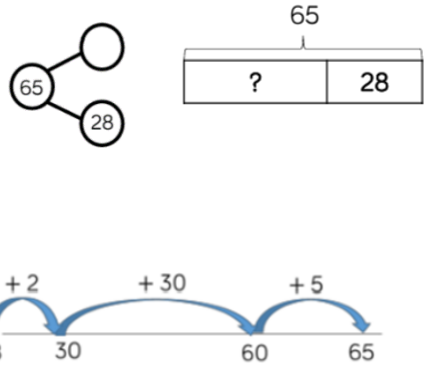
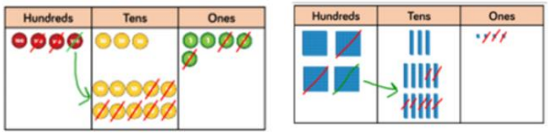
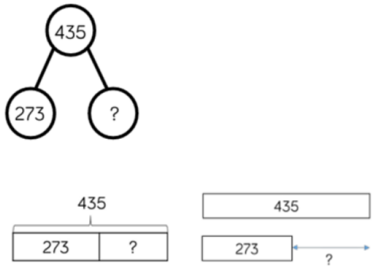
Y5/6	Add with up to 3 decimal places	Place value counters and plain counters on a place value grid are the most effective manipulatives when adding decimals with 1, 2 and then 3 decimal places.  		Ensure children have experience of adding decimals with a variety of decimal places. This includes putting this into context when adding money and other measures. 

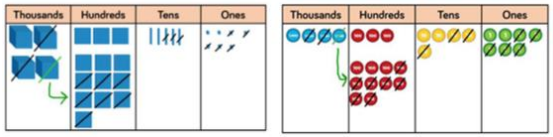
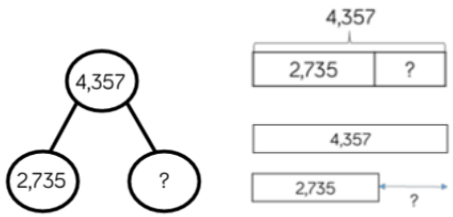
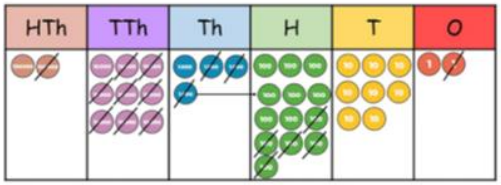
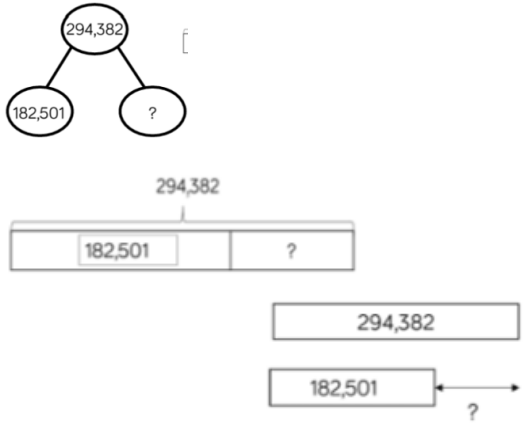
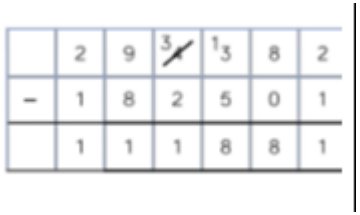
Subtraction

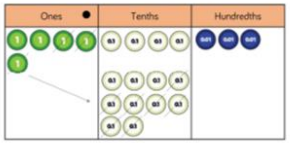
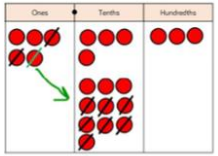
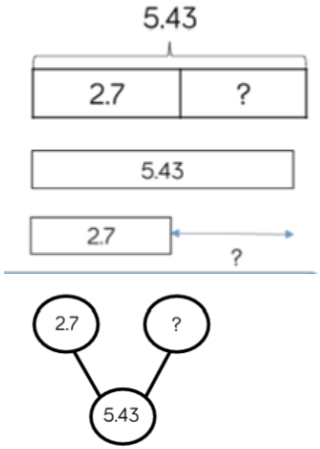
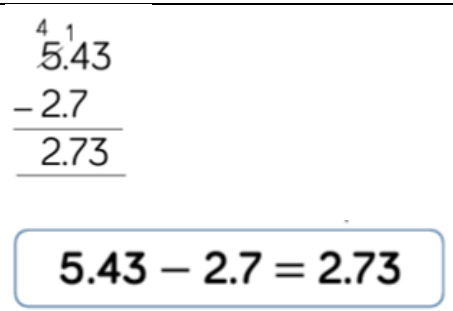
Skill	Year	Representations and models	
Subtract two 1-digit numbers to 10	1	Part-whole model Bar model Number shapes	Ten frames (within 10) Bead strings (10) Number tracks
Subtract 1 and 2-digit numbers to 20	1	Part-whole model Bar model Number shapes Ten frames (within 20)	Bead string (20) Number tracks Number lines (labelled) Straws
Subtract 1and 2-digit numbers to 100	2/3	Part-whole model Bar model Number lines (labelled)	Number lines (blank) Straws Hundred square
Subtract two 2-digit numbers	2	Part-whole model Bar model Number lines (blank) Straws	Base 10 Place value counters
Subtract with up to 3 digits	3	Part-whole model Bar model	Base 10 Place value counters Column subtraction
Subtract with up to 4 digits	4	Part-whole model Bar model	Base10 Place value counters Column subtraction
Subtract with more than 4 digits	5/6	Part-whole model Bar model	Place value counters Column subtraction
Subtract with up to 3 decimal places	5	Part-whole model Bar model	Place value counters Column subtraction

Subtraction				
Year Group	**Objective**	**Concrete**	**Pictorial**	**Abstract**
F2	Subtract two 1-digit numbers to 10	Ten frames, number tracks, single bar models and bead strings support reduction. Cubes and bar models with two bars can support finding the difference. 	Part-whole models, bar models, ten frames and number shapes support partitioning. 	$7 - 3 = 4$
F2	Subtract 1 and 2-digit numbers to 20	Ten frames, number tracks, single bar models and bead strings support reduction. Cubes and bar models with two bars can support finding the difference. 	Part-whole models, bar models, ten frames and number shapes support partitioning. 	$14 - 6 = 8$

1	Subtract two 1-digit numbers to 10	Ten frames, number tracks, single bar models and bead strings support reduction. Cubes and bar models with two bars can support finding the difference. 	Part-whole models, bar models, ten frames and number shapes support partitioning. 	$7 - 3 = 4$
1	Subtract 1 and 2-digit numbers to 20	From Year 2, children should be encouraged to find the number bond to 10 when partitioning the subtracted number. Ten frames, number shapes and number lines are particularly useful for this. 	In Year 1, subtracting one-digit numbers that cross 10, is done by counting back, using objects, number tracks and number lines. 	$14 - 6 = 8$

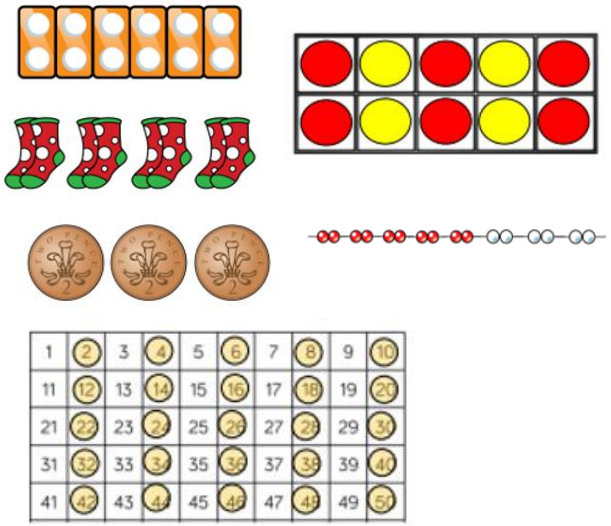
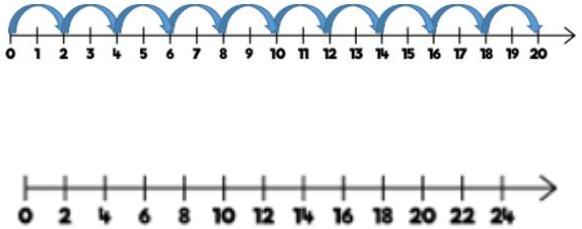
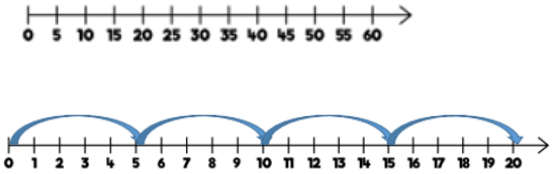
2/3	Subtract 1and 2-digit numbers to 100		Children can also use a blank number line to count back to find the difference. Encourage them to jump to multiples of 10 to become more efficient. 	From Year 3, encourage children to use the formal column method when calculating alongside straws, base 10 or place value counters. As numbers become larger, straws become less efficient. $65 - 28 = 37$ $\begin{array}{r} {}^{5}\not{6}{}^{1}\not{5} \\ -\ 28 \\ \hline 37 \end{array}$
3	Subtract with up to 3 digits	Base 10 and place value counters are the most effective manipulative when subtracting numbers with up to 3 digits. Plain counters on a place value grid can also be used to support learning. 		Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method. $435 - 273 = 262$ $\begin{array}{r} {}^{3}\not{4}{}^{1}35 \\ -\ 273 \\ \hline 262 \end{array}$

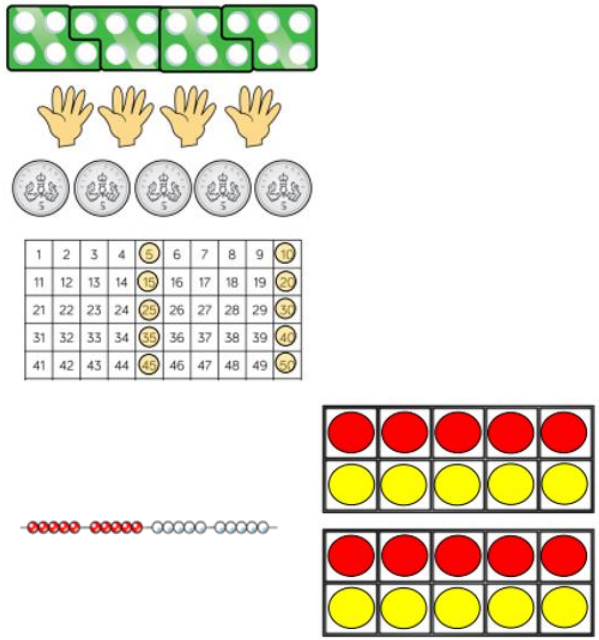
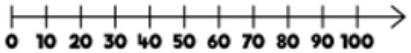
4	Subtract with up to 4 digits	Base 10 and place value counters are the most effective manipulatives when subtracting numbers with up to 4 digits. Plain counters on a place value grid can also be used to support learning. 		Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method. 3 1 4357 − 2735 1622
5/6	Subtract with more than 4 digits	Place value counters or plain counters on a place value grid are the most effective concrete resource when subtracting numbers with more than 4 digits. 		At this stage, children should be encouraged to work in the abstract, using column method to subtract larger numbers efficiently. 294,382 − 182,501 = 111,881 

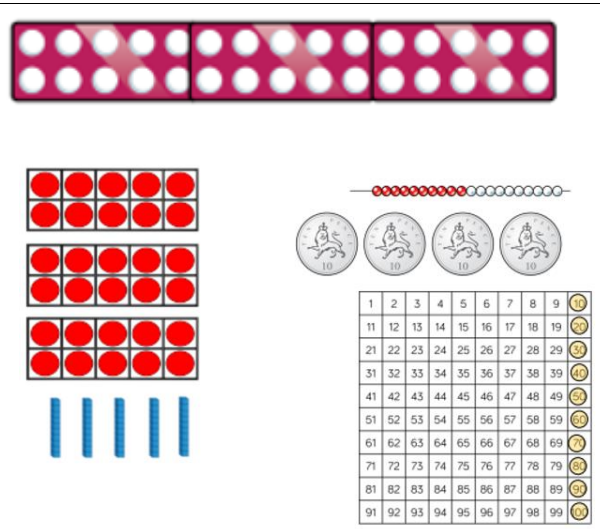
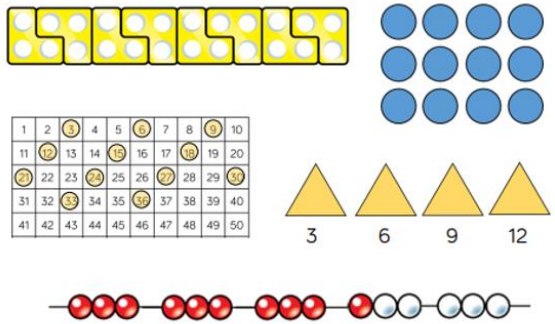
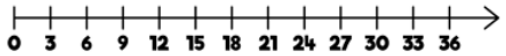
5	Subtract with up to 3 decimal places	Place value counters and plain counters on a place value grid are the most effective manipulative when subtracting decimals with 1, 2 and then 3 decimal places.  	Ensure children have experience of subtracting decimals with a variety of decimal places. This includes putting this into context when subtracting money and other measures 	

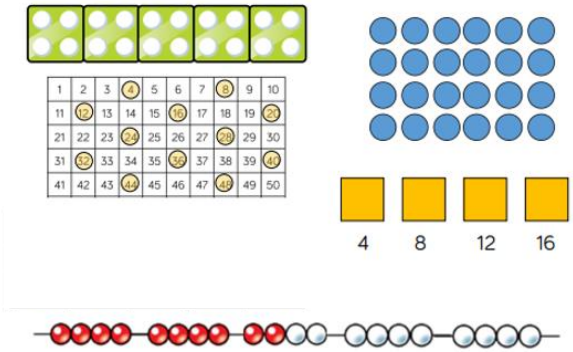
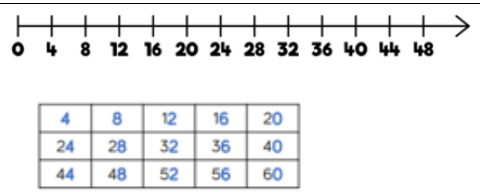
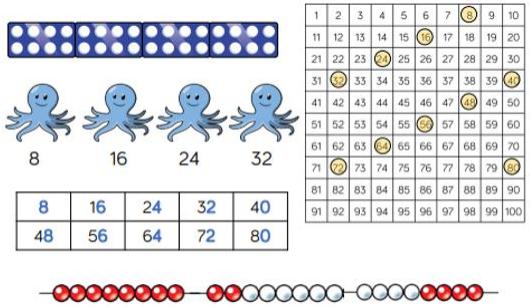
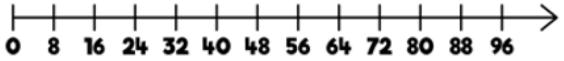
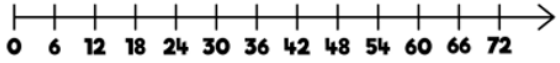
Times Tables

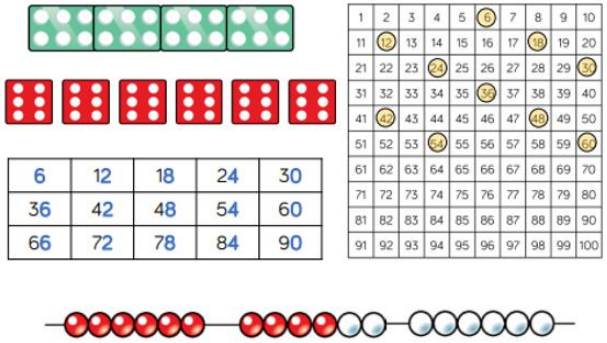
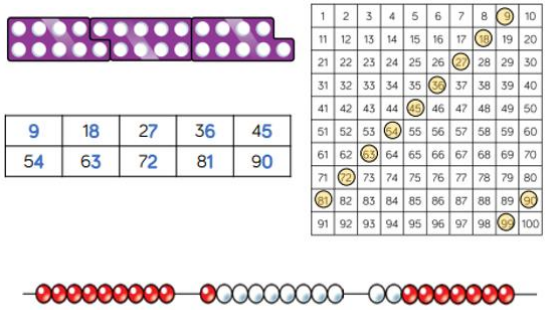
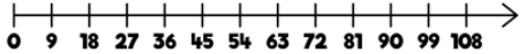
Skill	Year	Representations and models	
Recall and use multiplication and division facts for the 2-times table	2	Bar model Number shapes Counters Money Ten frames	Bead strings Number lines Everyday objects
Recall and use multiplication and division facts for the 5-times table	2	Bar model Number shapes Counters Money	Ten frames Bead strings Number lines Everyday objects
Recall and use multiplication and division facts for the 10-times table	2	Hundred Square Number shapes Counters Money	Ten frames Bead strings Number lines Base 10
Recall and use multiplication and division facts for the 3-times table	3	Hundred Square Number shapes Counters	Bead strings Number lines Everyday objects
Recall and use multiplication and division facts for the 4-times table	3	Hundred Square Number shapes Counters	Bead strings Number lines Everyday objects
Recall and use multiplication and division facts for the 8-times table	3	Hundred Square Number shapes	Bead strings Number tracks Everyday objects
Recall and use multiplication and division facts for the 6-times table	4	Hundred Square Number shapes	Bead strings Number tracks Everyday objects
Recall and use multiplication and division facts for the 7-times table	4	Hundred Square Number shapes	Bead strings Number lines
Recall and use multiplication and division facts for the 9-times table	4	Hundred Square Number shapes	Bead strings Number lines
Recall and use multiplication and division facts for the 11-times table	4	Hundred Square Base 10	Place value counters Number lines
Recall and use multiplication and division facts for the 12-times table	4	Hundred Square Base 10	Place value counters Number lines

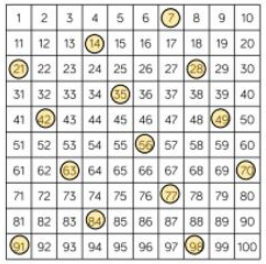
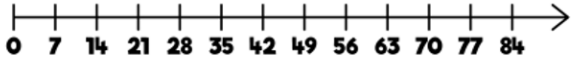
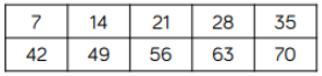
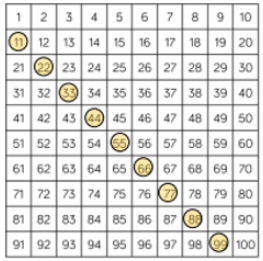
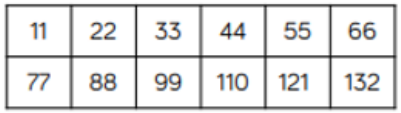
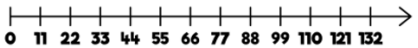
Year Group	Objective	Concrete	Pictorial	Abstract
2	Recall and use multiplication and division facts for the 2-times table	Look for patterns in the two times table, using concrete manipulatives to support. Notice how all the numbers are even and there is a pattern in the ones. Use different models to develop fluency 	Encourage daily counting in multiples both forwards and backwards. This can be supported using a number line or a hundred square. 	2 x 2 = 4
2	Recall and use multiplication and division facts for the 5-times table	Look for patterns in the five times table, using concrete manipulatives to support. Notice the pattern in the ones as well as highlighting the odd, even, odd, even pattern.	Encourage daily counting in multiples both forwards and backwards. This can be supported using a number line or a hundred square. 	5 x 6 = 30

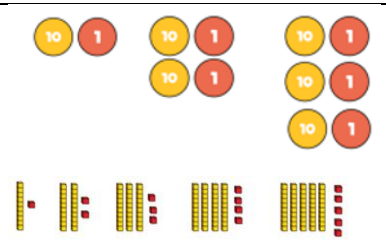
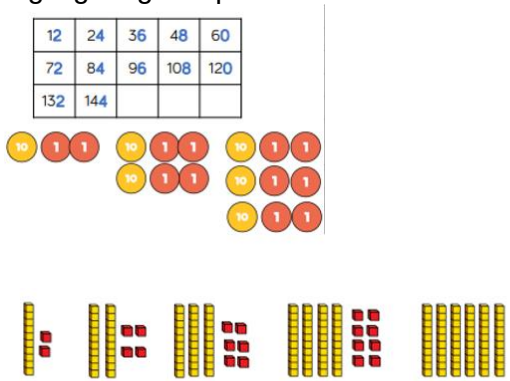
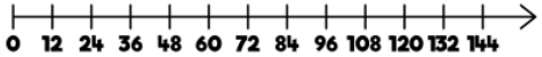
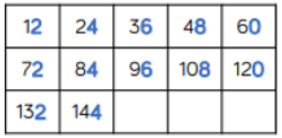
				
2	Recall and use multiplication and division facts for the 10-times table	Look for patterns in the ten times table, using concrete manipulatives to support. Notice the pattern in the digits - the ones are always 0, and the tens increase by 1 ten each time.	Encourage daily counting in multiples both forwards and backwards. This can be supported using a number line or a hundred square. 	10 x 7 = 70

				
3	Recall and use multiplication and division facts for the 3-times table	Look for patterns in the three times table, 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. 	Encourage daily counting in multiples both forwards and backwards. This can be supported using a number line or a hundred square. 	3 x 6 = 18
3	Recall and use multiplication and division facts for the 4-times table	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	Encourage daily counting in multiples, supported by a number line or a hundred square. Look for patterns in the four times table, using manipulatives to support.	4 x 9 = 36

		multiples are even using number shapes to support 		
3	Recall and use multiplication and division facts for the 8-times table	Look for patterns in the eight times table, using 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 	Encourage daily counting in multiples, supported by a number line or a hundred square. 	8 x 3 = 24
4	Recall and use multiplication and division facts for the 6-times table	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	Encourage daily counting in multiples, supported by a number line or a hundred square. Look for patterns in the six times table, using manipulatives to support. 	6 x 6 = 36

		multiples are even using number shapes to support.  		
4	Recall and use multiplication and division facts for the 9-times table	Look for patterns in the nine times table, using concrete manipulatives to support. Notice the pattern in the tens and ones using the hundred squares to support as well as noting the odd, even pattern within the multiples  	Encourage daily counting in multiples both forwards and backwards. This can be supported using a number line or a hundred square.  	9 x 3 = 27

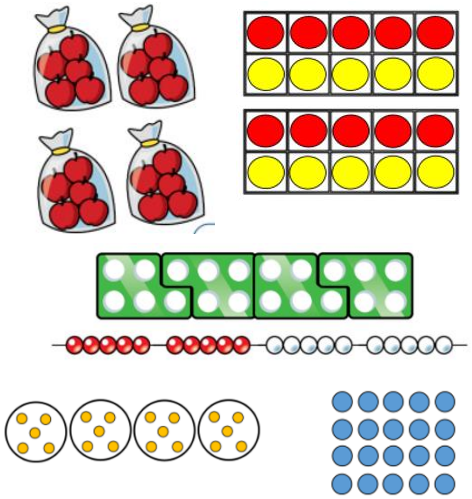
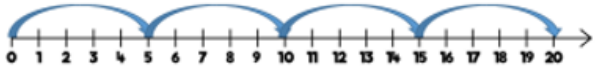
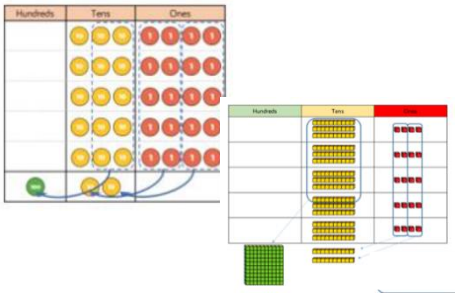
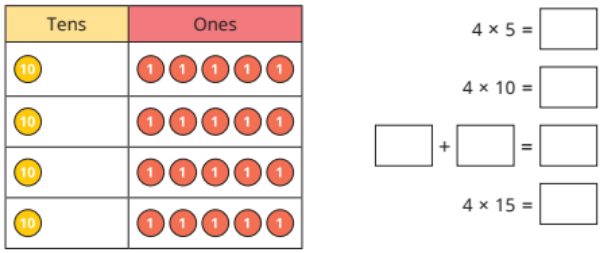
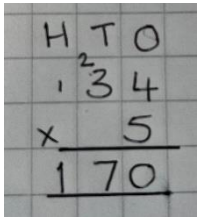
4	Recall and use multiplication and division facts for the 7-times table	The seven times table can be trickier to learn due to the lack of obvious pattern in the numbers, however they already know several facts due to commutativity. Children can still see the odd, even pattern in the multiples using number shapes to support.   	Encourage daily counting in multiples both forwards and backwards, supported by a number line or a hundred square.   	7 x 12 = 84
4	Recall and use multiplication and division facts for the 11-times table	This can be supported using a number line or a hundred square. Look for patterns in the eleven times table, using concrete manipulatives to support. Notice the pattern in the tens and ones using the hundred squares to support. Also consider the pattern after crossing 100 	Encourage daily counting in multiples both forwards and backwards.   	11 x 5 = 55

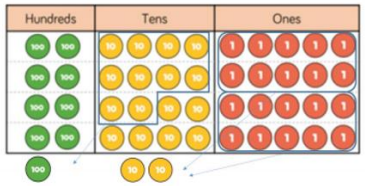
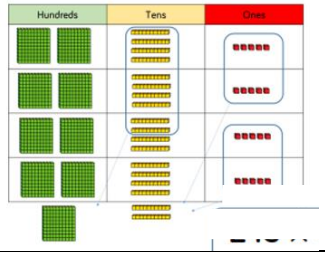
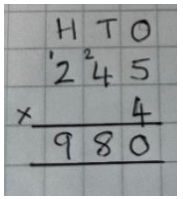
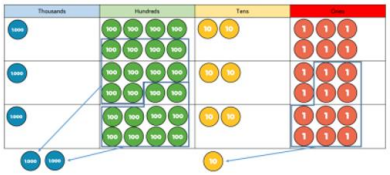
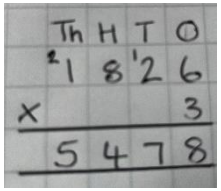
				
4	Recall and use multiplication and division facts for the 12-times table	Make links to the 6 times table, seeing how each multiple is double the sixes. Notice the pattern in the ones within each group of five multiples. The hundred squares can support in highlighting this pattern. 	Encourage daily counting in multiples, supported by a number line or a hundred square. Look for patterns in the 12 times table, using manipulatives to support.  	12 x 9 = 108

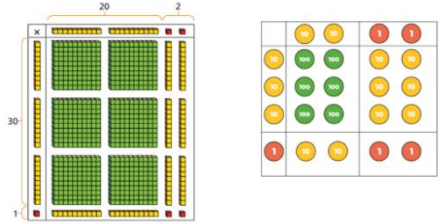
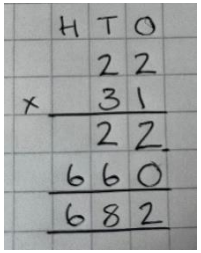
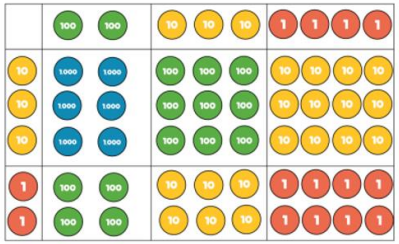
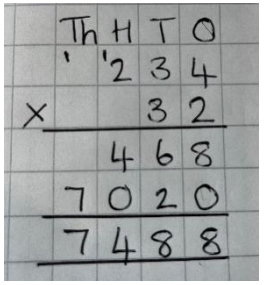
12	24	36	48	60
72	84	96	108	120
132	144			

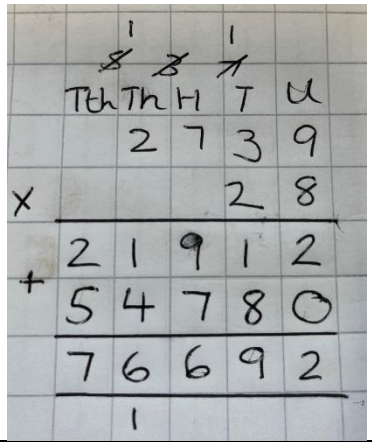
Multiplication

Skill	Year	Representations and Models	
Solve one-step problems with multiplication	1/2	Bar model Number shapes Counters	Ten frames Bead strings Number lines
Multiply 2-digit by 1- digit numbers	3/4	Place value counters Base 10	Expanded written method Short written method
Multiply 3-digit by 1- digit numbers	4	Place value counters Base 10	Short written method
Multiply 4-digit by 1- digit numbers	5	Place value counters	Short written method
Multiply 2-digit by 2- digit numbers	5	Place value counters Base 10	Short written method Grid method
Multiply 2-digit by 3- digit numbers	5	Place value counters	Short written method Grid method
Multiply 2-digit by 4- digit numbers	5/6	Formal written method	

Multiplication				
Year Group	**Objective**	**Concrete**	**Pictorial**	**Abstract**
1/2	Solve one-step problems with multiplication	Children represent multiplication as repeated addition in many different ways. 	In Year 1, children use concrete and pictorial representations to solve problems. They are not expected to record multiplication formally.  	In Year 2, children are introduced to the multiplication symbol. $5 + 5 + 5 + 5 = 20$ $4 \times 5 = 20$ $5 \times 4 = 20$
3/4	Multiply 2-digit by 1- digit numbers	Place value counters should be used to support the understanding of the method rather than supporting the multiplication, as children should use times table knowledge 	Work out 4 × 15  	Informal methods and the expanded method are used in Year 3 before moving on to the short multiplication method in Year 4. **34 × 5 = 170** 

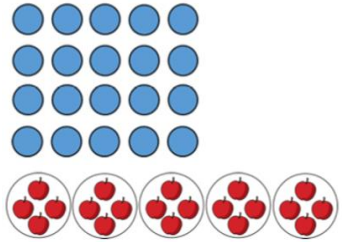
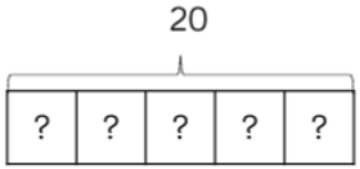
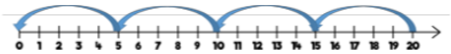
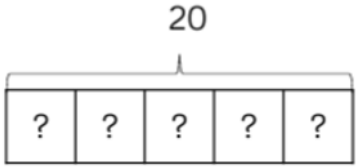
4	Multiply 3-digit by 1- digit numbers	Base 10 and place value counters continue to support the understanding of the written method.   		When moving to 3- digit by 1-digit multiplication, encourage children to move towards the short, formal written method. Limit the number of exchanges needed in the questions and move children away from resources when multiplying larger numbers. $245 \times 4 = 980$ 
5	Multiply 4-digit by 1- digit numbers	When multiplying 4- digit numbers, place value counters are the best manipulative to use to support children in their understanding of the formal written methods. 		If children are multiplying larger numbers and struggling with their times tables, encourage the use of multiplication grids so children can focus on the use of the written method. $1{,}826 \times 3 = 5{,}478$ 

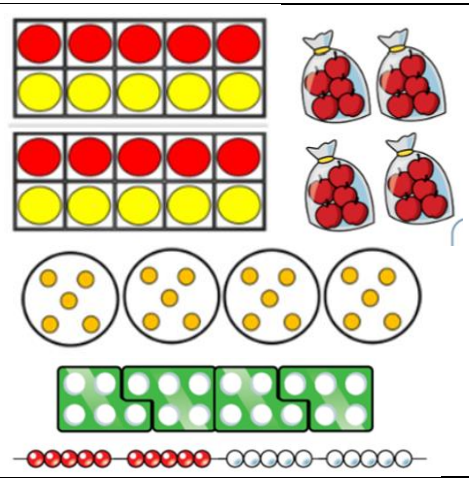
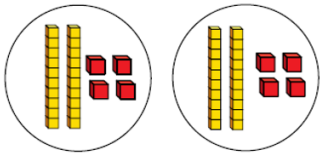
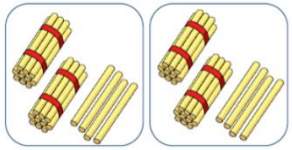
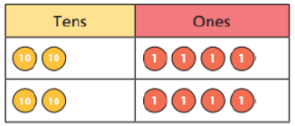
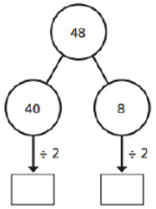
5	Multiply 2-digit by 2- digit numbers	When multiplying a multi-digit number by 2-digits, use the area model to help children understand the size of the numbers they are using. This links to finding the area of a rectangle by finding the space covered by the Base 10. 		The grid method matches the area model as an initial written method before moving on to the formal written multiplication method. 
5	Multiply 3-digit by 2- digit numbers	When multiplying a multi-digit number by 2-Children can continue to use the area model when multiplying 3- digits by 2-digits. Place value counters become more efficient to use but Base 10 can be used to highlight the size of numbers. 		Children should now move towards the formal written method, seeing the links with the grid method. $234 \times 32 = 7{,}488$ 

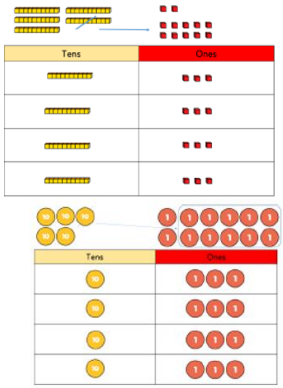
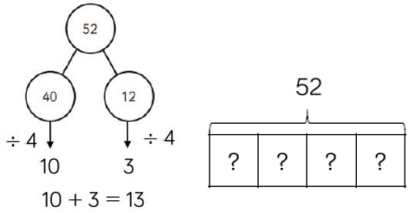
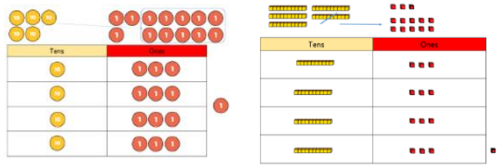
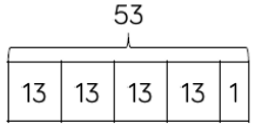
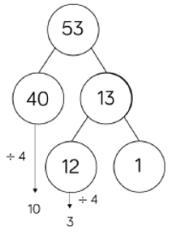
5/6	Multiply 2-digit by 4- digit numbers			When multiplying 4- digits by 2-digits, children should be confident in using the formal written method. If they are still struggling with times tables, provide multiplication grids to support when they are focusing on the use of the method. Consider where exchanged digits are placed and make sure this is consistent. 2,739 × 28 = 76,692 

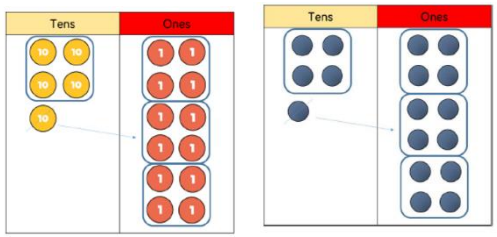
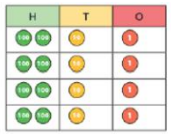
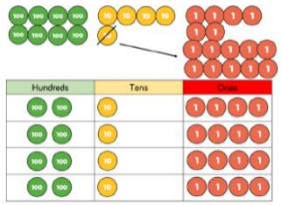
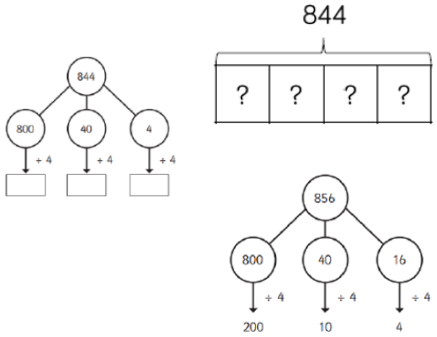
Division

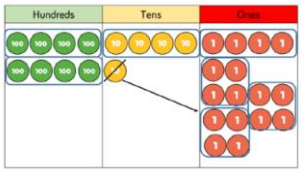
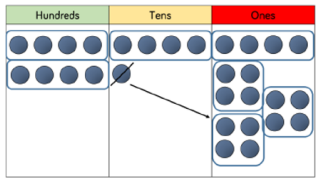
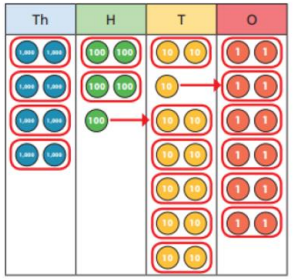
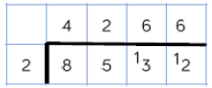
Skill	Year	Representations and models	
Solve one-step problems with division (sharing)	1/2	Bar model Real life objects	Arrays Counters
Solve one-step problems with division (grouping)	1/2	Real life objects Number shapes Bead strings Ten frames	Number lines Arrays Counters
Divide 2-digits by 1digit (no exchange sharing)	2/3	Straws Base 10 Bar model	Place value counters Part-whole model
Divide 2-digits by 1digit (sharing with exchange)	3	Straws Base 10 Bar model	Place value counters Part-whole model
Divide 2-digits by 1digit (sharing with remainders)	3/4	Straws Base 10 Bar model	Place value counters Part-whole model
Divide 2-digits by 1digit (grouping)	4/5	Place value counters Counters	Place value grid Written short division
Divide 3-digits by1digit (sharing with exchange)	4	Base 10 Bar model	Place value counters Part-whole model
Divide 3-digits by 1 digit (grouping)	4/5	Place value counters Counters	Place value grid Written short division
Divide 4-digits by 1 digit (grouping)	5	Place value counters Counters	Place value grid Written short division
Divide multi-digits by 2-digits (short division)	5/6	Written short division	List of multiples
Divide multi-digits by 2-digits (long division)	5/6	Written short division	List of multiples

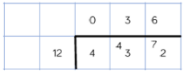
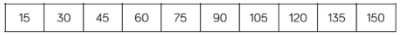
Division				
Year Group	**Objective**	**Concrete**	**Pictorial**	**Abstract**
1/2	Solve one-step problems with division (sharing)	Children solve problems by sharing amounts into equal groups. In Year 1, children use concrete and pictorial representations to solve problems. They are not expected to record division formally. 		In Year 2, children are introduced to the division symbol. $20 \div 5 = 4$ There are 20 apples altogether. They are shared equally between 5 bags. How many apples are in each bag?
1/2	Solve one-step problems with division (grouping)	Children solve problems by grouping and counting the number of groups. Grouping encourages children to count in multiples and links to repeated subtraction on a number line. They can use concrete representations in fixed groups such as number shapes which helps to show the link between multiplication and division.	 	$20 \div 5 = 4$ There are 20 apples altogether. They are put in bags of 5. How many bags are there?

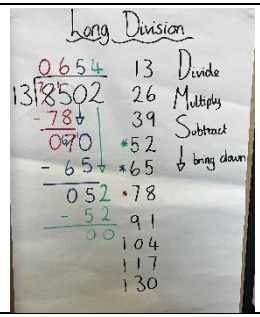
				
2/3	Divide 2-digits by 1digit (no exchange sharing)	When dividing larger numbers, children can use manipulatives that allow them to partition into tens and ones. Straws, Base 10 and place value counters can all be used to share numbers into equal groups.   	Part-whole models can provide children with a clear written method that matches the concrete representation. 	$48 \div 2 = 24$

3	Divide 2-digits by 1digit (sharing with exchange)	When dividing numbers involving an exchange, children can use Base 10 and place value counters to exchange one ten for ten ones. Children should start with the equipment outside the place value grid before sharing the tens and ones equally between the rows. 	Flexible partitioning in a part whole model supports this method.  	52 ÷ 4 = 13
3/4	Divide 2-digits by 1digit (sharing with remainders)	When dividing numbers involving an exchange, children can use Base 10 and place value counters to exchange one ten for ten ones. Starting with the equipment outside of the place value grid will highlight remainders as they will be left outside the grid once the equal groups have been made. 	Flexible partitioning in a part whole model supports this method.  	53 ÷ 4 = 13 r1

4/5	Divide 2-digits by 1digit (grouping)	When using the short division method, children use grouping. Starting with the largest place value, they group by the divisor. Language is important here. Children should consider 'How many groups of 4 tens can we make?' and 'How many groups of 4 ones can we make?' Remainders can also be seen as they are left ungrouped. 		 52 ÷ 4 = 13
4/5	Divide 3-digits by1digit (sharing with exchange)	Children can continue to use place value counters to share 3-digit numbers into equal groups. Children should start with the equipment outside the place value grid before sharing the hundreds, tens and ones equally between the rows. This method can also help to highlight remainders.  	Flexible partitioning in a part-whole model supports this method. 	844 ÷ 4 = 211

4/5	Divide 3-digits by 1 digit (grouping)	Children can continue to use grouping to support their understanding of short division when dividing a 3-digit number by a 1-digit number. Place value counters or plain counters can be used on a place value grid to support this understanding. Children can also draw their own counters and group them through a more pictorial methods.   		 856 ÷ 4 = 214
5	Divide 4-digits by 1 digit (grouping)	Place value counters or plain counters can be used on a place value grid to support children to divide 4 digits by 1 digit. Children can also draw their own counters and group them through a more pictorial methods.  		Children should also be encouraged to move away from the concrete and pictorial methods when dividing numbers with multiple exchanges.  8,532 ÷ 2 = 4,266

5/6	Divide multi-digits by 2-digits (short division)	N/A	N/A	When children begin to divide up to 4-digits by 2 digits, written methods become the most accurate as concrete and pictorial representations become less effective. Children can write out multiples to support their calculations with larger remainders. Children will also solve problems with remainders where the quotient can be rounded as appropriate.  $432 \div 12 = 36$ $7{,}335 \div 15 = 489$  
6	Divide multi-digits by 2-digits (long division)	N/A	N/A	When children begin to divide up to 4-digits by 2 digits, written methods become the most accurate as concrete and pictorial representations become less effective. Children can write out multiples to support their calculations with larger remainders. Children will also solve problems with remainders where the quotient can be rounded as appropriate. $7{,}335 \div 15 = 489$ $432 \div 12 = 36$

				 Long Division 0654 13 18 5 02 - 78 070 - 65 052 - 52 00 13 Divide 26 Multiply 39 Subtract *52 bring down *65 •78 91 104 117 130