St Gabriel's C of E Primary School

Calculation Policy

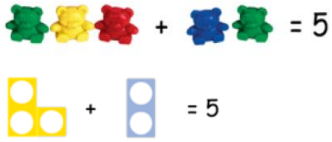
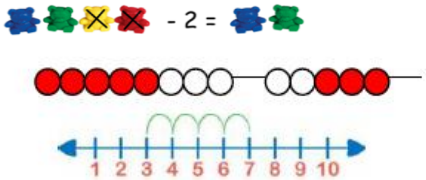
At St Gabriel's C of E Primary School, the aim of our calculation policy is to ensure all children receive equity of offer. Our calculation policy provides clarity on how procedural knowledge (skills) are developed across the school. Calculation procedures are taught according to this document so they can be seamlessly built upon year after year, as a child moves through school.

In all year groups, we use the 'White Rose Maths Hub' scheme of learning as a basis for our planning. White Rose follows the Concrete – Pictorial – Abstract approach to teaching maths.

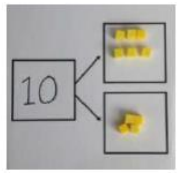
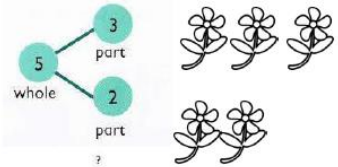
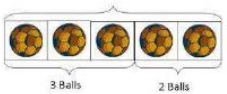
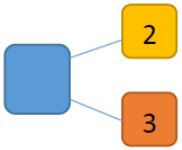
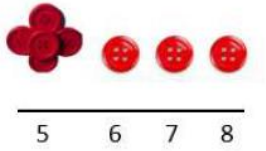
- Concrete is the 'doing' stage, using concrete objects to solve problems.
- The pictorial or 'seeing' stage uses representations of objects to solve problems. This helps children make the connection between the physical object and abstract levels of understanding, which is the stage they move onto next.
- The abstract stage brings in mathematical symbols, for example +, -, x, ÷ to indicate addition, subtraction, multiplication and division.

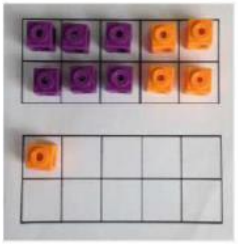
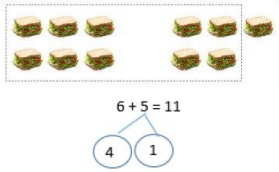
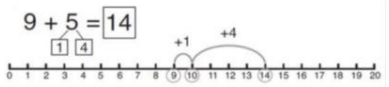
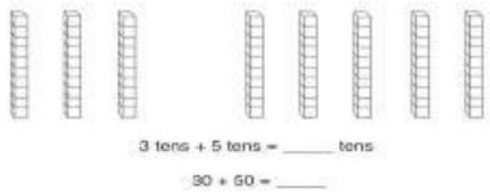
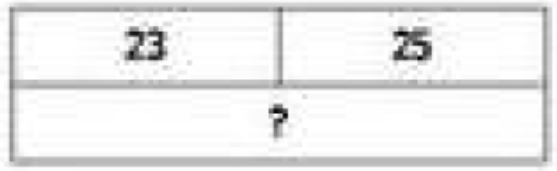
This policy has been largely adapted from the White Rose Maths Hub Calculation Policy with further material added. Staff should use this policy alongside the additional guidelines (White Rose Maths Hub) and progression documents. It is a working document and will be revised and amended as necessary.

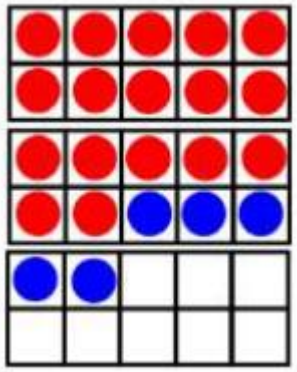
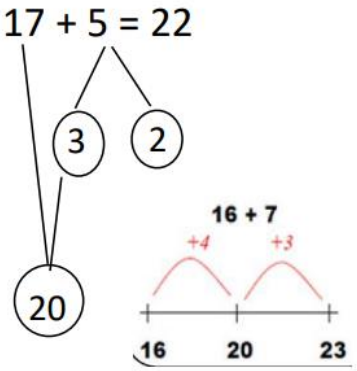
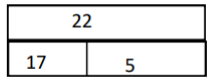
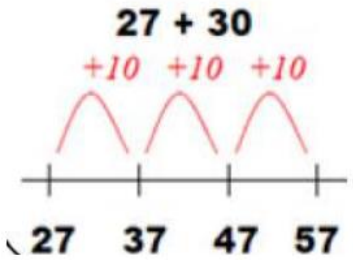
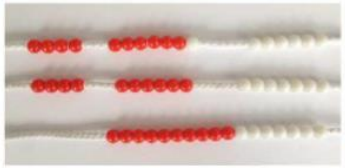
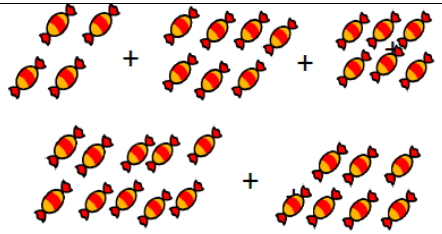
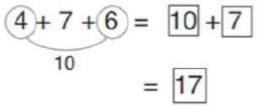
EYFS

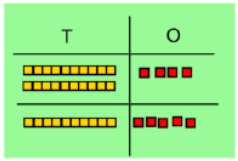
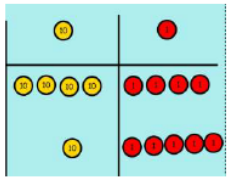
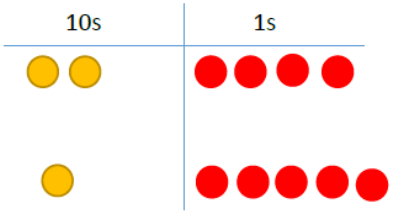
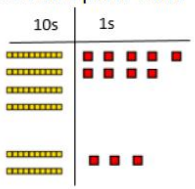
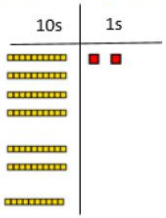
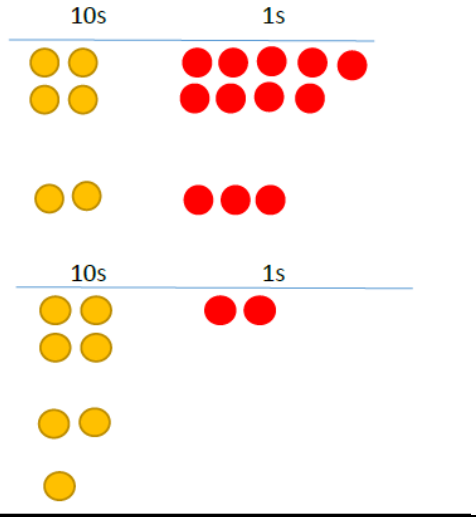
Addition	Subtraction	Multiplication	Division
Children are encouraged to gain a sense of the number system through the use of counting objects. They combine objects in practical ways and count all.  They understand addition as counting on and will count on in ones and twos using objects, cubes, bead strings and number lines.  They use concrete and pictorial representations to record their calculations.	Children are encouraged to gain a sense of the number system through the use of counting concrete objects. They understand subtraction as counting out.  They begin to count back in ones and twos using objects, cubes, bead strings and number lines.  They use concrete and pictorial representations to record their calculations. They begin to use – and =	Children use concrete objects to make and count equal groups of objects.  They will count on in twos using a bead string and number line. They understand doubling as repeated addition. e.g. 2 + 2 = 4 They use concrete and pictorial representations to record their calculations.	Children use concrete objects to count and share equally into 2 groups. 6 cakes shared between 2 people, each person gets 3 cakes.  6 ÷ 2 = 3  They understand sharing and halving as dividing by 2. They will begin to use objects to make groups of 2 from a given amount.

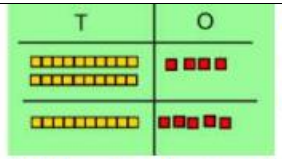
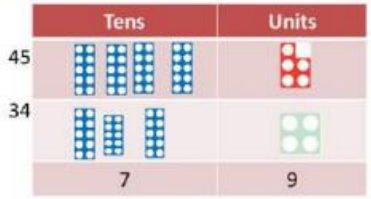
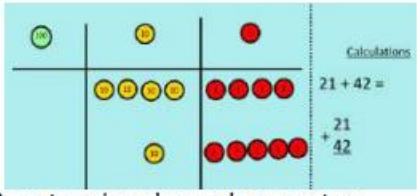
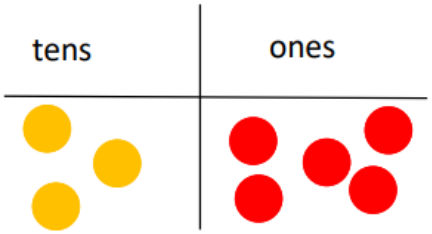
They begin to use the operation symbols + and = They are encouraged to develop a mental picture of the number system in their heads to use for calculations.	They begin to use the operation symbols + and = They are encouraged to develop a mental picture of the number system in their heads to use for calculations.		They use concrete and pictorial representations to record their calculations.

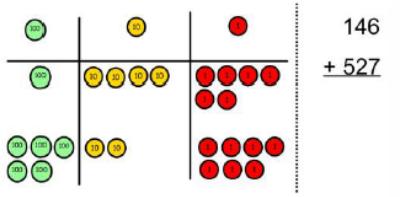
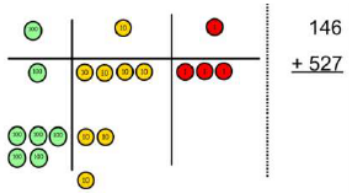
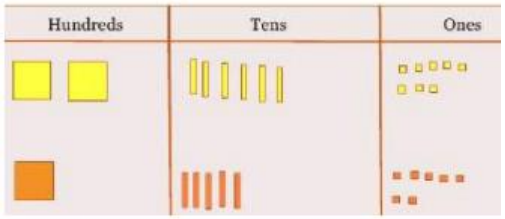
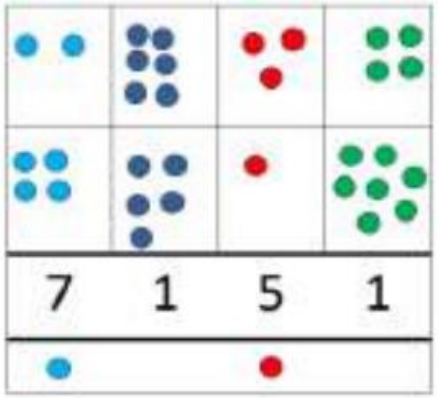
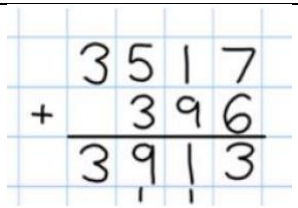
Addition				
	Key Skill	**Concrete**	**Pictorial**	**Abstract**
Year 1	**Add two 1-digit numbers to 10** **Combining two parts to make a whole (aggregation)**	  Use cubes to add two numbers together as a group or in a bar. 	  Use pictures to add two numbers together as a group or in a bar.  	2 + 3 = 5 3 + 2 = 5 5 = 3 + 2 5 = 2 + 3  Use the part-part-whole diagram as shown above to move into the abstract.
	Start at the bigger number and count on (augmentation)	 Start with the larger number on the bead string and then count on to the smaller number 1 by 1 to find the answer.  	Use a number line to count on in ones.  	5 + 3 = 8

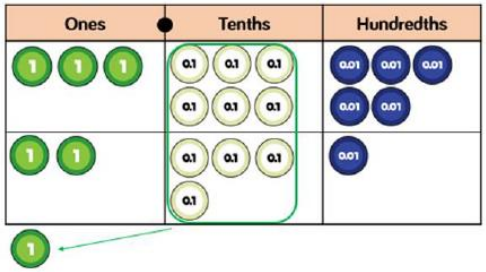
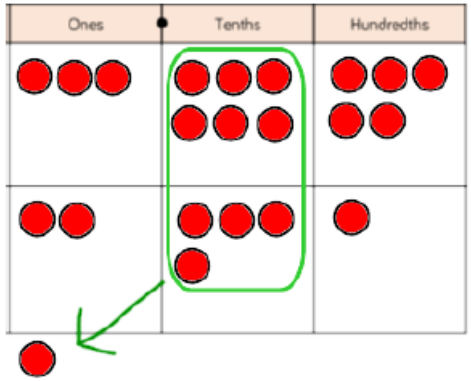
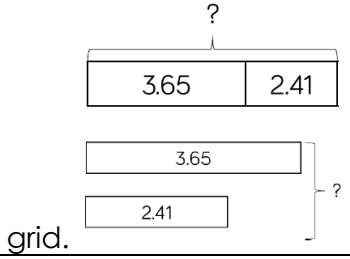
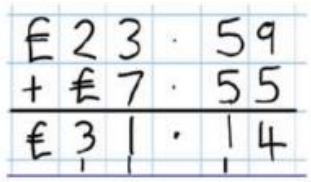
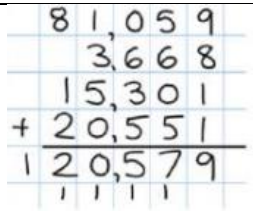
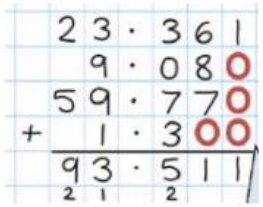
	Regrouping to make 10 ***This is an essential skill for column addition later.***	  6 + 5 = 11 Start with the bigger number and use the smaller number to make 10.	 6 + 5 = 11 6 + 4 =10 10 + 1 = 11 Use pictures or a number line. Regroup or partition the smaller number using the part part whole model to make 10. 	6 + 5 = 11
Year 2	**Adding multiples of 10**	 Model using dienes and bead strings Use number bond facts. e.g. I know that 2 + 3 = 5 So, 2 tens and 3 tens is 5 tens. 20 + 30 = 50	 Use representations for base ten.	20 + 30 = 50 70 = 50 + 20 40 + □ = 60
	Bar model	 3 + 4 = 7	 7 + 3 = 10	 23 + 25 = 48

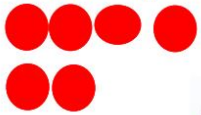
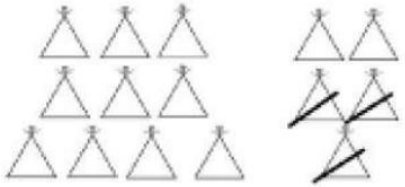
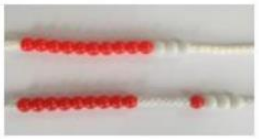
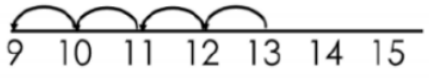
	Add a two digit number and ones	 17 + 5 = 22 Use a ten frame. Children explore the pattern: 17 + 5 = 22	Use part part whole and number line to model. 	17 + 5 = 22 Explore related facts 17 + 5 = 22 5 + 17 = 22 22—17 = 5 22—5 = 17 
	Add a two digit number and tens	 25 + 10 = 35 Explore that the ones digit does not char		27 + 10 = 37 27 + 20 = 47 27 + □ = 57
	Adding 3 single digit numbers	4 + 7 + 6= 17 Put 4 and 6 together to make 10. Add on 7.  Following on from making 10, make 10 with 2 of the digits (if possible) then add on the third digit.	 Add together three groups of objects. Draw a picture to recombine the groups to make 10.	 Combine the two numbers that make 10 and then add on the remainder.

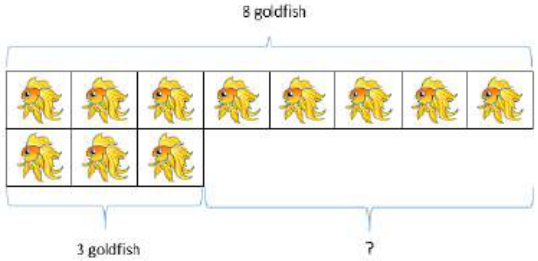
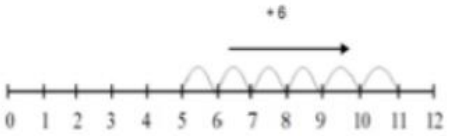
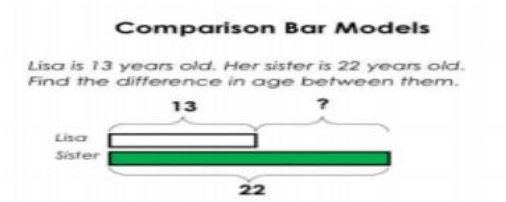
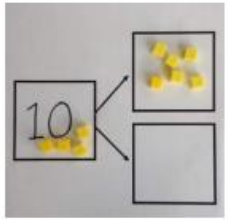
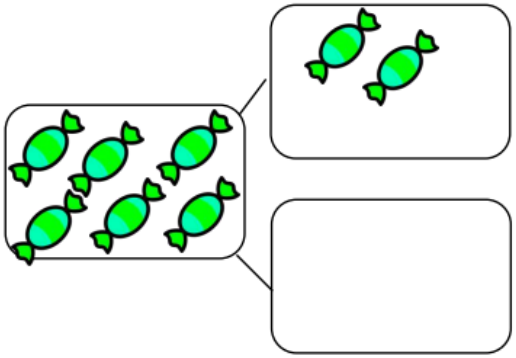
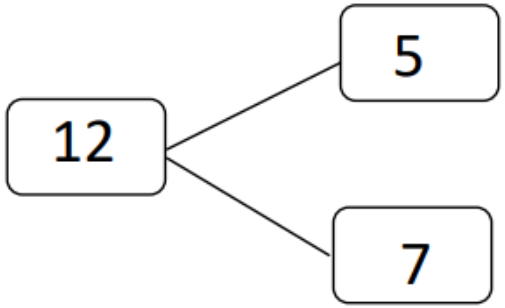
	Adding 2 two-digit numbers **Column method without regrouping**	Add together the ones first, then add the tens. Use the Base 10 blocks first before moving onto place value counters. 24 + 15 =  44 + 15 = 	After physically using the base 10 blocks and place value counters, children can draw the counters to help them to solve additions.  	24 + 15 = 39 24 + 15 39
	Adding 2 two-digit numbers **Column method with regrouping**	Make both numbers on a place value grid.  Add up the units and exchange 10 ones for 1 ten.  	Using place value counters, children can draw the counters to help them to solve additions.  	40 + 9 20 + 3 60 + 12 = 72 T O 4 9 + 2 3 7 2 1

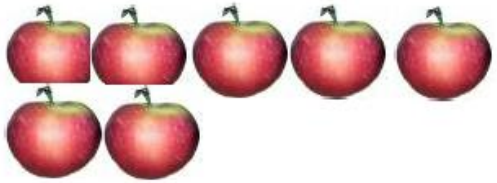
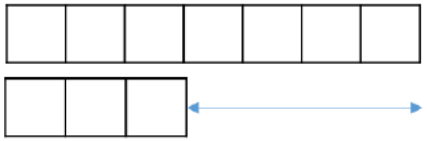
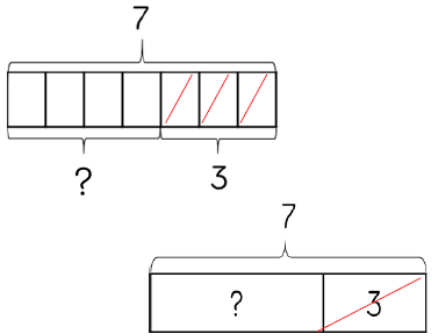
Year 3	**Add numbers with up to 3 digits** **Column method without regrouping**	 Model using Dienes or numicon Add together the ones first, then the tens.   Move to using place value counters	Children move to drawing the counters using a tens and one frame.  	$\begin{array}{r} 223 \\ +\ 114 \\ \hline 337 \end{array}$ Add the ones first, then the tens, then the hundreds.

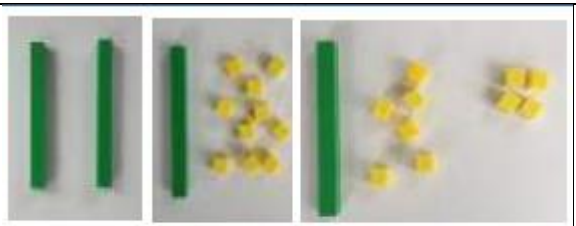
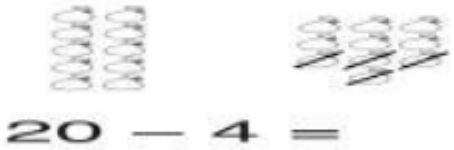
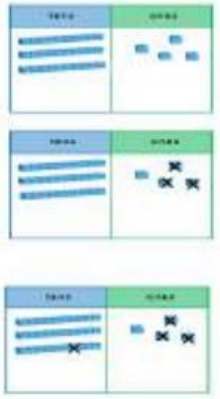
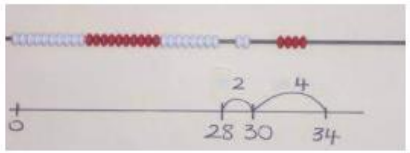
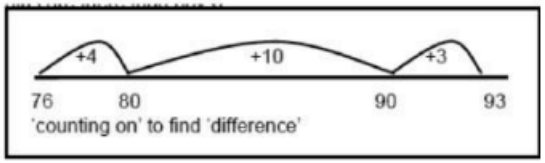
	Column method with regrouping	Make both numbers on a place value grid.  Add up the units and exchange 10 ones for 1 ten.  As children move on to decimals, money and decimal place value counters can be used to support learning. **NB** By Year 4 children will progress on to adding four digit numbers.	 Children can draw a pictoral representation of the columns and place value counters to further support their learning and understanding.	100 + 40 + 6 500 + 20 + 7 600 + 70 + 3 = 673 As the children progress, they will move from the expanded to the compacted method. 146 + 527 673 1
Year 4	**Add numbers with up to 4 digits**	 Children continue to use dienes or pv counters to add and exchange.	 Draw representations using a pv grid.	 Continue from previous learning to exchange hundreds as well as tens. Relate to money and measures.

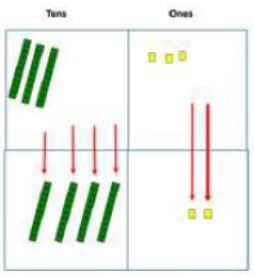
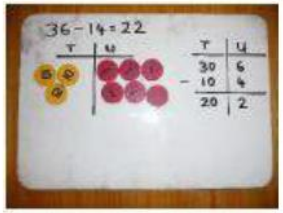
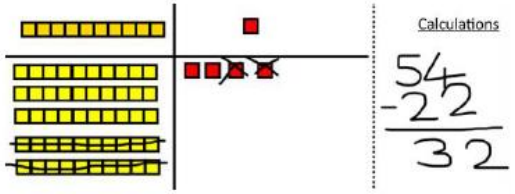
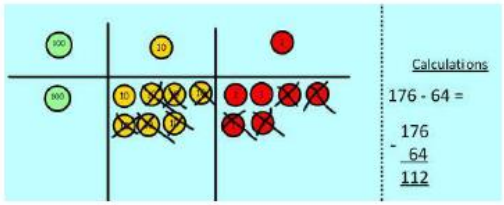
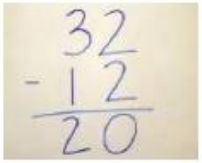
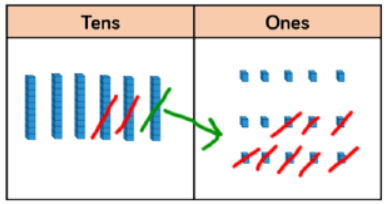
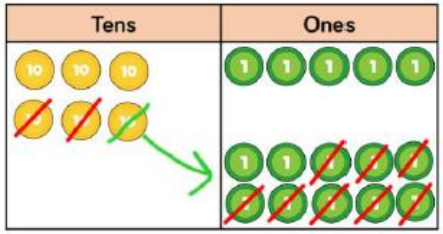
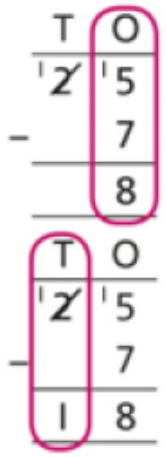
Year 5	**Add numbers with more than 4 digits** **Add decimals with up to 3 decimal places including money**	As Year 4 Introduce decimal place value counters and model exchange for addition.  Place value counters and plain counters on a place value grid are the most effective manipulatives at this stage.	 Draw representations using a pv grid.  	3.65 + 2.41 6.06 1 
Year 6	**Add several numbers of increasing complexity** **Including adding money and decimals with different numbers of decimal points**	As Year 5	As Year 5	 Insert zeros for place holders. 

Subtraction				
	Key Skill	**Concrete**	**Pictorial**	**Abstract**
Year 1	**Subtract two 1-digit numbers to 10/ Subtract 1 and 2-digit numbers to 20** **Taking away ones**	Use physical objects, counters , cubes etc to show how objects can be taken away.  6—4 = 2  4—2 = 2	 15 – 3 = 12 Cross out drawn objects to show what has been taken away.	7—4 = 3 16—9 = 7
	Counting back	Make the larger number in your subtraction. Move the beads along your bead string as you count backwards in ones. **13 – 4 =**  Use counters and move them away from the group as you take them away counting backwards as you go. 	Count back on a number line or number track.  9 10 11 12 13 14 15 Start at the bigger number and count back the smaller number showing the jumps on the number line.  -10 -10 -1 -1 -1 34 35 36 37 47 57 This can progress all the way to counting back using two 2 digit numbers.	Put 13 in your head, count back 4. What number are you at? Use your fingers to help. **13 - 4 =**

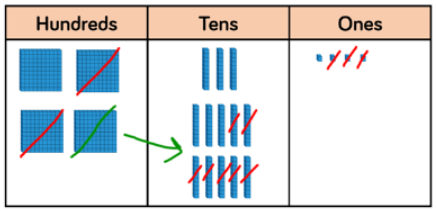
	Find the difference	Compare amounts and objects to find the difference.  Use cubes to build towers or make bars to find the difference. Use basic bar models with items to find the difference.	Count on to find the difference.  Draw bars to find the difference between 2 numbers.  	Hannah has 23 sandwiches, Helen has 15 sandwiches. Find the difference between the number of sandwiches. **23 - 15 =**
	Represent and use number bonds and related subtraction facts within 20. **Part-part whole model**	 Link to addition. Use PPW model to model the inverse. If 10 is the whole and 6 is one of the arts, what s the other part? 10—6 = 4	 Use pictorial representations to show the part.	Move to using numbers within the part whole model. 

	Make 10	14—9  Make 14 on the ten frame. Take 4 away to make ten, then take one more away so that you have taken 5.	13—7  Jump back 3 first, then another 4. Use ten as the stopping point.	16—8 How many do we take off first to get to 10? How many left to take off?
	Bar model	 5—2 = 3		

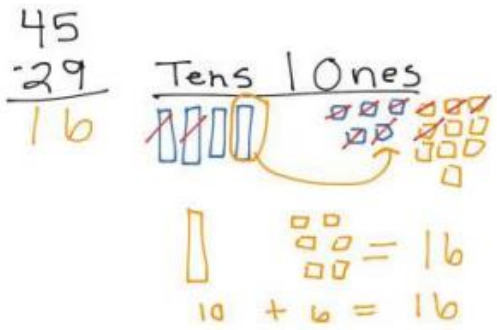
Year 2	**Subtract 1 and 2-digit numbers to 100** **Regroup a ten into ten ones**	 Use a PV chart to show how to change a ten into ten ones, use the term 'take and make'	 20 — 4 =	20—4 = 16
	Partitioning to subtract without regrouping	34—13 = 21  Use Dienes to show how to partition the number when subtracting without regrouping.	Children draw representations of Dienes and cross off.  43—21 = 22	43—21 = 22
	Make ten strategy	 34—28 Use a bead bar or bead strings to model counting to next ten and the rest.	 'counting on' to find 'difference' Use a number line to count on to next ten and then the rest.	93—76 = 17

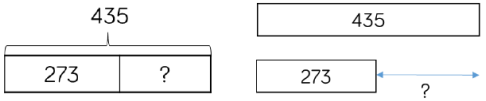
	Column subtraction method without regrouping	75 – 42 = 33  Use Base 10 to make the bigger number then take the smaller number away. Show how you partition numbers to subtract. Again make the larger number first.  	 Draw the Base 10 or place value counters alongside the written calculation to help to show working.  	47 – 24 = 23 40 + 7 – 20 + 4 20 + 3 Intermediate step may be needed to lead to clear subtraction under-standing. 
	Column subtraction method with regrouping	 5 1 6 5 – 2 8 3 7 Use base 10 and a place value grid to demonstrate exchanging one ten for ten ones.	Move to a place value grid and counters. Pupils can draw their own counters.  	 Move to abstract method (show alongside concrete resources). Move to subtracting a 2-digit number when ready.

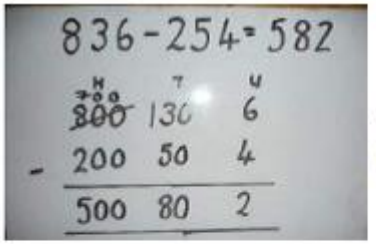
<table>
<tr>
<td>Year 3</td>
<td>Subtract numbers up to 3 digits.

Column subtraction method with regrouping</td>
<td>


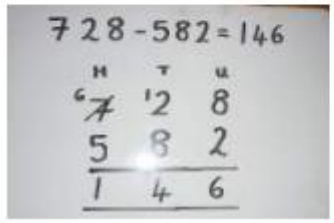
3 1
4 3 5
− 2 7 3
2 6 2

Use base 10 and place value counters to demonstrate exchanging. Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method.</td>
<td>


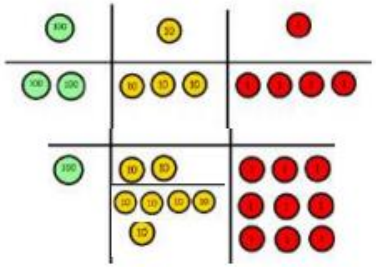
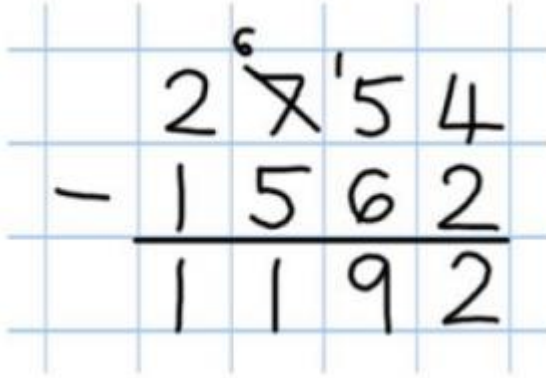
Children may draw base ten or PV counters and cross off.


Bar models support pupils when solving worded problems.</td>
<td>


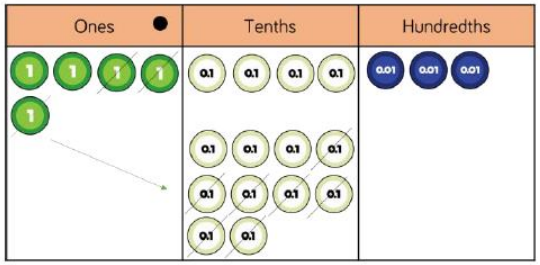
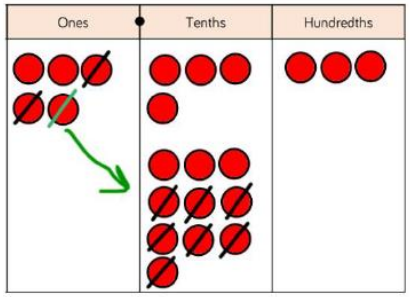
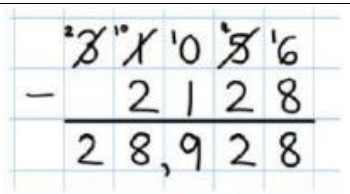
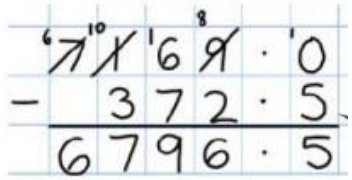
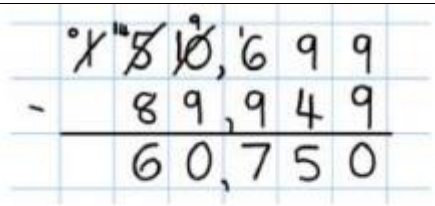
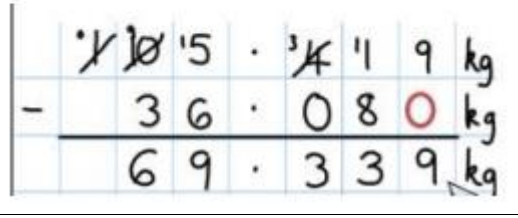
Begin by partitioning into pv columns

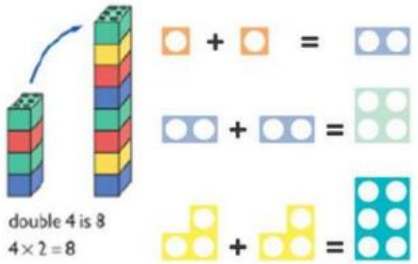
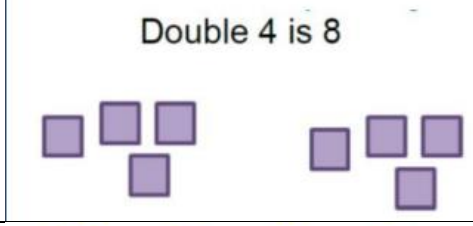
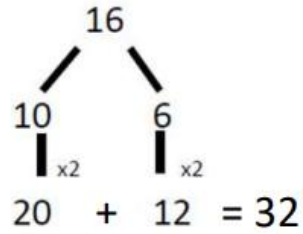
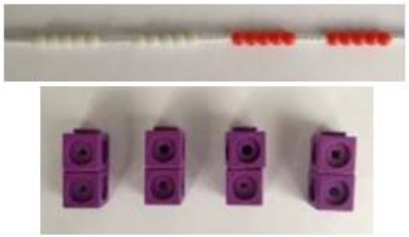
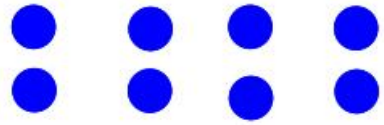
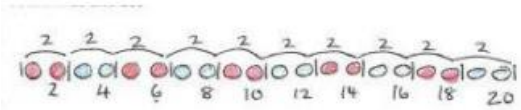
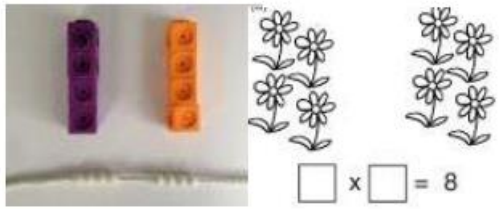
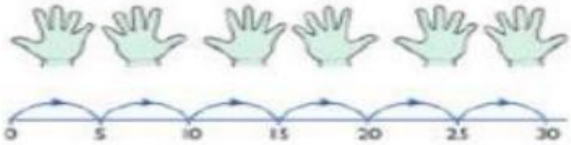


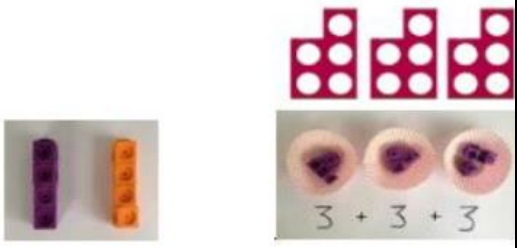
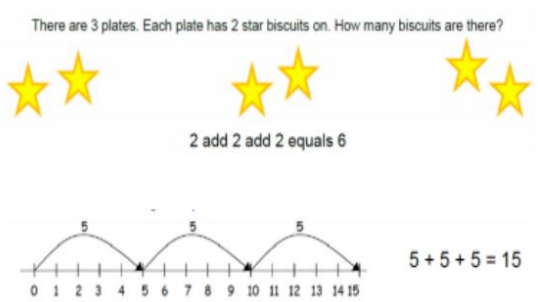
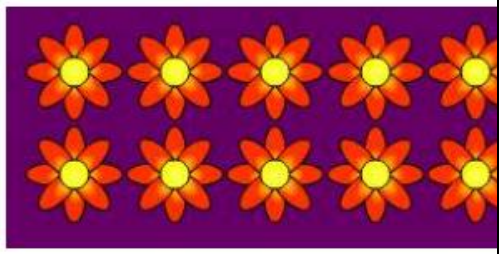
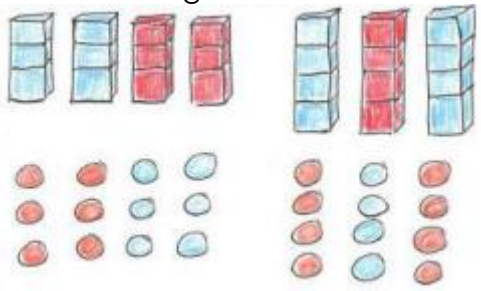
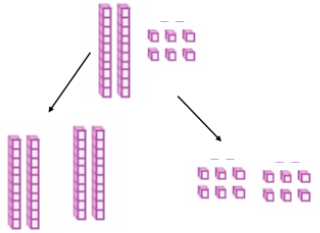
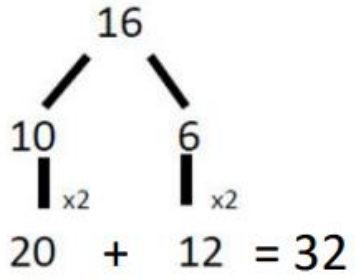
Then move to formal method</td>
</tr>
<tr>
<td>Year 4</td>
<td>Subtract with up to 4 digits.

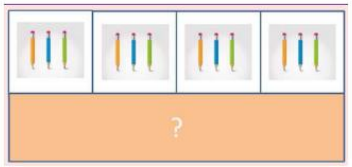
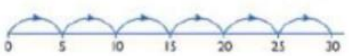
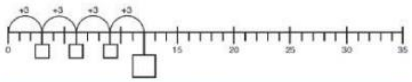
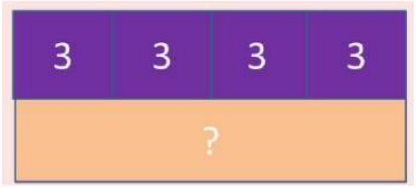
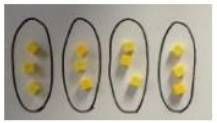
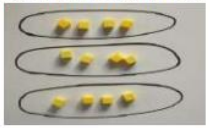
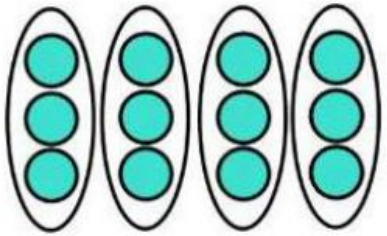
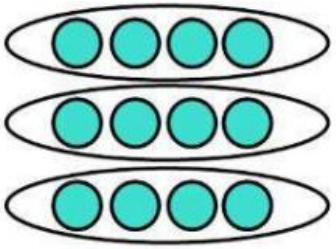
Introduce decimal subtraction through the context of money.</td>
<td>234 - 179

Model process of exchange using Numicon, base ten and then move to PV counters.</td>
<td>Children to draw pv counters to show their understanding of exchanging (see Year 3).</td>
<td>


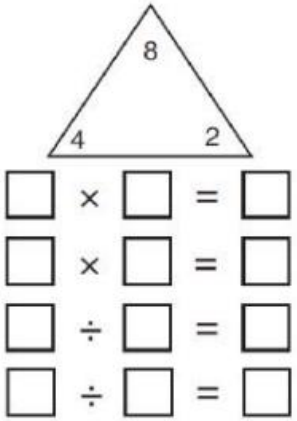
</td>
</tr>
</table>

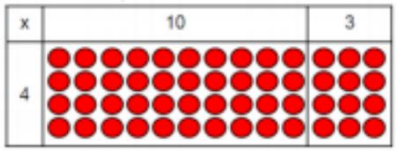
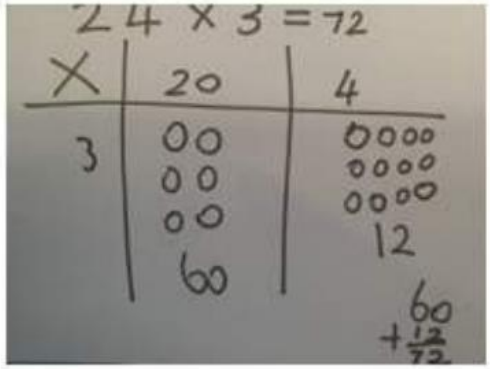
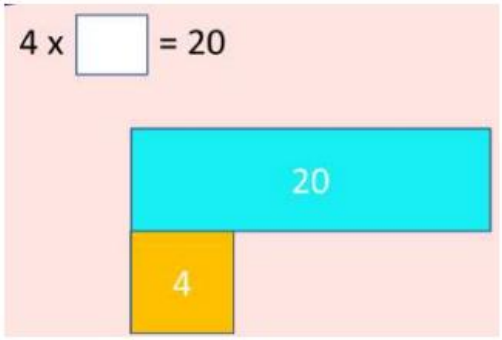
Year 5	**Subtract with at least 4-digits, including money and measures.** ***Subtract with decimal values including mixtures of integers and decimals.***	As Year 4  	As Year 4  Children can use draw their own pv chart and counters.	 Use zeros for place-holders. 
Year 6	**Subtract with increasingly large and more complex numbers (including decimal values).**	As Year 5	As Year 5	 

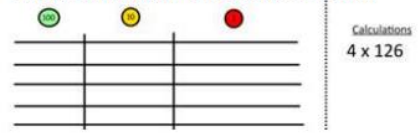
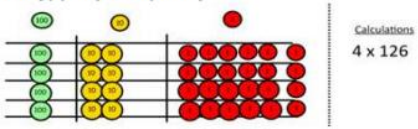
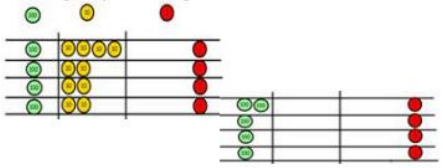
Multiplication				
	Key Skill	**Concrete**	**Pictorial**	**Abstract**
Year 1	**Doubling**	Use practical activities using manipulatives including cubes and Numicon to demonstrate doubling 	Draw pictures to show how to double numbers 	Partition a number and then double each part before recombining it back together. 
	Counting in multiples	Count the groups as children are skip counting, children may use their fingers as they are skip counting. 	 Children make representations to show counting in multiples. 	Count in multiples of a number aloud. Write sequences with multiples of numbers. 2, 4, 6, 8, 10 5, 10, 15, 20, 25 , 30
	Making equal groups and counting the groups	 Use manipulatives to create equal groups.	Use a number line or pictures to continue support in counting in multiples. 	2 x 4 = 8

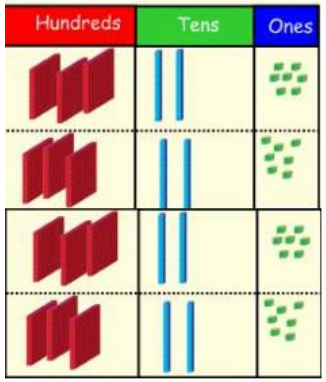
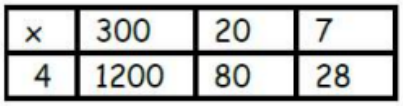
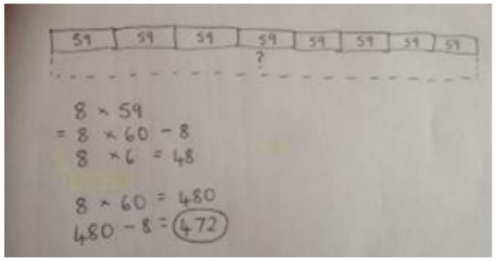
	Repeated addition	Use different objects to add equal groups.  	 	Write addition sentences to describe objects and pictures. 
	Understanding arrays	Use objects laid out in arrays to find the answers to 2 lots 5, 3 lots of 2 etc. 	Draw representations of arrays to show understanding. 	3 x 2 = 6 2 x 5 = 10
Year 2	**Doubling**	Model doubling using dienes and PV counters.  	Draw pictures and representations to show how to double numbers	Partition a number and then double each part before recombining it back together. 

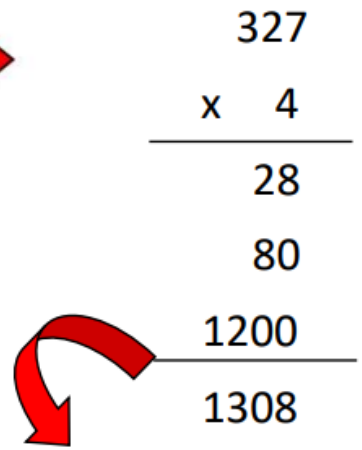
	Counting in multiples of 2, 3, 4, 5, 10 (repeated addition)	Count the groups as children are skip counting, children may use their fingers as they are skip counting. Use bar models.  5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 = 40  	Number lines, counting sticks and bar models should be used to show representation of counting in multiples.    	Count in multiples of a number aloud. Write sequences with multiples of numbers. 0, 2, 4, 6, 8, 10 0, 3, 6, 9, 12, 15 0, 5, 10, 15, 20, 25 , 30 $4 \times 3 = \square$
	Multiplication is commutative (arrays)	Create arrays using counters and cubes and Numicon.    Pupils should understand that an array can represent different equations and that, as multiplication is commutative, the order of the multiplication does not affect the answer.  	Use representations of arrays to show different calculations and explore commutativity.  	$12 = 3 \times 4$ $12 = 4 \times 3$ Use an array to write multiplication sentences and reinforce repeated addition.  5 + 5 + 5 = 15 3 + 3 + 3 + 3 + 3 = 15 5 x 3 = 15 3 x 5 = 15

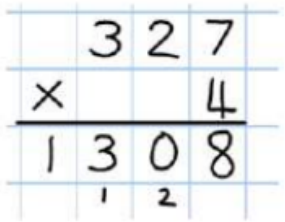
	Using the inverse ***This should be taught alongside division, so pupils learn how they work alongside each other.***			2 x 4 = 8 4 x 2 = 8 8 ÷ 2 = 4 8 ÷ 4 = 2 8 = 2 x 4 8 = 4 x 2 2 = 8 ÷ 4 4 = 8÷ 2 Show all 8 related fact family sentences.

Year 3	**Grid method**	Show the link with arrays to first introduce the grid method.  4 rows of 10 4 rows of 3 4 rows of 13 Move on to using Base 10 to move towards a more compact method. Use place value counters to show how we are finding groups of a number.	Children can represent their work with place value counters in a way that they understand. They can draw the counters using colours to show different amounts or just use the circles in the different columns to show their thinking as shown below.  Bar model are used to explore missing numbers  	Start with multiplying by one digit numbers and showing the clear addition alongside the grid. | × | 30 | 5 | | --- | --- | --- | | 7 | 210 | 35 | **210 + 35 = 245** Moving forward, multiply by a 2 digit number showing the different rows within the grid method. | | 10 | 8 | | --- | --- | --- | | 10 | 100 | 80 | | 3 | 30 | 24 |

	Grid method recap from Year 3 **TO x O** **Move to multiplying HTO x O**	Move on to place value counters to show how we are finding groups of a number. We are multiplying by 4 so we need 4 rows  Fill each row with 126  Add up each column, starting with the ones making any exchanges needed  Then you have your answer.	Children can represent their work with place value counters in a way that they understand. As above but with HTO.	Start with multiplying by one digit numbers and showing the clear addition alongside the grid. **×** | **30** | **5** **7** | **210** | **35** **210 + 35 = 245**

Year 4	**Column multiplication**	Children can continue to be supported by place value counters at the stage of multiplication. This initially done where there is no regrouping. 321 x 2 = 642  It is important at this stage that they always multiply the ones first. The corresponding long multiplication is modelled alongside	 The grid method my be used to show how this relates to a formal written method.  Bar modelling and number lines can support learners when solving problems with multiplication alongside the formal written methods.



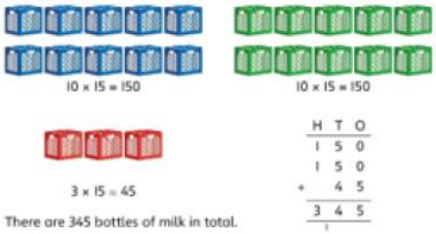


This may lead to a compact method.

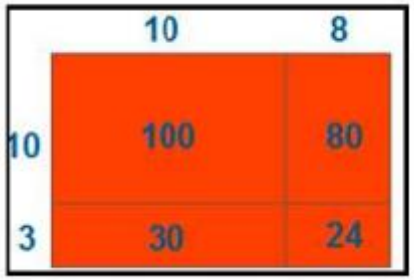
<table>
<tr><td rowspan="2">Year 5 & 6</td><td>Column multiplication HTO x O
ThHTO x O</td><td>As above</td><td>As above</td><td>As above</td></tr>
<tr><td>Column multiplication TO x TO</td><td>Manipulatives may still be used with the corresponding long multiplication modelled alongside.

Partition one number into 10s and 1s, then add the parts.

23 × 15 = ?

H T O
1 5 0
1 5 0
+ 4 5
3 4 5

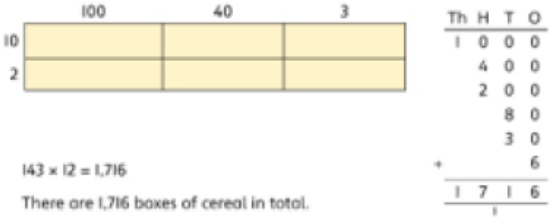
23 × 15 = 345</td><td> 

Use an area model then add the parts.</td><td>Use column multiplication, ensuring understanding of place value at each stage.

3 4
× 2 7
2 3 8 34 × 7

3 4
× 2 7
2 3 8 34 × 7
6 8 0 34 × 20

3 4
× 2 7
2 3 8 34 × 7
6 8 0 34 × 20
9 1 8 34 × 27</td></tr>
<tr><td></td><td>Column multiplication ThHTO x TO</td><td></td><td>Use the area model then add the parts.

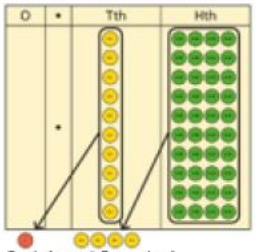
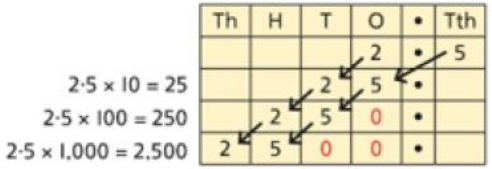
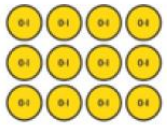
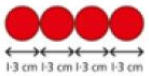
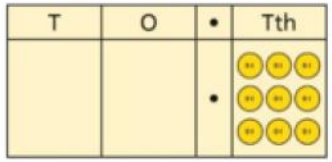
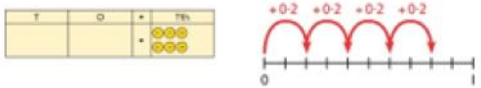
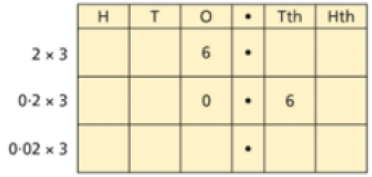
 

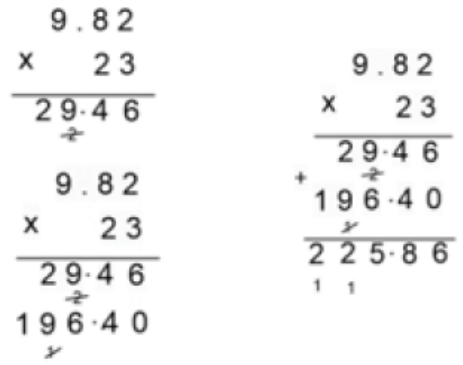
Th H T O
1 0 0 0
4 0 0
2 0 0
8 0
3 0
+ 6
1 7 1 6

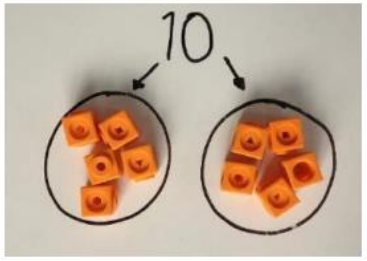
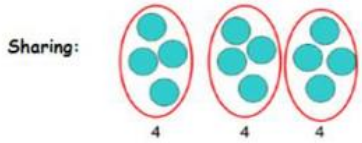
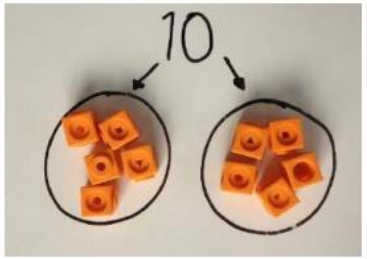
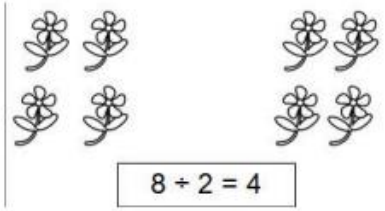
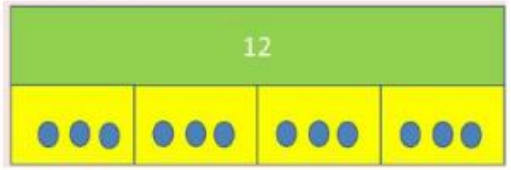
143 × 12 = 1,716</td><td>Use column multiplication, ensuring understanding of place value at each stage.

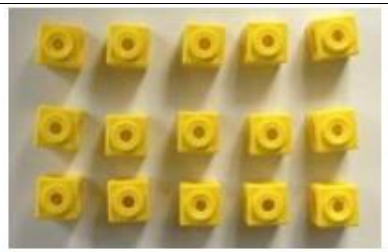
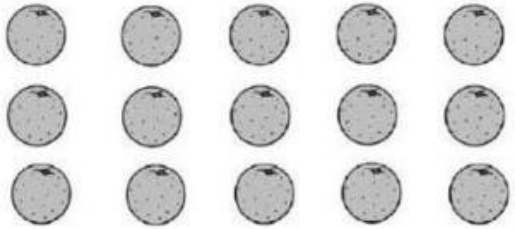
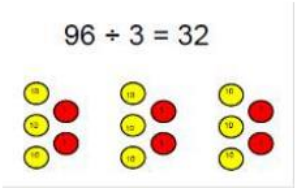
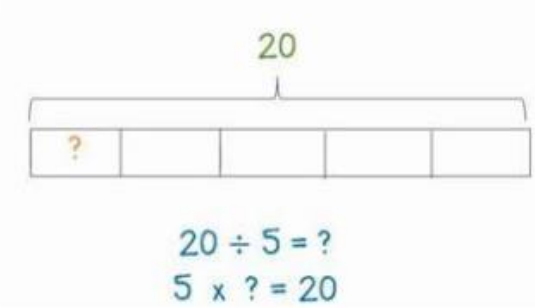
1 4 3
× 1 2
2 8 6 143 × 2
1 4 3 0 143 × 10
1 7 1 6 143 × 12

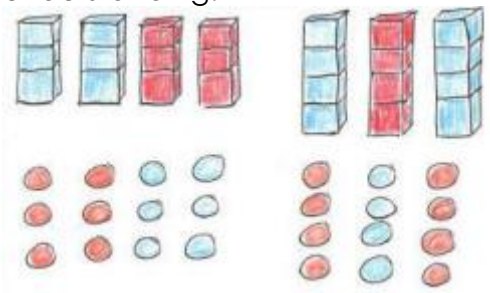
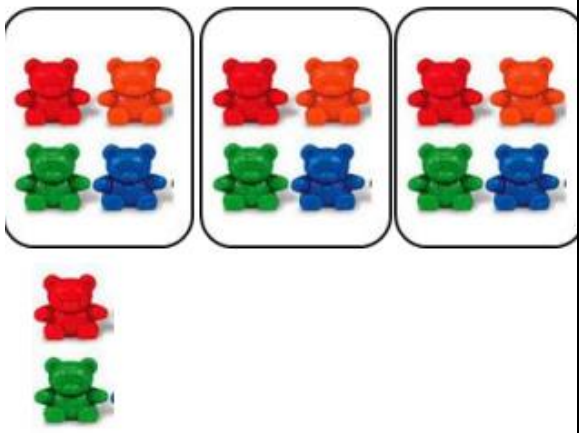
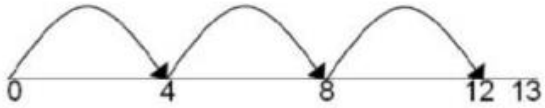
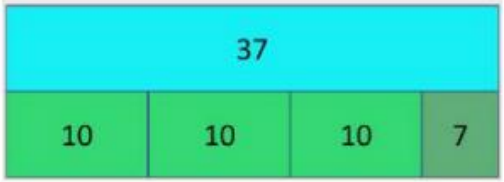
Progress to include examples that require multiple exchanges as understanding, confidence and fluency build.</td></tr>
</table>

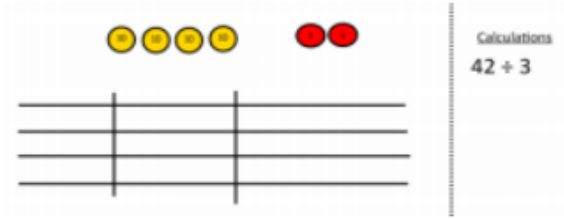
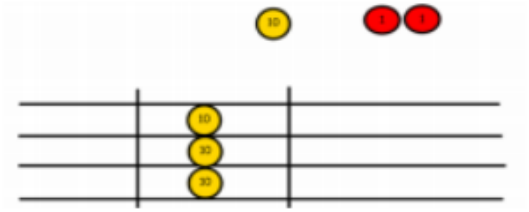
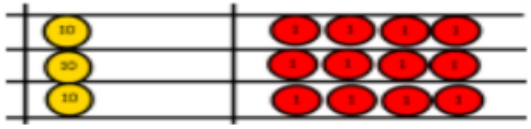
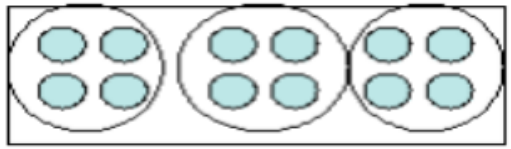
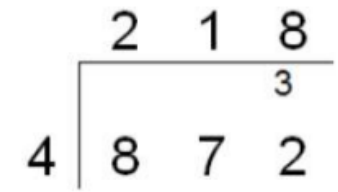
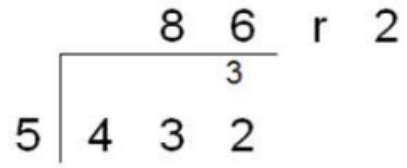
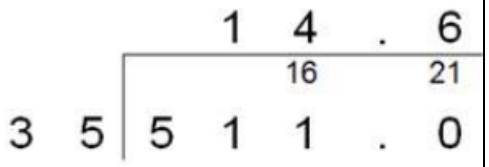
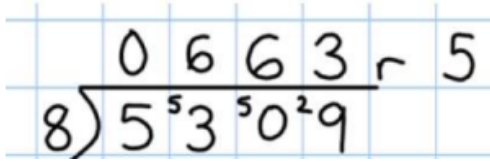
	Multiplying decimals by 10, 100 and 1000	Use place value equipment to explore and understand the exchange of 10 tenths, hundredths or 10 thousandths.	Represent multiplication by 10 as exchange on a place value grid.  *0·14 × 10 = 1·4*	Understand how this exchange is represented on a place value chart. 
Year 6	**Multiplying decimals**	Explore decimal multiplications using place value equipment and in the context of measures.  ***3 groups of 4 tenths is 12 tenths.*** ***4 groups of 3 tenths is 12 tenths.***  *4 × 1 cm = 4 cm* *4 × 0·3 cm = 1.2 cm* *4 × 1·3 = 4 + 1·2 = 5·2 cm*	Represent calculations on a place value grid. 3 × 3 = 9 3 × 0·3 = 0·9  Understand the link between multiplying decimals and repeated addition.  	Use known facts to multiply decimals. *4 × 3 = 12* *4 × 0·3 = 1·2* *4 × 0·03 = 0·12* *20 × 5 = 100* *20 × 0·5 = 10* *20 × 0·05 = 1* Find families of facts from a known multiplication. ***I know that 18 × 4 = 72.*** ***This can help me work out:*** *1·8 × 4 = ?* *18 × 0·4 = ?* *180 × 0·4 = ?* *18 × 0·04 = ?* Use a place value grid to understand the effects of multiplying decimals. 

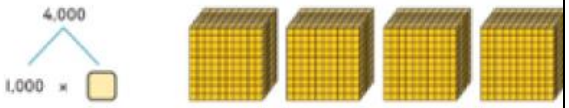
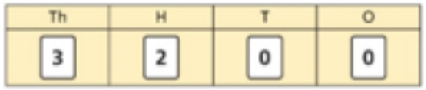
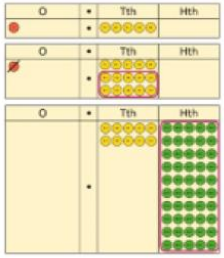
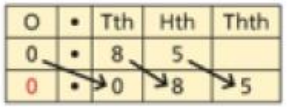
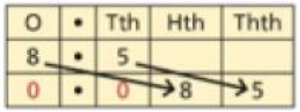
	Multiplying a whole number by a decimal			Using the grid method to correctly line up the place value columns for multiplying. Remembering the decimal point and place holder. 

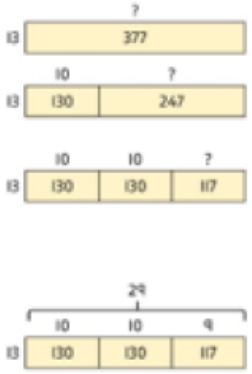
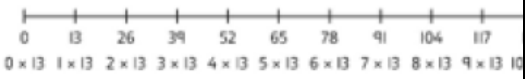
Division				
	Key Skill	**Concrete**	**Pictorial**	**Abstract**
Year 1	**Division as sharing**	   I have 10 cubes. Can you share them equally into two groups.	Children use pictures or shapes to share quantities.  8 shared between 2 is 4  12 shared between 3 is 4	12 shared between 3 is 4.
Year 2	**Division as sharing**	 I have 10 cubes. Can you share them equally into two groups.	Children use pictures or shapes to share quantities.  8 ÷ 2 = 4 Children use bar modelling to show and support understanding.  12 ÷ 4 = 3	12 ÷ 3 = 4 12 sweets are shared equally between three people. How many do they get each?

Year 3	**Division as grouping**	 Link division to multiplication by creating an array and thinking about the number sentenc es that can be created. Eg 15 ÷ 3 = 5 5 x 3 = 15 15 ÷ 5 = 3 3 x 5 = 15	Draw an array and use lines to split the array into groups to make multiplication and division sentences 	Find the inverse of multiplication and division sentences by creating eight linking number sentences. 7 x 4 = 28 4 x 7 = 28 28 ÷ 7 = 4 28 ÷ 4 = 7 28 = 7 x 4 28 = 4 x 7 4 = 28 ÷ 7 7 = 28 ÷ 4
	Repeated addition	Use cubes, counters, objects or place value counters to aid understanding.  24 divided into groups of 6 = 4 	Continue to use bar modelling to aid solving division problems. 	How many groups of 6 ir 24? 24 ÷ 6 = 4

	Division using arrays.		Draw representations of arrays to show understanding. 	3 x 2 = 6 2 x 5 = 10
Year 3	**Division with remainders**	14 ÷ 3 = Divide objects between groups and see how much is left over 	Jump forward in equal jumps on a number line then see how many more you need to jump to find a remainder.  Draw dots and group them to divide an amount and clearly show a remainder.  Use bar models to show division with remainders.  	Complete written divisions and show the remainder using r. 

Year 4 - 6	**Divide at least HTO by O.** **Short division**	 Use place value counters to divide using the bus stop method alongside.  **42 ÷ 3=** Start with the biggest place value, we are sharin 40 into three groups. We can put 1 ten in each group and we have 1 ten left over.  We exchange this ten for ten ones and then share the ones equally among the groups.  We look how much in 1 group so the answer is 14.	Students can continue to use drawn diagrams with dots or circles to help them divide numbers into equal groups.  Encourage them to move towards counting in multiples to divide more efficiently.	Begin with divisions that divide equally with no remainder.  Move onto divisions with a remainder.  Finally move into decimal places to divide t total accurately.  

Year 5 & 6	**Divide whole numbers by 10, 100 and 1000**	Use place value equipment to support unitising for division. *4,000 ÷ 1,000*  ***4,000 is 4 thousands.*** ***4 × 1,000= 4,000*** ***So, 4,000 ÷ 1,000 = 4***	Use a bar model to support dividing by unitising. *380 ÷ 10 = 38*  ***380 is 38 tens.*** ***38 × 10 = 380*** ***10 × 38 = 380*** ***So, 380 ÷ 10 = 38***	Understand how and why the digits chan on a place value grid when dividing by 1 100 or 1,000.  *3,200 ÷ 100 = ?* ***3,200 is 3 thousands and 2 hundre*** ***200 ÷ 100 = 2*** ***3,000 ÷ 100 = 30*** ***3,200 ÷ 100 = 32*** ***So, the digits will move two places the right.***
	Divide decimals by 10, 100 and 1000	Understand division by 10 using exchange ***2 ones are 20 tenths.*** ***20 tenths divided by 10 is 2 tenths.***	Represent division using exchange on a place value grid.  ***1·5 is 1 one and 5 tenths.*** ***This is equivalent to 10 tenths and 50 hundredths.*** ***10 tenths divided by 10 is 1 tenth.*** ***50 hundredths divided by 10 is 5 hundredths.*** ***1·5 divided by 10 is 1 tenth and 5 hundredths.*** ***1·5 ÷ 10 = 0.15***	Understand the movement of digits on a place value grid.  *0·85 ÷ 10 = 0·085*  *8·5 ÷ 100 = 0·085*

	Dividing by a 2-digit number using long division	Use equipment to build numbers from groups.  ***182 divided into groups of 13.*** ***There are 14 groups.***	Use an area model alongside written division to model the process. *377 ÷ 13 = ?*  *377 ÷ 13 = 29*	Use long division where factors are not useful (for example, when dividing by a 2-digit prime number). Write the required multiples to support th division process. *377 ÷ 13 x=?*  13 | 3 7 7 − 1 3 0 10 2 4 7 − 1 3 0 10 1 1 7 − 1 1 7 9 0 29 *377 ÷ 13 = 29* Use compact method where appropriate.