Addition and Subtraction

The national curriculum for mathematics aims to ensure that all pupils:

1. become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
2. **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
3. can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

The aim is that children use mental methods when appropriate, but for calculations that they cannot do in their heads they use an efficient written method accurately and with confidence. By the end of Year 6, children should be able to choose the most appropriate approach to solve a problem: making a choice between using jottings (an extended written method), an efficient written method or a mental method.

The policy outlines concrete, pictorial and abstract practices. When children are secure and confident using a concrete or pictorial method they should be moved on accordingly. An example of a resource has been given but other representations, concrete or pictorial, should be used when appropriate. This will assist deeper understanding.

K.Lebbon

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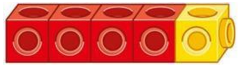
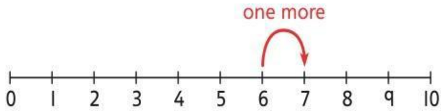
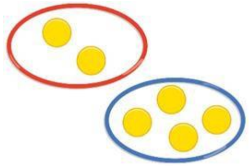
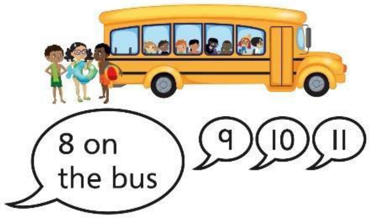
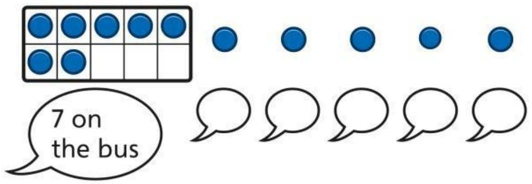
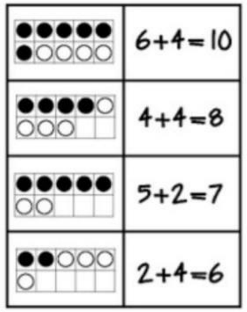
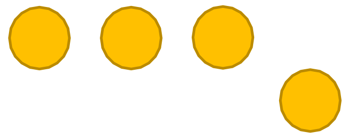
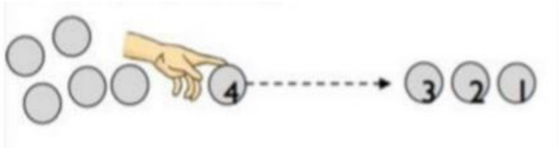
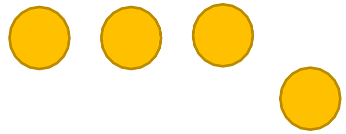
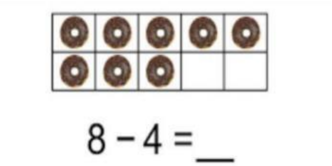
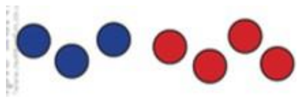
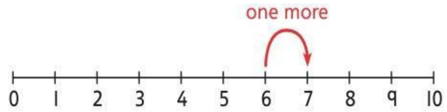
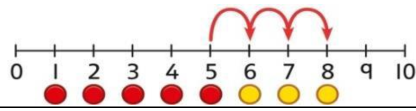
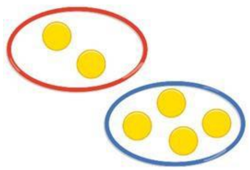
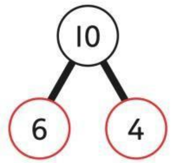
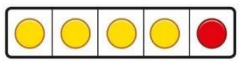
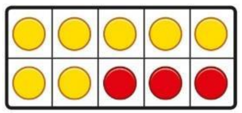
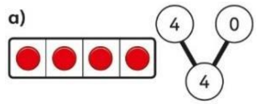
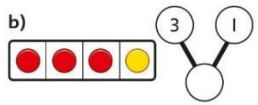
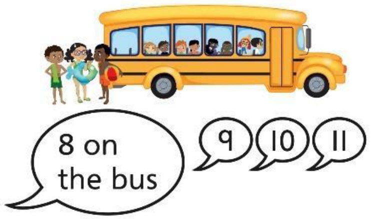
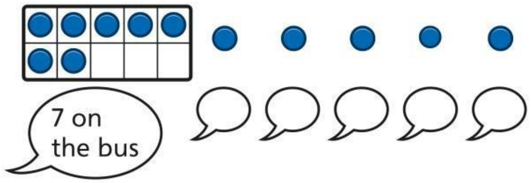
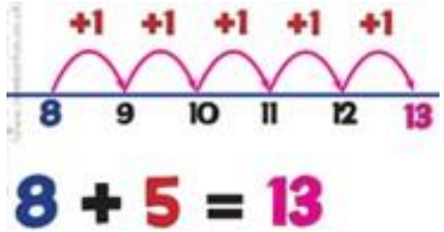
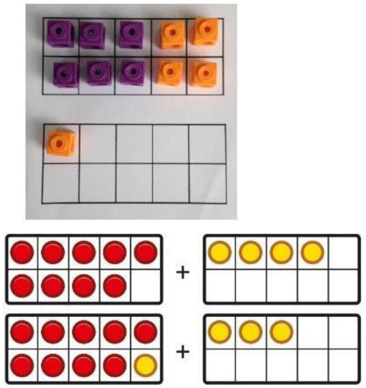
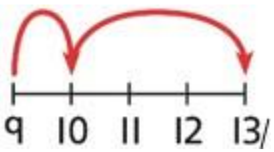
KEY STAGE 1
Children first learn to connect addition and subtraction with counting, but they soon develop two very important skills: an understanding of parts and wholes, and an understanding of unitising 10s, to develop efficient and effective calculation strategies based on known number bonds and an increasing awareness of place value. Addition and subtraction are taught in a way that is interlinked to highlight the link between the two operations. A key idea is that children will select methods and approaches based on their number sense. For example, in Year 1, when faced with 15 − 3 and 15 − 13, they will adapt their ways of approaching the calculation appropriately. The teaching should always emphasise the importance of mathematical thinking to ensure accuracy and flexibility of approach, and the importance of using known number facts to harness their recall of bonds within 20 to support both addition and subtraction methods. In Year 2, children will use their knowledge of number bonds and place value to calculate mentally.
Key language: whole, part, ones, ten, tens, number bond, add, addition, plus, altogether, subtract, subtraction, find the difference, take away, minus, less, more, is equal to, **addend, total, minuend, subtrahend, difference**

	Concrete	Pictorial	Abstract
	Foundation **Addition**		
Adding one more to 20	*Children add one more person or object to a group to find one more (this should be practical).*	 *A tens frame should be used here to reinforce the layout ready for year 1.*	
Combining two parts to make a whole	*Sort people and objects into parts and understand the relationship with the whole.* 	*Children draw to represent the parts and understand the relationship with the whole.* 	
Adding by counting on to 10	*Children use knowledge of counting to 20 to find a total by counting on using people or objects.* 	*Children use counters to support and represent their counting on strategy.* 	
	Foundation **Subtraction**		

Finding one less to 10	*Children take away one person or object from a group to find one less (this should be practical).*	 *A tens frame should be used here to reinforce the layout ready for year 1.*	
Taking away	*Children arrange objects and remove to find how many are left.* 	 *A tens frame should be used here to reinforce the layout ready for year 1.*	
Subtraction within 10	*Use counters on a tens frame to support their understanding or objects / resources.*		

	Concrete	Pictorial	Abstract
Year 1 Addition			
Adding one, two or three more	*Children add one more person or object to a group to find one more (this should be practical).*	 	 
Combining two parts to make a whole	*Sort people and objects into parts and understand the relationship with the whole.* 	*Children draw to represent the parts and understand the relationship with the whole.* 	 6 + 4 = 10
Knowing and finding number bonds to 20	*Break apart a group and put back together to find and form number bonds.*  	*Use five and ten frames to represent key number bonds.*  	*Make sure to include examples where one of the parts is zero.* a)  b) 
Adding by counting on	*Children use knowledge of counting to 20 to find a total by counting on using people or objects.*	*Children use counters to support and represent their counting on strategy.*	

Pupils should be encouraged to rely on number bonds knowledge rather than counting on as their main strategy.			
Bridging the 10 using number bonds	*Children use a bead string to complete a 10 and understand how this relates to the addition.* 	*Children use counters to complete a ten frame and understand how they can add using knowledge of number bonds to 10.* 	*Use a part- whole model and a number line to support the calculation.* 
Year 1 Subtraction			
Counting back and taking away	*Children arrange objects and remove to find how many are left.*	*Children draw and cross out or use counters to represent objects from a problem.*	*Children count back to take away and use a number line or number track to support the method.*

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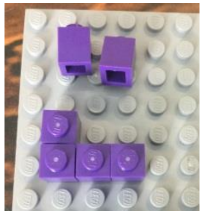
<tr>
<td></td>
<td> </td>
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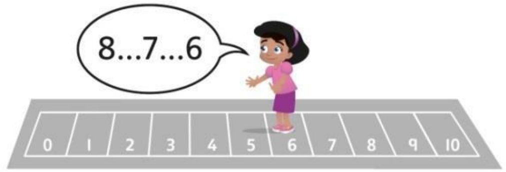
<td>
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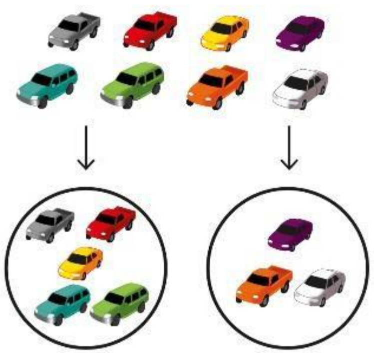
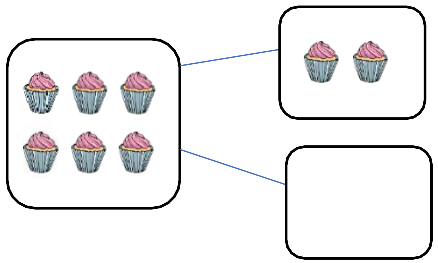
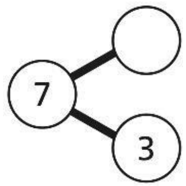
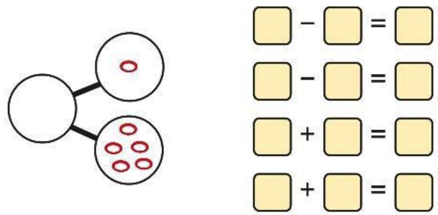
<tr>
<td>Finding a missing part, given a whole and a part</td>
<td>Children separate a whole into parts and understand how one part can be found by subtraction.
</td>
<td></td>
<td>

As next steps, the children should understand the relationship between addition and subtraction.
</td>
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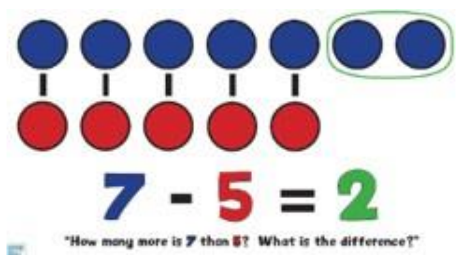
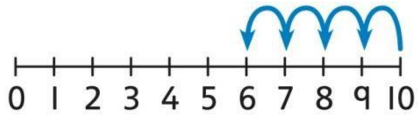
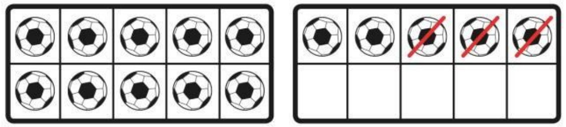
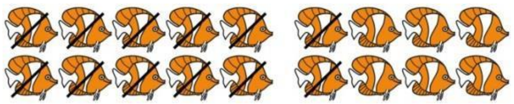
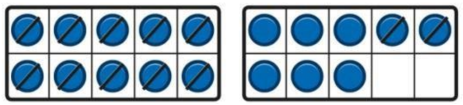
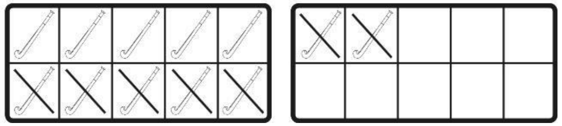
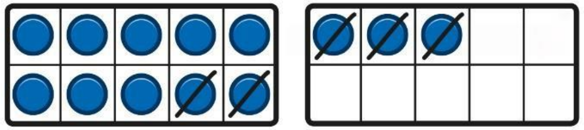
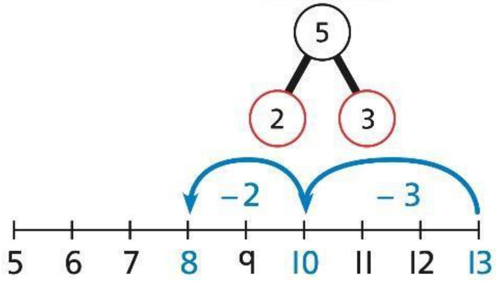
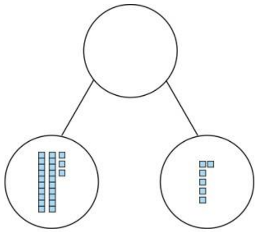
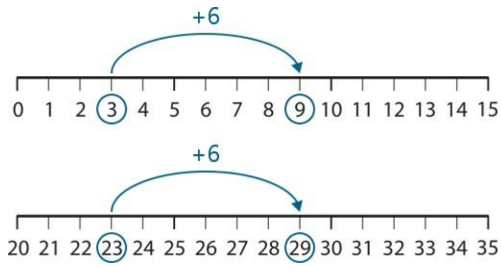
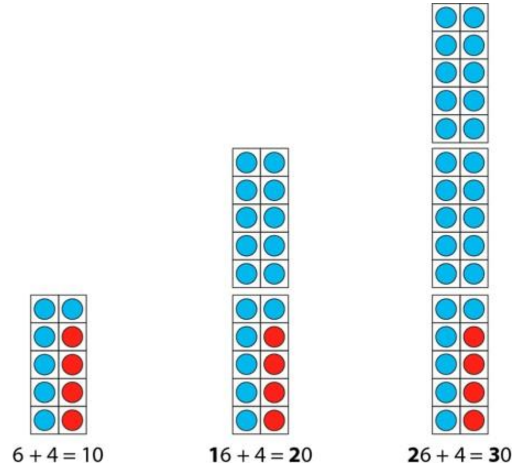
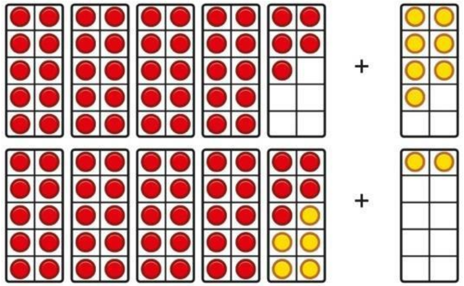
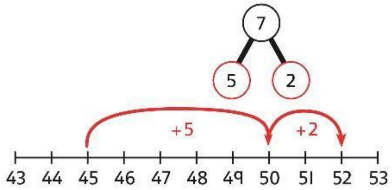
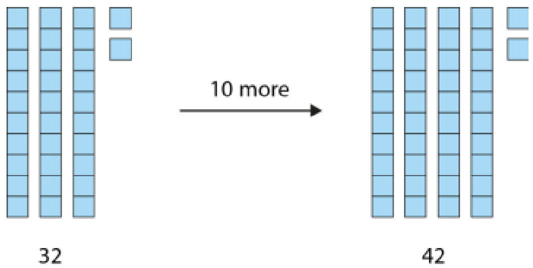
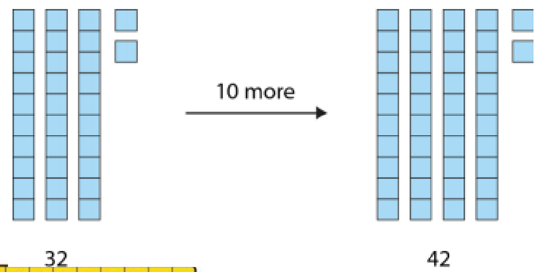
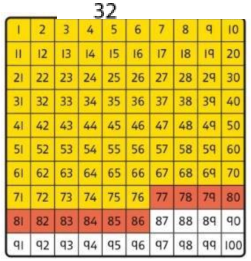
Finding the difference	 8 is 2 more than 6. 6 is 2 less than 8. The difference between 8 and 6 is 2. 	 	 10 − 4 = 6 The difference between 10 and 6 is 4.
Subtraction within 20	*Use a bead string to subtract 1s efficiently.*  5 − 3 = 2 15 − 3 = 12	 5 − 3 = 2 15 − 3 = 12	**5 − 3 = 2** **15 − 3 = 12**
Subtracting 10s and 1s	18 – 12  First subtract the 10, then take away 2.	18 – 12. Use ten frames to represent the efficient method of subtracting 12.  First subtract the 10, then subtract 2.	**19 − 14** **19 − 10 = 9** **9 − 4 = 5** **So, 19 − 14 = 5**

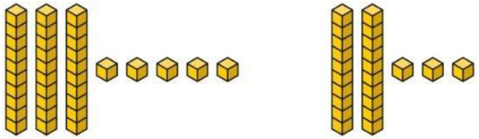
Subtraction bridging 10 using number bonds	12-7 Arrange objects into a 10 and some 1s, then decide on how to split the 7 into parts.  7 is 2 and 5, so I take away the 2 and then the 5.	 For 13 – 5, I take away 3 to make 10, then take away 2 to make 8.	*13 − 5* 

	Concrete	Pictorial	Abstract
Year 2 Addition			
Add 3 single digits	7 + 4 + 3 = 14 Put 7 and 3 together to make 10. Add on 4. 		$\underbrace{4 + 7 + 6}_{10} = \boxed{10} + \boxed{7}$ $= \boxed{17}$ Combine the two numbers that make 10 and then add on the remainder.
Adding a 1-digit number to a 2-digit number not bridging 10	 41 is 4 tens and 1 one. 41 add 6 ones is 4 tens and 7 ones.	 23 + 6 = 29	

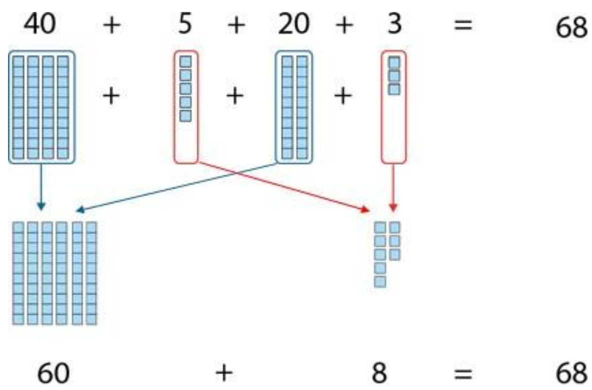
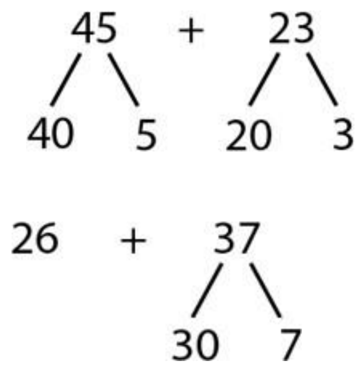
Identifying and using number bonds to 10	Use known bonds and unitising to add 10s.  I know that 4 + 3 = 7. So, I know that 4 tens add 3 tens is 7 tens.		**26 + 4 =** **6 + 4 = 10** **20 + 10 = 30**
Adding a 1-digit number to a 2-digit number bridging 10	 There are 4 tens and 5 ones. I need to add 7. I will use 5 to complete a 10, then add 2 more.		 7 = 5 + 2 45 + 5 + 2 = 52

<table>
<tr>
<td>Adding a multiple of 10 to a 2-digit number</td>
<td>Other multiples of 10 should be added to the addend.
</td>
<td>Children can draw the tens and one to support their understanding.


A 100 square can support this understanding.</td>
<td>37 + 20 = ?

30 + 20 = 50
50 + 7 = 57

37 + 20 = 57</td>
</tr>
<tr>
<td>Adding two 2-digit numbers by partitioning</td>
<td>Add the 10s and 1s separately.

5 + 3 = 8
There are 8 ones in total.

30 + 20 = 50
There are 5 tens in total.

35 + 23 = 58</td>
<td></td>
<td>Add the 10s and the 1s separately.
</td>
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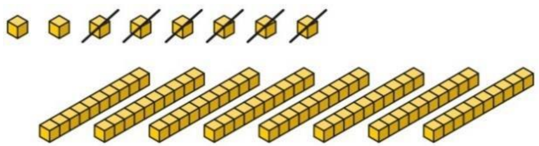
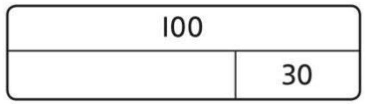
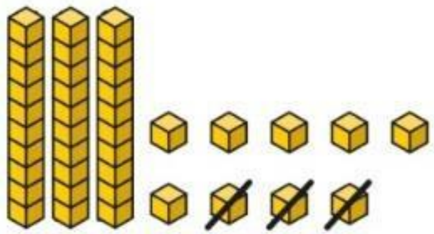
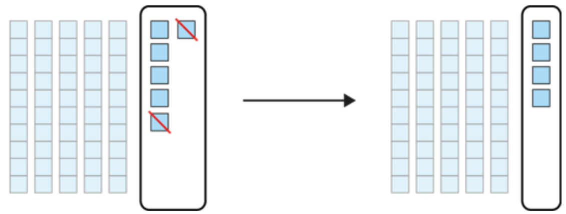
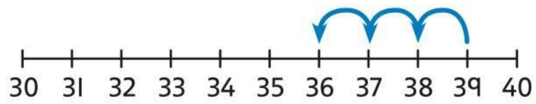
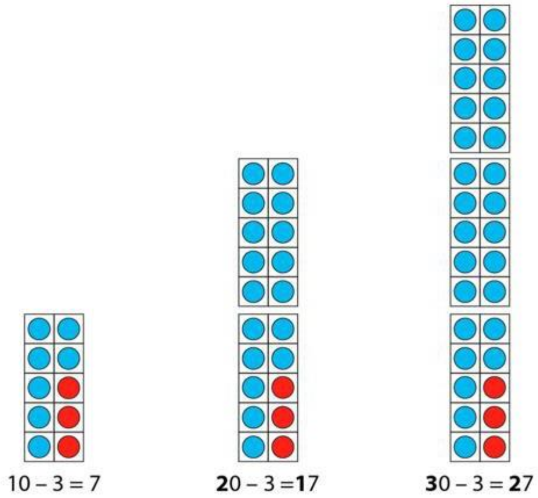
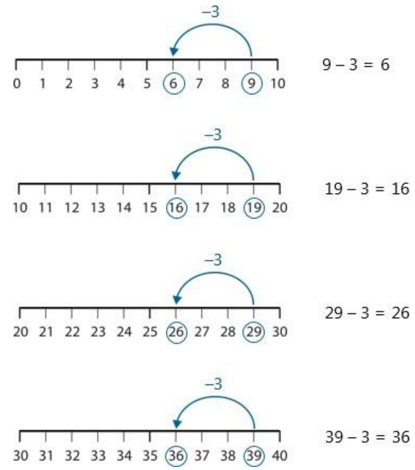
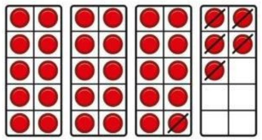
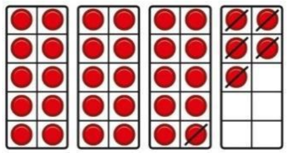
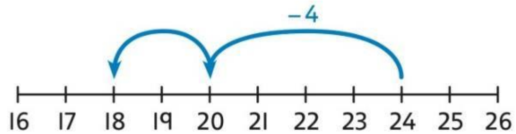
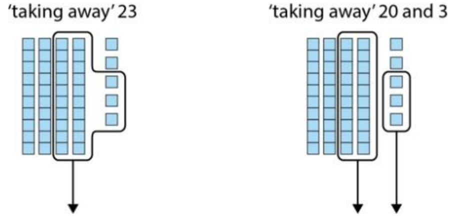
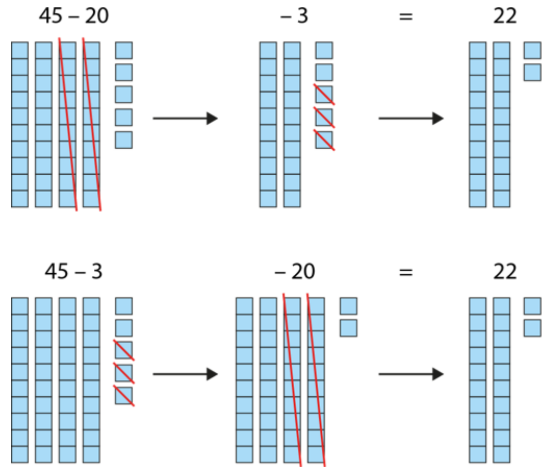
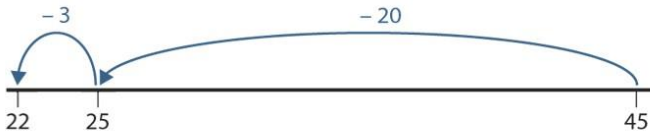
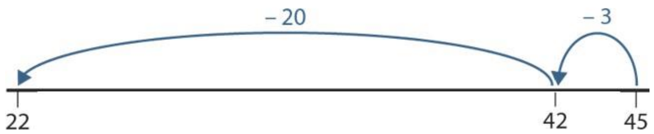
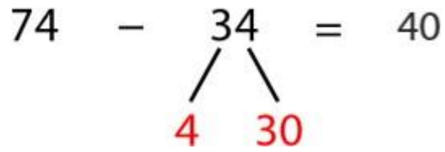
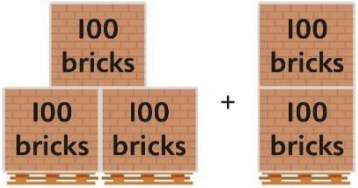
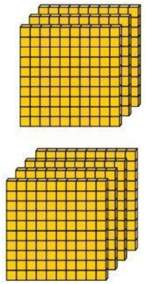
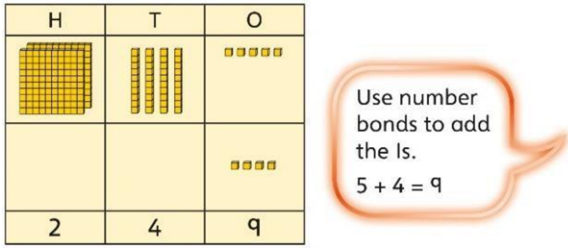
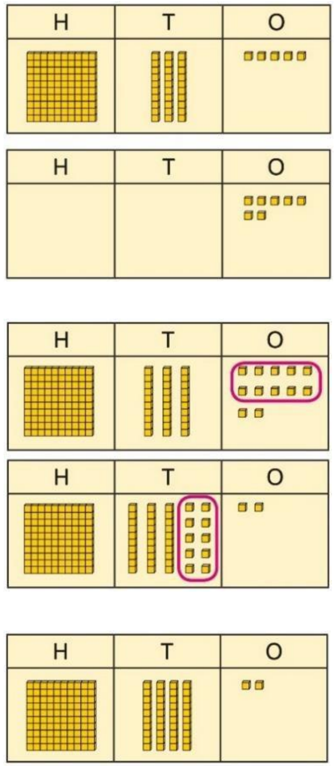
Year 2 **Subtraction**			
Subtracting multiples of 10 *Using number bonds to 10.*	 8 subtract 6 is 2. So, 8 tens subtract 6 tens is 2 tens.	 10 − 3 = 7 So, 10 tens subtract 3 tens is 7 tens.	**7 tens subtract 5 tens is 2 tens.** **70 − 50 = 20**
Subtracting a single-digit number	Children to physically take away the 1s. 	56 – 2 = 54 	 **9 − 3 = 6** **39 − 3 = 36**

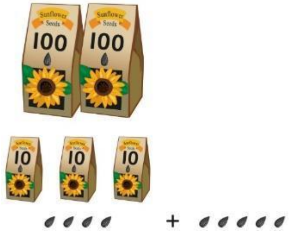
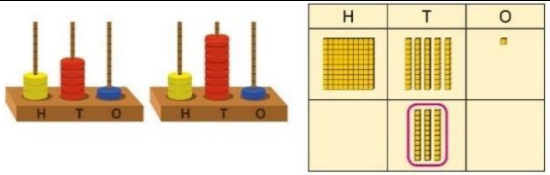
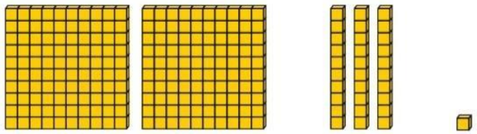
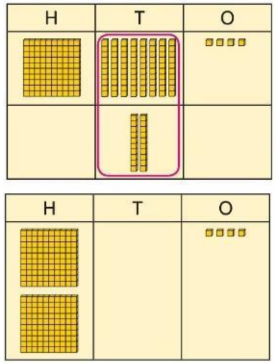
Identifying and using number bonds to 10			
Subtracting a single-digit number bridging 10	 35 − 6 I took away 5 counters, then 1 more.	 35 − 6 First, I will subtract 5, then 1.	 24 − 6 = ? 24 − 4 − 2 = ?

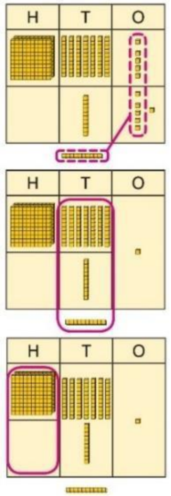
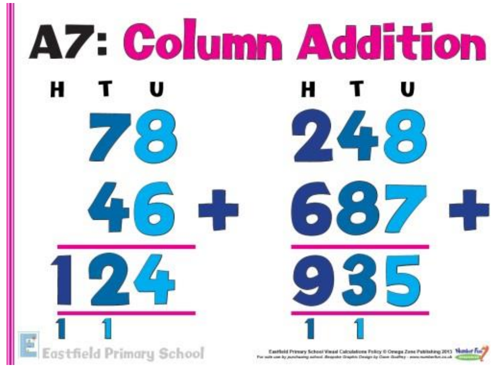
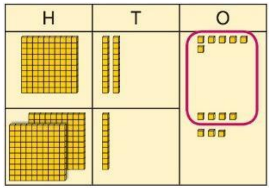
Subtracting a 2-digit number		 45 – 20 – 3 = 22  45 – 3 – 20 = 22 	**64 − 41 = ?** **64 − 1 = 63** **63 − 40 = 23** **64 − 41 = 23** 

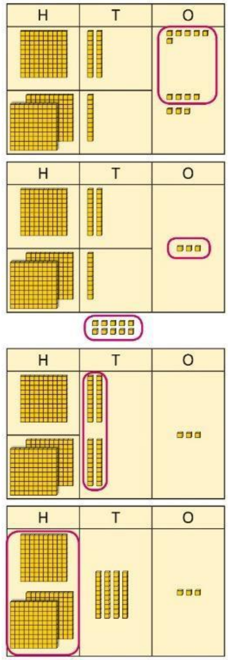
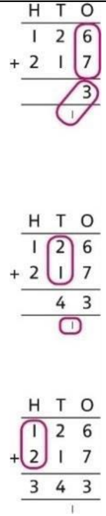
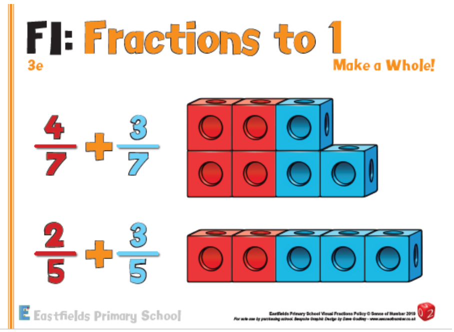
LOWER KEY STAGE 2
In Year 3 especially, the column methods are built up gradually. Children will develop their understanding of how each stage of the calculation, including any exchanges, relates to place value. The example calculations chosen to introduce the stages of each method may often be more suited to a mental method. However, the examples and the progression of the steps have been chosen to help children develop their fluency in the process, alongside a deep understanding of the concepts and the numbers involved, so that they can apply these skills accurately and efficiently to later calculations. The class should be encouraged to compare mental and written methods for specific calculations, and children should be encouraged at every stage to make choices about which methods to apply. In Year 4, the steps are shown without such fine detail, although children should continue to build their understanding with a secure basis in place value. In subtraction, children will need to develop their understanding of exchange as they may need to exchange across one or two columns. By the end of Year 4, children should have developed fluency in column methods alongside a deep understanding, which will allow them to progress confidently in upper Key Stage 2.
Key language: partition, place value, tens, hundreds, thousands, column method, whole, part, equal groups, sharing, grouping, bar model, **addend, total, minuend, subtrahend, difference**

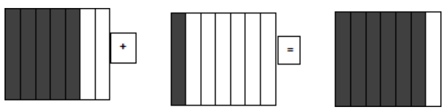
	Concrete	Pictorial	Abstract
Year 3 Addition			
Adding 100s	 *3 + 2 = 5* *3 hundreds + 2 hundreds = 5 hundreds* *300 + 200 = 500*	 *3 + 4 = 7* *3 hundreds + 4 hundreds = 7 hundreds* *300 + 400 = 700*	**3 + 2 = 5** **300 + 200 = 500**
3-digit number + 1s, no exchange or bridging	 *214 + 4 = ?* *Now there are 4 + 4 ones in total.* *4 + 4 = 8* *214 + 4 = 218*	 *245 + 4* *5 + 4 = 9* *245 + 4 = 249*	Use number bonds to add the 1s and understand that this is more efficient and less prone to error. **245 + 4 = ?** **I will add the 1s.** **5 + 4 = 9** **So, 245 + 4 = 249**

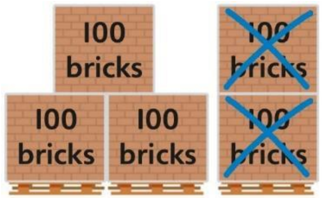
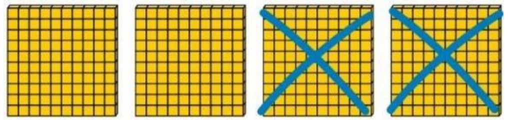
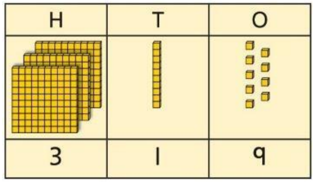
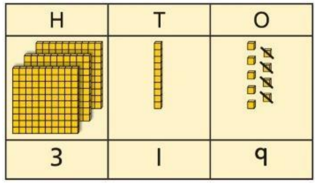
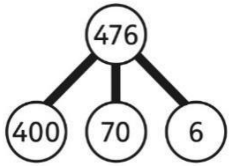
3-digit number + 1s with exchange	Understand that when the 1s sum to 10 or more, this requires an exchange of 10 ones for 1 ten. Children should explore this using unitised objects or physical apparatus.	Exchange 10 ones for 1 ten where needed.  *135 + 7 = 142*	**135 + 7 = ?** **135 + 5 + 2 = 142** **198 + 5 = ?** **198 + 2 + 3 = 203**
3-digit number + 10s, no exchange		*351 + 30 = ?*	**753 + 40** **I know that 5 + 4 = 9** **So, 50 + 40 = 90**

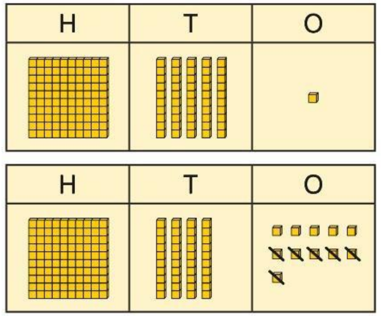
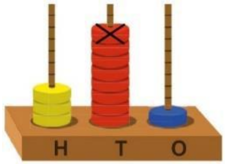
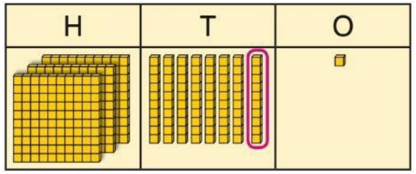
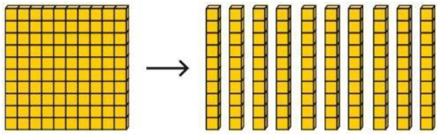
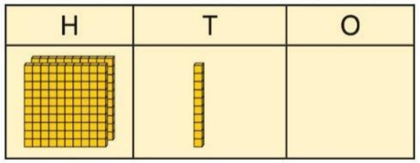
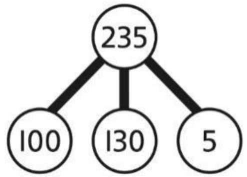
	 *234 + 50* *There are 3 tens and 5 tens altogether.* *3 + 5 = 8* *In total there are 8 tens.* 234 + 50 = 284	 *5 tens + 3 tens = 8 tens* *351 + 30 = 381*	**753 + 40 = 793**
3-digit number + 10s, with exchange	Understand the exchange of 10 tens for 1 hundred. 	Add by exchanging 10 tens for 1 hundred. *184 + 20 = ?*  *184 + 20 = 204*	*184 + 20 = ?* *I can count in 10s … 194 … 204* *184 + 20 = 204* Use number bonds within 20 to support efficient mental calculations. *385 + 50* *There are 8 tens and 5 tens.* *That is 13 tens.* *385 + 50 = 300 + 130 + 5* *385 + 50 = 435*

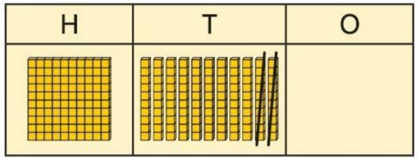
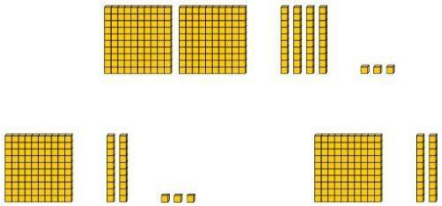
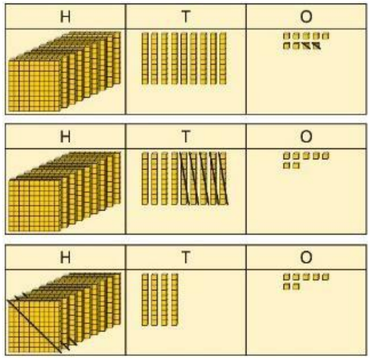
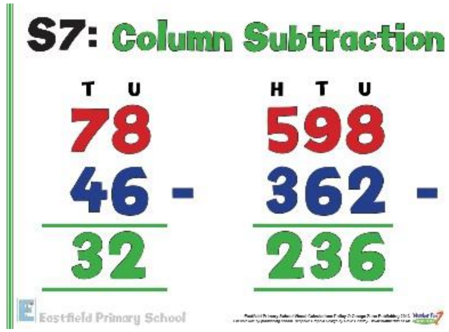
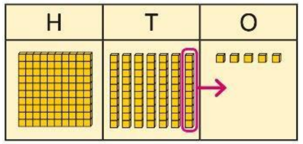
3-digit number + 2-digit number or a 3-digit number	Use place value equipment to model addition and understand where exchange is required. *Use place value counters to represent 154 + 72.* *Use this to decide if any exchange is required.* *There are 5 tens and 7 tens. That is 12 tens so I will exchange.*	*275 + 16 = ?* *275 + 16 = 291* *Note: In this example, a mental method may be more efficient. The numbers for the example calculation have been chosen to allow children to visualise the concept and see how the method relates to place value.* 	
3-digit number + 3-digit number, exchange required	Use place value equipment to enact the exchange required.  *There are 13 ones.* *I will exchange 10 ones for 1 ten.*	Model the stages of column addition using place value equipment on a place value grid.	Use column addition, ensuring understanding of place value at every stage of the calculation.

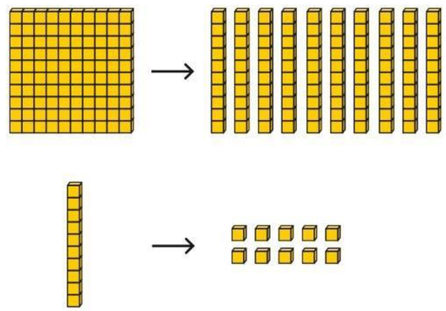
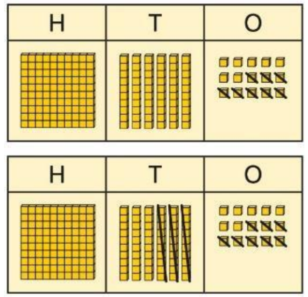
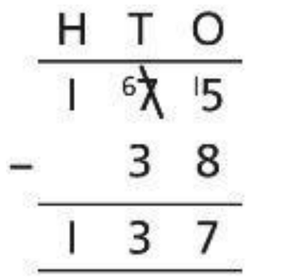
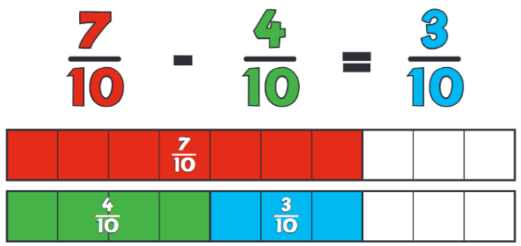
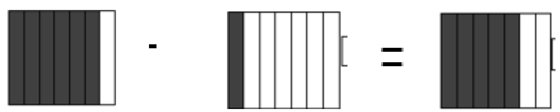
<table>
<tr><td></td><td></td><td></td><td>
126 + 217 = 343</td></tr>
<tr><td>**Add fractions with the same denominator <u>within one whole.</u>**</td><td>
</td><td>5 / 7 + 1 / 7 = 6 / 7

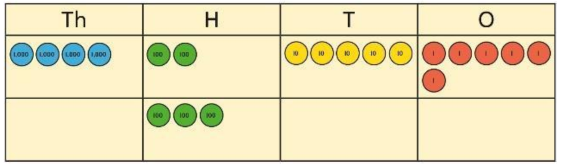
Children should be able to sketch / shade in the correct parts themselves on a given diagram.
</td><td>5 / 7 + 1 / 7 = 6 / 7</td></tr>
<tr><td colspan="4">**Year 3
Subtraction**</td></tr>
</table>

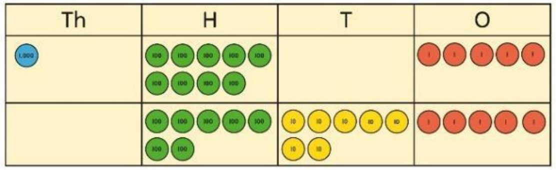
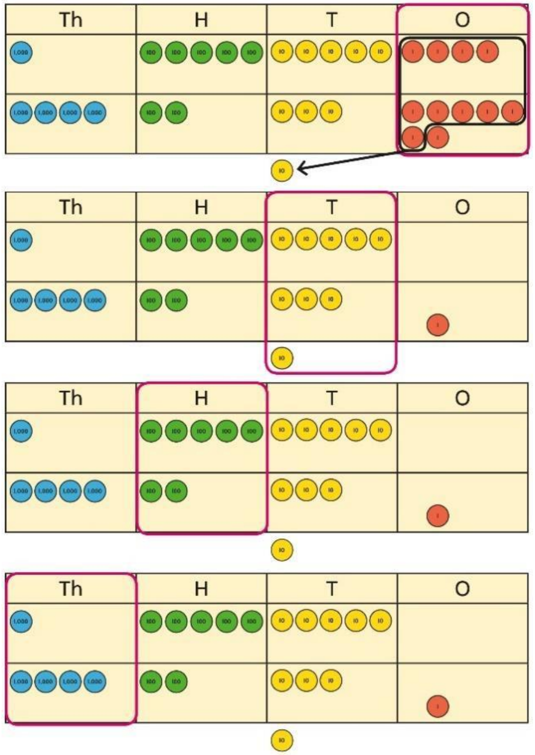
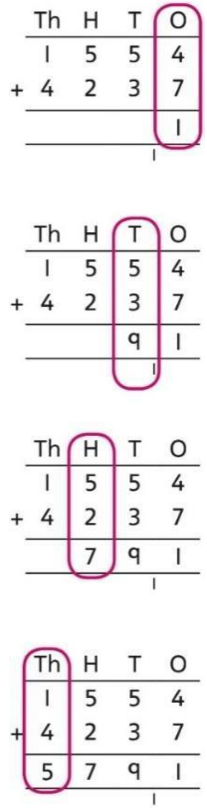
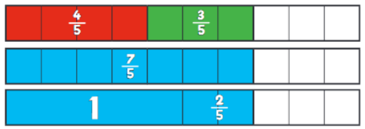
Subtracting 100s	 *5 − 2 = 3* *500 − 200 = 300*	 *4 − 2 = 2* *400 − 200 = 200*	**400 − 200 = 200** **I know that 7 − 4 = 3. Therefore, I know that 700 − 400 = 300.**
3-digit number − 1s, no exchange	Use number bonds to subtract the 1s.  *214 − 3 = ?*  *4 − 3 = 1* *214 − 3 = 211*	Use number bonds to subtract the 1s.  *319 − 4 = ?*  *9 − 4 = 5* *319 − 4 = 315*	Understand the link with counting back using a number line. Use known number bonds to calculate mentally. *476 − 4 = ?*  *6 − 4 = 2* *476 − 4 = 472*
3-digit number − 1s, exchange or	Understand why an exchange is necessary by exploring why 1 ten must be exchanged. Use place value equipment.	Represent the required exchange on a place value grid. *151 − 6 = ?*	Calculate mentally by using known bonds. *151 − 6 = ?*

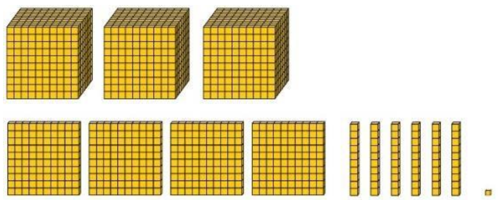
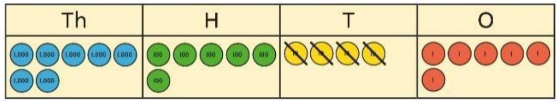
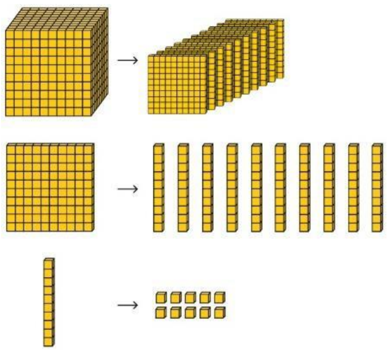
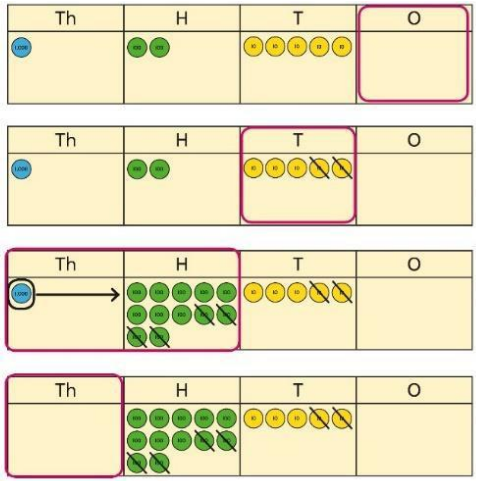
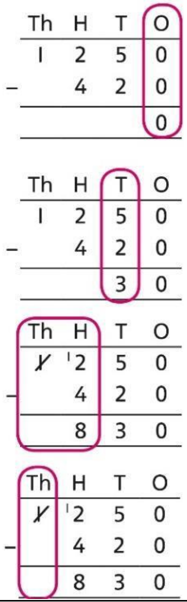
bridging required			151 − 1 − 5 = 145
3-digit number − 10s, no exchange	 *381 − 10 = ?* *8 tens with 1 removed is 7 tens.* *381 − 10 = 371*	 *8 tens − 1 ten = 7 tens* *381 − 10 = 371*	**372 − 50 = ?** **70 − 50 = 20** **So, 372 − 50 = 322**
3-digit number − 10s, exchange or bridging required	Use equipment to understand the exchange of 1 hundred for 10 tens. 	*210 − 20 = ?* 	 Use flexible partitioning to support the calculation. *235 − 60 = ?*

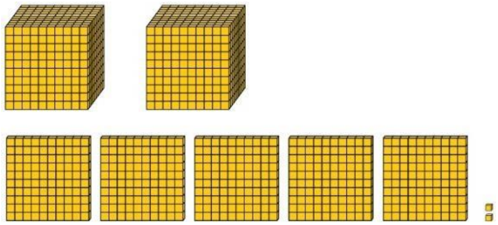
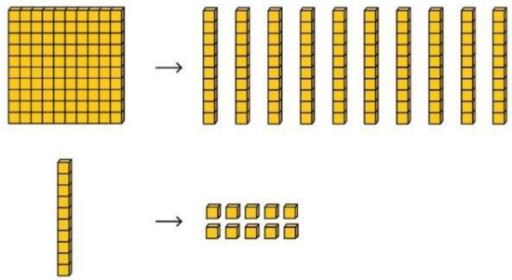
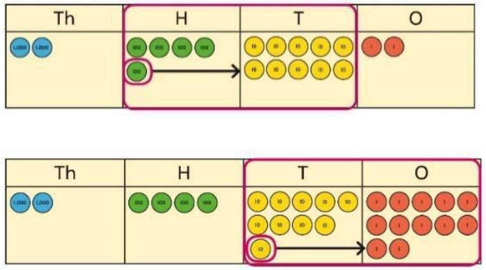
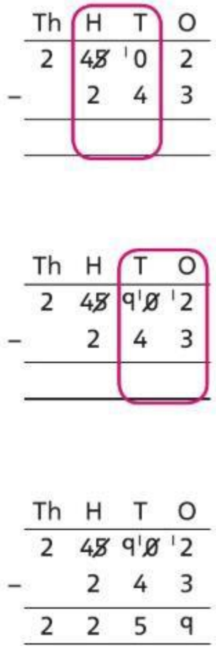
		I need to exchange 1 hundred for 10 tens, to help subtract 2 tens.  *210 − 20 = 190*	*235 = 100 + 130 + 5* *235 − 60 = 100 + 70 + 5* = 175
3-digit number − up to 3-digit number	Use place value equipment to explore the effect of splitting a whole into two parts, and understand the link with taking away. 	Represent the calculation on a place value grid.  	
3-digit number − up to 3-digit number, exchange required	Use equipment to enact the exchange of 1 hundred for 10 tens, and 1 ten for 10 ones.	*175 − 38 = ?* *I need to subtract 8 ones, so I will exchange a ten for 10 ones.*  	

			 175 – 38 = 137
Subtract fractions with the same denominator **within one whole.**	Fraction walls and circles should be used practically. 	Children to colour in representations to embed understanding. 6 / 7 - 1 / 7 = 5 / 7 	**6 / 7 - 1 / 7 = 5 / 7**

Year 4 **Addition**			
Choosing mental methods where appropriate	Use unitising and known facts to support mental calculations. *Make 1,405 from place value equipment.* *Add 2,000.* *Now add the 1,000s.* *1 thousand + 2 thousands = 3 thousands* *1,405 + 2,000 = 3,405*	Use unitising and known facts to support mental calculations.  *I can add the 100s mentally.* *200 + 300 = 500* *So, 4,256 + 300 = 4,556*	Use unitising and known facts to support mental calculations. *4,256 + 300 = ?* **2 + 3 = 5** **200 + 300 = 500** **4,256 + 300 = 4,556**

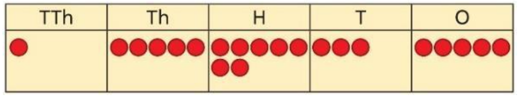
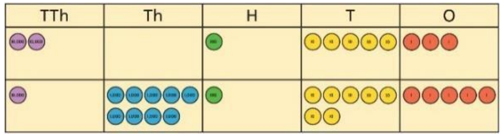
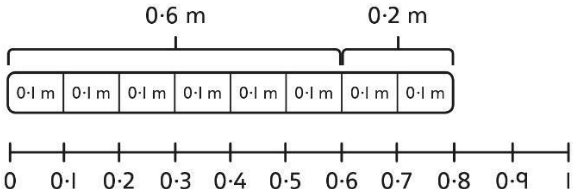
Column addition with exchange	*Use equipment.to show 1,905 + 775.*  *Why have only three columns been used for the second row? Why is the Thousands box empty?* *Which columns will total 10 or more?*		
Add fractions with the same denominator.	Fraction walls and circles should be used practically. 	Children to colour in representations to embed understanding.	$\frac{4}{5} + \frac{3}{5} = \frac{7}{5} = 1\frac{2}{5}$

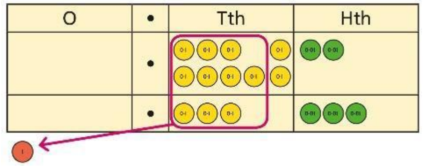
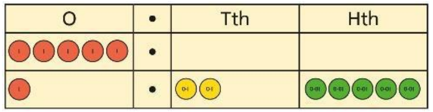
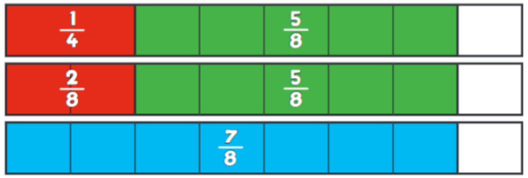
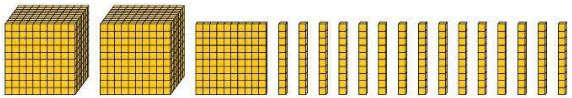
Year 4 Subtraction			
Choosing mental methods where appropriate	.  *What number will be left if we take away 300?*	 *7,646 − 40 = 7,606*	**3,501 − 2,000** **3 thousands − 2 thousands = 1 thousand** **3,501 − 2,000 = 1,501**
Column subtraction with exchange	Understand why exchange of a 1,000 for 100s, a 100 for 10s, or a 10 for 1s may be necessary. 	 	
Column subtraction	*2,502 − 243 = ?*	*2,502 − 243 = ?*	*2,502 − 243 = ?*

with exchange across more than one column	 *I need to exchange a 10 for some 1s, but there are not any 10s here.* 	 	
Subtract fractions with the same denominator.	Fraction walls and circles should be used practically.  	Children to colour in representations to embed understanding.	$\frac{9}{8} - \frac{5}{8} = \frac{4}{8}$

UPPER KEY STAGE 2
Children build on their column methods to add and subtract numbers with up to seven digits, and they adapt the methods to calculate efficiently and effectively with decimals, ensuring understanding of place value at every stage. Children compare and contrast methods, and they select mental methods or jottings where appropriate and where these are more likely to be efficient or accurate when compared with formal column methods. Bar models are used to represent the calculations required to solve problems and may indicate where efficient methods can be chosen.
Key language: decimal, column methods, exchange, partition, mental method, ten thousand, hundred thousand, million, factor, multiple, prime number, square number, cube number, **addend, total, minuend, subtrahend, difference**

Year 5
Addition

Column addition with whole numbers	*Add a row of counters onto the place value grid to show 15,735 + 4,012.* 	Represent additions, using place value equipment on a place value grid alongside written methods.  *I need to exchange 10 tens for a 100.* $\begin{array}{cccccc} & TTh & Th & H & T & O \\ \hline & 2 & 0 & 1 & 5 & 3 \\ + & 1 & 9 & 1 & 7 & 5 \\ \hline & 3 & 9 & 3 & 2 & 8 \\ \hline & & & 1 & & \end{array}$	$\begin{array}{cccccc} & TTh & Th & H & T & O \\ \hline & 1 & 9 & 1 & 7 & 5 \\ + & 1 & 8 & 4 & 1 & 7 \\ \hline & 3 & 7 & 5 & 9 & 2 \\ \hline & & 1 & & 1 & \end{array}$
Adding tenths	Link measure with addition of decimals. *Two lengths of fencing are 0·6 m and 0·2 m.* *How long are they when added together?* 0·6 m 0·2 m 	 *0·6 + 0·2 = 0·8* 6 tenths + 2 tenths = 8 tenths	$\frac{6}{10} + \frac{2}{10} = \frac{8}{10}$ *6 tenths + 2 tenths = 8 tenths* *0·6 + 0·2 = 0·8*
Adding decimals using column addition **(Measurement - Money)**	Use place value equipment to represent additions. *Show 0·23 + 0·45 using place value counters.*	Represent exchange where necessary.	$\begin{array}{ccccc} & O & \cdot & Tth & Hth \\ \hline & 0 & \cdot & 2 & 3 \\ + & 0 & \cdot & 4 & 5 \\ \hline & 0 & \cdot & 6 & 8 \\ \hline \end{array}$ Include exchange where required, alongside an understanding of place value.

		 $\begin{array}{rcrr} & O & \cdot\ Tth & Hth \\ & 0 & \cdot\ 9 & 2 \\ + & 0 & \cdot\ 3 & 3 \\ \hline & 1 & \cdot\ 2 & 5 \\ & _1 & & \end{array}$ Include examples where the numbers of decimal places are different.  $\begin{array}{rcrr} & O & \cdot\ Tth & Hth \\ & 5 & \cdot\ 0 & 0 \\ + & 1 & \cdot\ 2 & 5 \\ \hline & 6 & \cdot\ 2 & 5 \end{array}$	$\begin{array}{rcrr} & O & \cdot\ Tth & Hth \\ & 0 & \cdot\ 9 & 2 \\ + & 0 & \cdot\ 3 & 3 \\ \hline & 1 & \cdot\ 2 & 5 \\ & _1 & & \end{array}$ Include additions where the numbers of decimal places are different. *3.4 + 0.65 = ?* $\begin{array}{rcrr} & O & \cdot\ Tth & Hth \\ & 3 & \cdot\ 4 & 0 \\ + & 0 & \cdot\ 6 & 5 \\ \hline & & \cdot & \\ \hline \end{array}$
Add fractions with the same denominator and multiples of the same number.	Fraction walls and circles should be used practically.		$\frac{1}{4} + \frac{5}{8} = \frac{2}{8} + \frac{5}{8} = \frac{7}{8}$
		Year 5 Subtraction	
Column subtraction with whole numbers	*2,250 – 1,070* 	*15,735 − 2,582 = 13,153*	$\begin{array}{rccccc} & TTh & Th & H & T & O \\ & {}^{5}\cancel{6} & {}^{11}\cancel{2} & {}^{1}0 & 9 & 7 \\ - & 1 & 8 & 5 & 3 & 4 \\ \hline & 4 & 3 & 5 & 6 & 3 \\ \hline \end{array}$ 62,097 − 18,534 = 43,563

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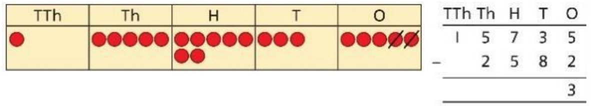
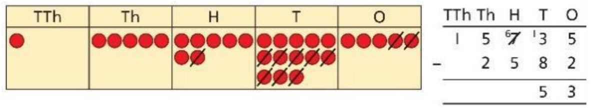
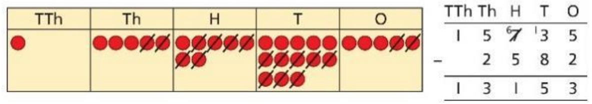
<td>

Now subtract the 10s. Exchange 1 hundred for 10 tens.


Subtract the 100s, 1,000s and 10,000s.

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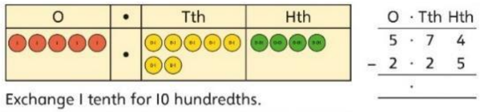
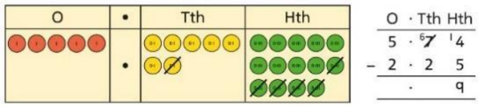
<tr>
<td>Subtracting decimals

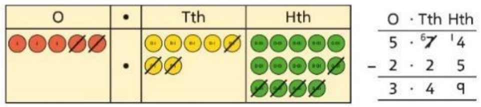
(Measurement – Money)</td>
<td>

1 m − ☐ m = ☐ m

1 − 0·49 = ?</td>
<td>5·74 − 2·25 = ?


Exchange 1 tenth for 10 hundredths.


Now subtract the 5 hundredths.


Now subtract the 2 tenths, then the 2 ones.

</td>
<td>O · Tth Hth Thth
3 · 9 2 1
− 3 · 7 5 0
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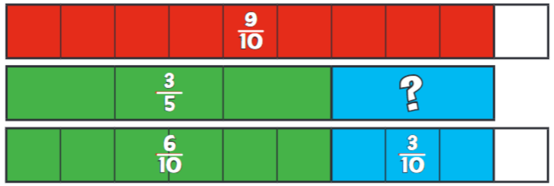
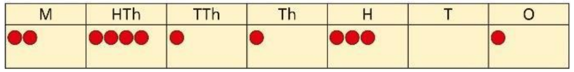
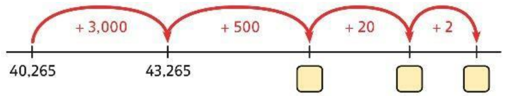
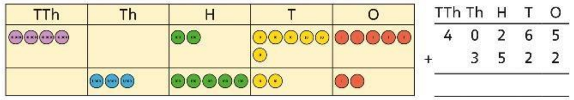
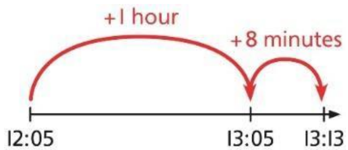
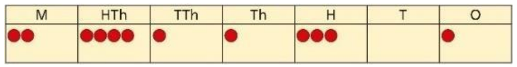
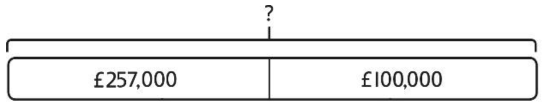
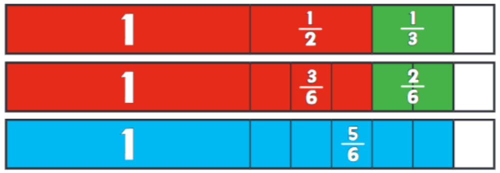
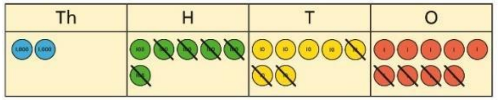
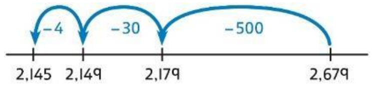
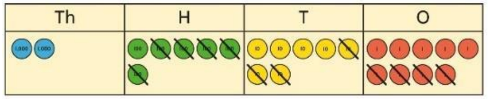
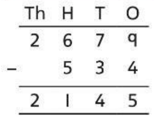
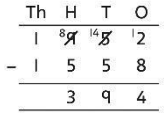
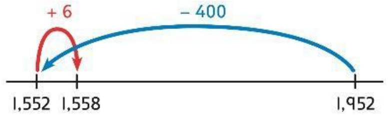
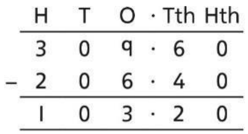
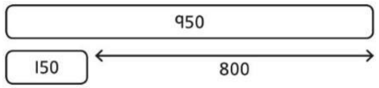
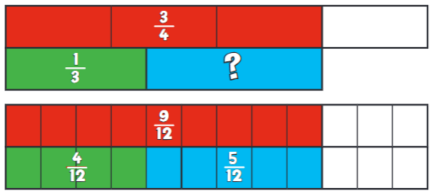
Subtract fractions with the same denominator and multiples of the same number.	Fraction walls and circles should be used practically.		$\frac{9}{10} - \frac{3}{5} = \frac{3}{10}$

Year 6 Addition			
Comparing and selecting efficient methods	Represent 7-digit numbers on a place value grid, and use this to support thinking and mental methods.  	Discuss similarities and differences between methods, and choose efficient methods based on the specific calculation. Compare written and mental methods alongside place value representations.   Use bar model and number line representations to model addition in problem-solving and measure contexts.  	Use column addition where mental methods are not efficient. Recognise common errors with column addition. *32,145 + 4,302 = ?* TTh Th H T O 3 2 1 4 5 + 4 3 0 2 3 6 4 4 7 TTh Th H T O 3 2 1 4 5 + 4 3 0 2 7 5 1 6 5 *Which method has been completed accurately?* *What mistake has been made?* Column methods are also used for decimal additions where mental methods are not efficient. H T O · Tth Hth 1 4 0 · 0 9 + 4 9 · 8 9 1 8 9 · 9 8 1
Selecting mental methods for larger numbers	Represent 7-digit numbers on a place value grid, and use this to support thinking and mental methods.  	Use a bar model to support thinking in addition problems. *257,000 + 99,000 = ?*	Use place value and unitising to support mental calculations with larger numbers. *195,000 + 6,000 = ?* *195 + 5 + 1 = 201*

where appropriate	*2,411,301 + 500,000 = ?* *This would be 5 more counters in the HTh place.* *So, the total is 2,911,301.* *2,411,301 + 500,000 = 2,911,301*	 *I added 100 thousands then subtracted 1 thousand.* *257 thousands + 100 thousands = 357 thousands* *257,000 + 100,000 = 357,000* *357,000 – 1,000 = 356,000* *So, 257,000 + 99,000 = 356,000*	*195 thousands + 6 thousands = 201 thousands* *So, 195,000 + 6,000 = 201,000*
Add fractions with different denominators and mixed numbers using the concept of equivalent fractions.	Fraction walls and circles should be used practically.		$1\frac{1}{2} + \frac{1}{3} = 1\frac{3}{6} + \frac{2}{6} = 1\frac{5}{6}$
Year 6 **Subtraction**			
Comparing and selecting efficient methods	Use counters on a place value grid to represent subtractions of larger numbers.	Compare subtraction methods alongside place value representations.	Compare and select methods. Use column subtraction when mental methods are not efficient.

		  	Use two different methods for one calculation as a checking strategy.   
Subtracting mentally with larger numbers		Use a bar model to show how unitising can support mental calculations. *950,000 − 150,000* *That is 950 thousands − 150 thousands*  *So, the difference is 800 thousands.* *950,000 − 150,000 = 800,000*	Subtract efficiently from powers of 10. *10,000 − 500 = ?*
Subtract fractions with different denominators and mixed numbers.	Fraction walls and circles should be used practically.		$\frac{3}{4} - \frac{1}{3} = \frac{9}{12} - \frac{4}{12} = \frac{5}{12}$