Jesson's C.E. Primary School Calculation Policy

Compiled and adapted from White Rose (April 2020) by H. Garratt

This policy contains all of the key procedures that are taught throughout the school. It has been written to ensure consistency and progression throughout the school, therefore every teacher must be familiar with which procedures are assigned to their year group and must follow the layout so that children are not confused as they move through school.

We are aiming to get each child to show fluency, reasoning and problem solving skills from EYFS - Year 6.

- Although the main focus of the policy is showing the core Concrete, Pictorial and Abstract approach to solving Maths problems and calculations, it is important to recognise that the ability to calculate mentally lies at the heart of mathematics.
- Mental calculation is not at the exclusion of written recording and should be seen as complementary to and not as separate from it. In every written method, there is an element of mental processing.
- Written recordings help children clarify their thinking, as well as support and extend the development of more fluent and sophisticated mental strategies.
- Children are encouraged to use the most efficient method for them, making sure they use ones they have a clear understanding of and that are most efficient for the task.
- The long-term aim is for children to be able to select an efficient method of their choice that is appropriate for a given task. They should do this by always asking themselves:
    - Do I need manipulatives* to help me?
    - Can I do this using drawings and/or jottings?
    - Do I need to use a written method?
    - Can I do this in my head?

When you believe children are secure in a method/procedure, you should then expose them to reasoning and problem solving that increases in difficulty. This will help them to choose the most efficient way to solve any tasks without being burdened by how to carry out a procedure. Do not just move the children onto the next method. The strategy needs time to embed and children need time to apply and deepen their understanding before moving to a new method.

Key mathematical terms:
*manipulatives: these are concrete resources that will help them visualise their calculations (for example- cubes, dienes, place value mat)
*CPA: Concrete, Pictorial, Abstract
*equation: the correct way of saying 'number sentence'
*regroup: when amounts are 'carried over' to the next column; they are exchanged to the next column. For example- swap 1 10 stick for 10 1s cubes

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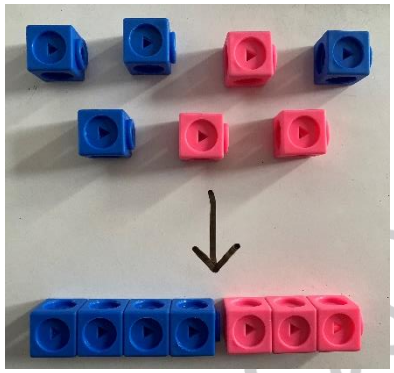
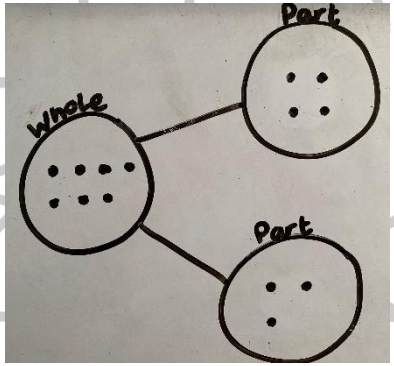
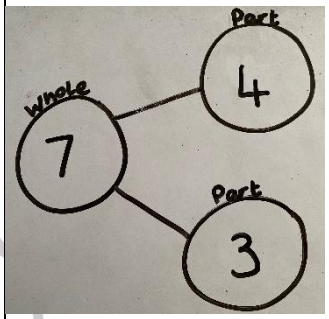
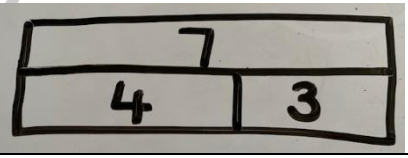
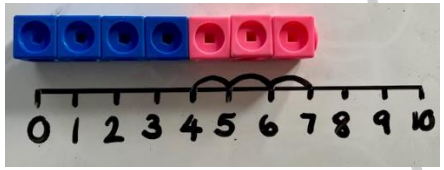
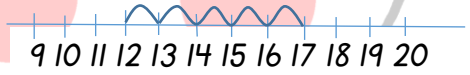
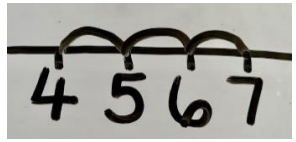
ADDITION

Key language: sum, total, parts and whole (part-part-whole), add, altogether, more, is equal to, is the same as

Year	Strategy	Concrete	Pictorial	Abstract
EYFS Y1	Combining two parts to make a whole	Use other resources too like eggs, shells, teddy bears, cars etc. 	Children to represent the cubes using dots or crosses. They can put each part on a part-whole model too: 	4 + 3 = 7 4 is a part, 3 is a part and the whole is 7. Part-Whole:  Bar Model: 
EYFS Y1	Counting on using number lines	Use cubes or counters or other small objects  Starting with the bigger number when counting on. 5 + 12 = 17 	A bar model represents the cubes but encourages children to count on, rather than count all  5 + 12 = 17  Start with the larger number and jump on in ones.	The abstract number line: What is 3 more than 4? What is the sum of 3 and 4? What is the total of 4 and 3? 4 + 3 =  5 + 12 = 17 Put the larger number in your head and count on in ones mentally.

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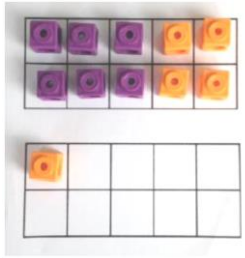
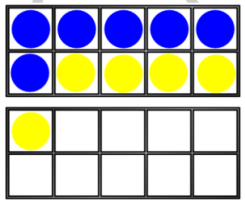
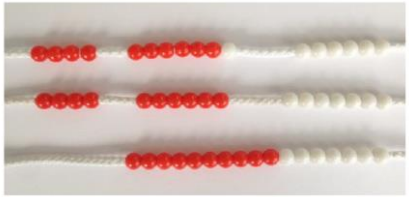
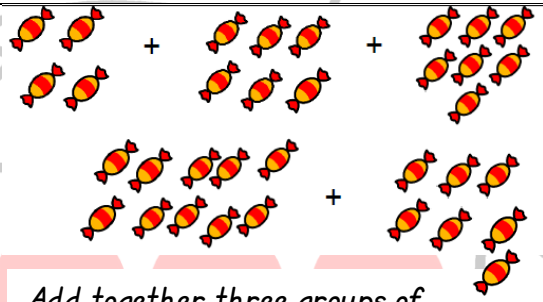
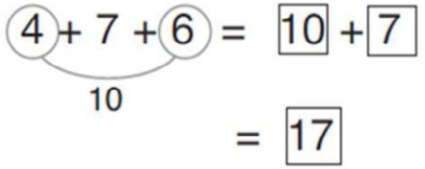
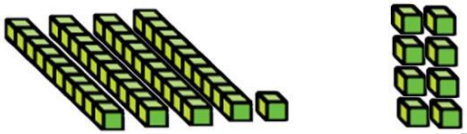
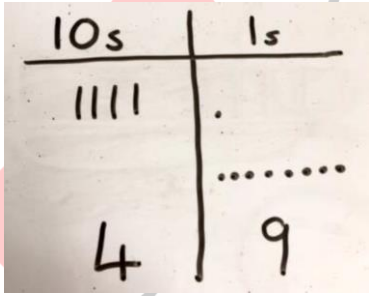
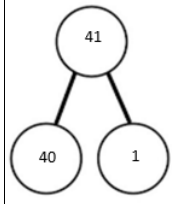
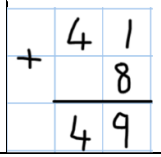
Year	Strategy	Concrete	Pictorial	Abstract
EYFS Y1	Regrouping to make 10	Using ten frames and counters/cubes 6 + 5  * Children will learn that the cubes/ objects can be put in different squares but still represent the same amount (see alternative layout in pictorial version)	Children to draw the counters/ cubes into ten frames. Alternatively, the children can draw the counters in rows of 5 to reflect the ten frame layout. 	Children to develop an understanding of equality 6 + ☐ = 11 6 + 5 = 5 + ☐ 6 + 5 = ☐ + 4 6 + 5= 11 If I am at seven, how many more do I need to make 10? How many more do I add on now?
Y2	Adding three single digits	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.
Y1, Y2	TO + O using base 10	Continue to develop understanding of partitioning and place value. 41 + 8 = 	Children to represent the base 10 with lines for 10s and dots for 1s 	Using the part whole model to mentally calculate with jottings  1 + 8 = 9 40 + 9 = 49  Leading to a formal written method to refine jottings

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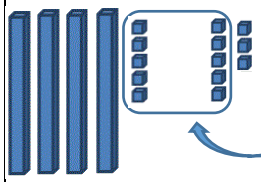
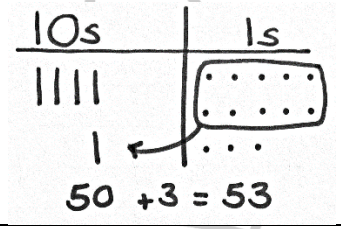
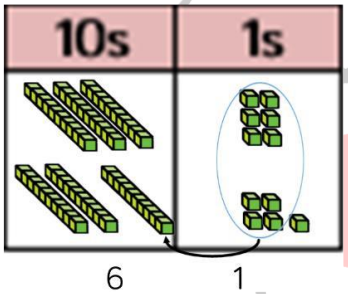
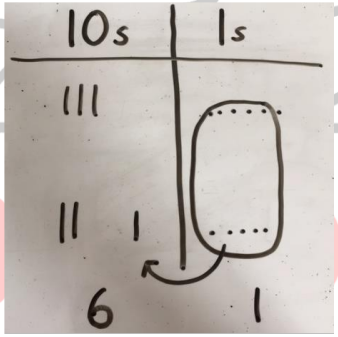
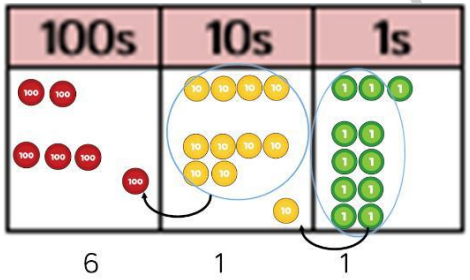
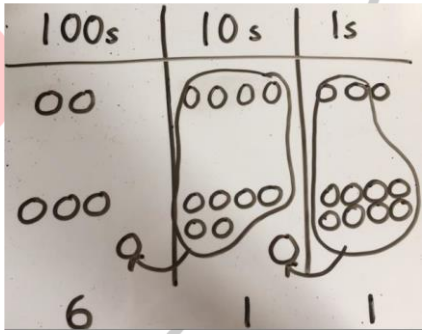
Year	Strategy	Concrete	Pictorial	Abstract
Y2	TO + O using base 10 with regrouping	45 + 8  exchange 10 ones for a 10 stick before counting to get the total	Children to represent the base 10 with lines for 10s and dots for 1s 	Write jottings/steps down 45 + 8 = ? 5 + 5 = 10 40 + 10 = 50 50 + 3 = 53 45 + 8 = 53
Y2, Y3	TO + TO using base 10	Continue to develop understanding of partitioning and place value. 36 + 25 	Children to represent the base 10 in a place value chart 	Looking for ways to make 10 and write down jottings. 36 + 25 = 1 5 30 + 20 = 50 5 + 5 = 10 50 + 10 + 1 = 61 Leading to the formal method: Regrouping to be written below Children to be encouraged to cross out any numbers below the total bar when they have added them to the total so that they are not forgotten. 3 6 + 2 5 6 1 1
Y3, Y4	Use of place value counters to add HTO + TO, HTO + HTO etc (up to 3 digits Y3)	When there are 10 ones in the 1s column, we exchange for 1 ten counter. When there are 10 tens counters in the 10s column, we exchange for 1 hundred counter. 243 + 368 = 611 	Children to represent the counters in a place value chart, circling when they make an exchange. 	Formal method (only when secure with exchanging with place value counters) Regrouping to be written below 2 4 3 + 3 6 8 6 1 1 1 1 Children to be encouraged to cross out any numbers below the total bar when they have added them to the total so that they are not forgotten.

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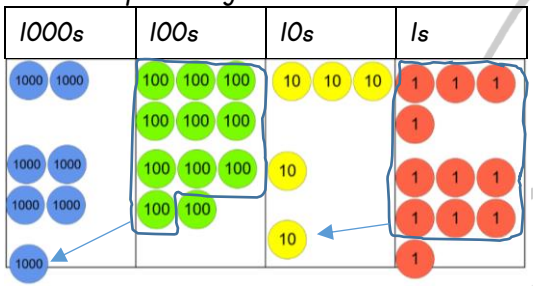
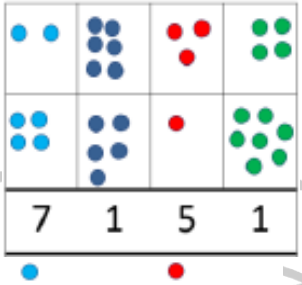
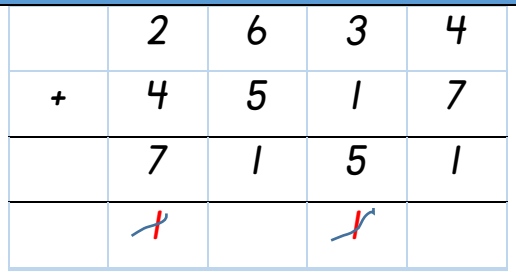
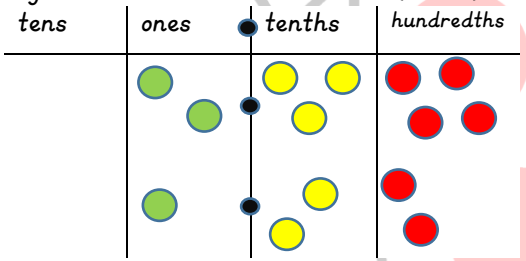
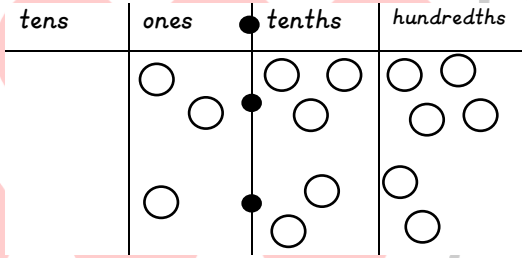
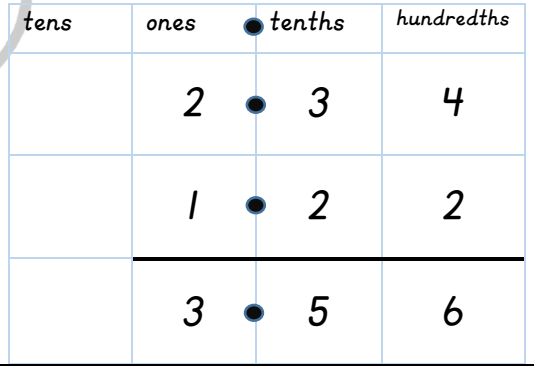
Y4	Addition of numbers up to 4 digits	Children continue to use place value counters and grids to practise and explore addition of numbers up to 4 digits.  Online teaching resource: mathsbot.com 'place value counters'	Children draw a pictoral representation of the columns and place value counters to further support their learning and understanding:  This version includes the exchange being drawn below the original numbers to match the formal written method without circling for regrouping.	 Continue from previous work to regroup in more than 1 column Children to be encouraged to cross out any numbers below the total bar when they have added them to the total so that they are not forgotten.
Y5, Y6	Adding decimal numbers	Use counters to represent the digits. Begin with no regrouping then progress to regrouping. Remember to exchange the 10 counters for the next value up if you reach 10 counters in a column (see Y3)  	Draw counters to represent the digits with no regrouping and regrouping.  	Include money and measures 

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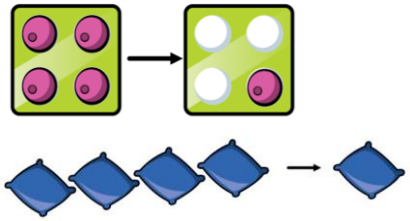
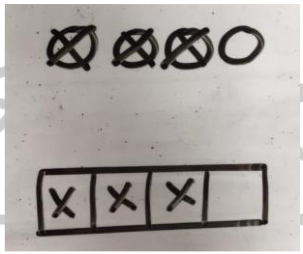
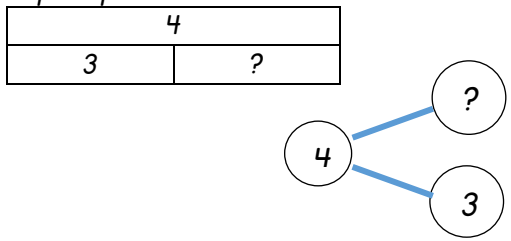
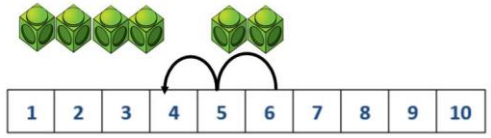
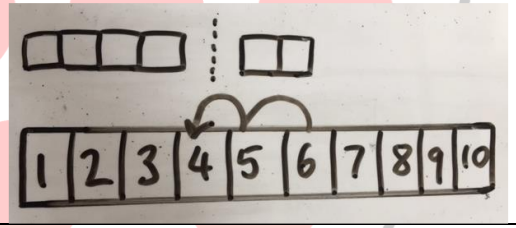
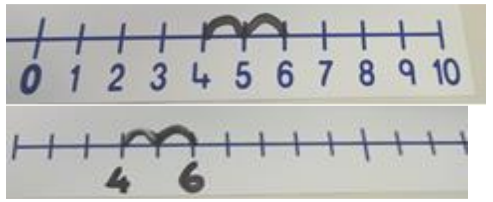
SUBTRACTION

Key language: take away, less than, the difference, subtract, minus, fewer, decrease.

Year	Strategy	Concrete	Pictorial	Abstract
EYFS Y1	Physically taking away and removing objects from a whole	Use tens frames, Numicon, cubes and other items such as bean bags and small toys. 4 - 3 = 1 	Children to draw the concrete resources they are using and cross out the correct amount. The bar model can also be used. 4 - 3 = 1 	Calculations are supported with the bar model or part-part-whole circles.  Include written equations with the answer space on the right and the left so children understand the meaning of the equals sign. 4 - 3 = ☐ ☐ = 4 - 3
EYFS Y1	Counting back	Using counting beads, number lines or number tracks 6 - 2 = 4 Children start with 6 and count back 2. They move the objects away from the group as they count back. 	Children to represent what they see pictorially. 6 - 2 = 4 	Children to represent the calculation on a number line or number track and show their jumps. Encourage children to use an empty number line when they are ready. 

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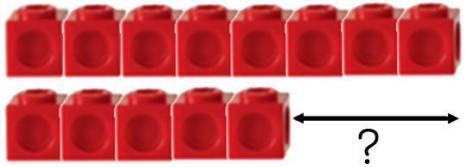
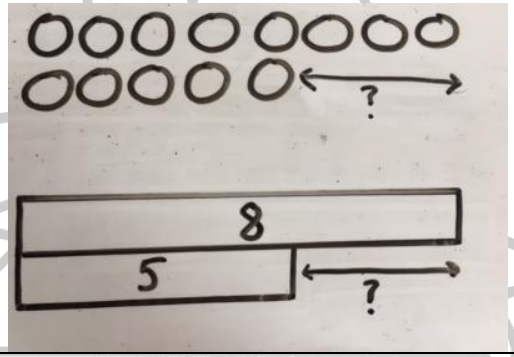
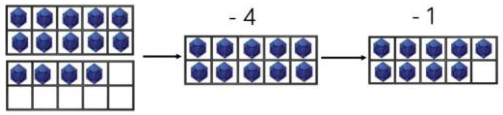
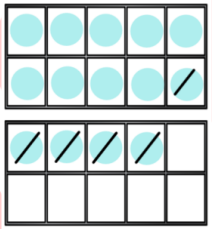
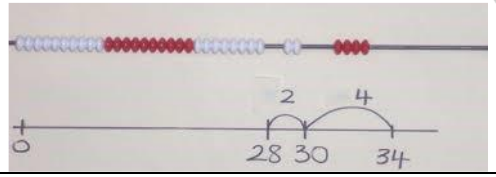
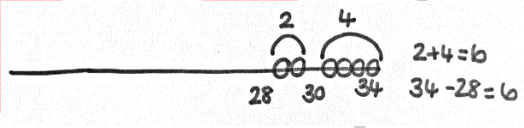
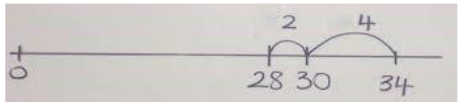
Year	Strategy	Concrete	Pictorial	Abstract
EYFS Y1, Y2	Finding the difference	Using cubes, Numicon, counters, bead strings and other small objects. Tens frames can be used to organise objects too. Calculate the difference between 8 and 5.  8 is 3 more than 5 5 is 3 less than 8 My sister is 3 years older than me, she is 8 Part-part-whole model: If 8 is the whole, and 5 is one of the parts, what is the other part?	Children to draw the cubes/other concrete objects which they have used or use the bar model to illustrate what they need to calculate. Part-part-whole circles can be used too.  	As well as 8 - 5 = ? ,children explore 'difference between' Find the difference between 8 and 5. 8 - 5, the difference is ☐ Children to explore why 9 - 6 = 8 - 5 = 7 - 4 have the same difference.
EYFS Y1, Y2	Making 10 using tens frames	Children become more fluent in knowing that a single digit can be broken down into 2 parts: 14 - 5 =  	Children to present the ten frame pictorially and discuss what they did to make 10. 	Children to show how they can make 10 by partitioning the subtrahend. 14 - 5 = 9 4 1 14 - 4 = 10 10 - 1 = 9
Y1, Y2	Making 10 using number lines	Use number lines or number tracks. Teacher to expose children to examples where it is better to count back and examples where it is easier to count on because the values are close. This example is better to count on as 34 is very close to 28. Children will need to be exposed to counting back more than 10 also. 34 - 28 =  	Children to represent what they see pictorially and discuss what they did to make 10. 34 - 28 =  	Just the number line needed. Children making jumps to the nearest 10 

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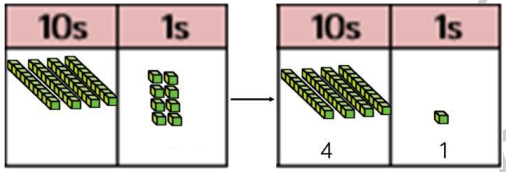
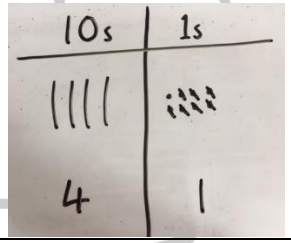
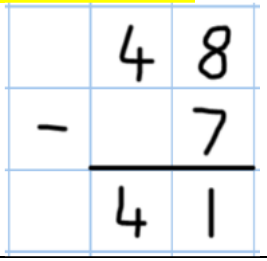
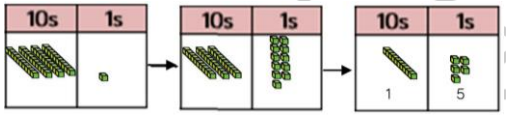
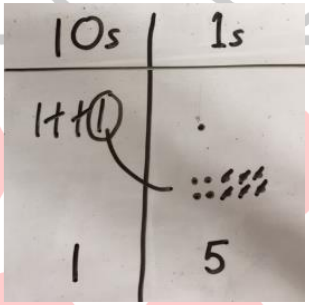
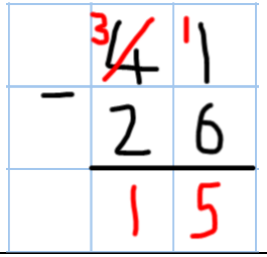
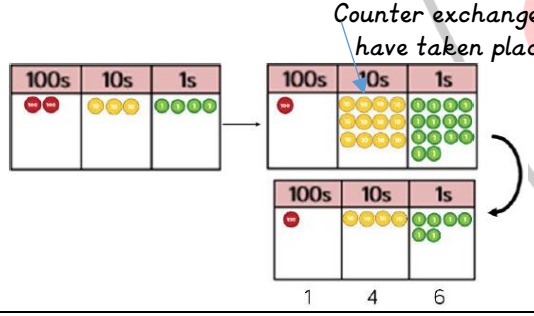
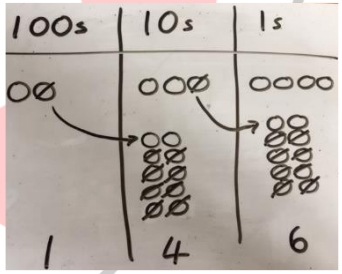
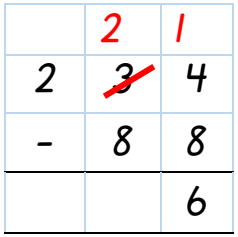
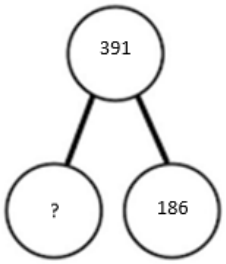
Year	Strategy	Concrete	Pictorial	Abstract
Y2, Y3	Column method using base 10 (dienes) No exchange	Children will set out the base 10, then remove the correct amount to see what they are left with. 48 - 7 = 	Children to represent the base 10 pictorially using sticks and stones (lines and dots for tens and ones) crossing out to show what they are taking away. 	Column method or children could count back 7. Column subtraction should not be taught too soon in Y2- they must have mastered the other ways to subtract first. 
Y2, Y3	Column method using base 10 and having to exchange	41 - 26 =  Children will exchange ten sticks for 10 ones. When ready, children in Y3 can progress to place value counters which is a more abstract way of representing the value. (see next step)	Represent the base 10 pictorially, remembering to show the exchange. 	Formal column method. THIS IS ADVANCED FOR Y2. ALLOW THEM TO USE THE PLACE VALUE COUNTERS FROM Y3 BEFORE MOVING TO THIS. Children must understand that when they have exchanged the 10 they still have 41 because 41 = 30 + 11. 
Y3, Y4	Column method using place value counters (Y4 up to 4digits)	Ensure children know what value the counters represent and how to exchange them. 234 - 88 	Represent the place value counters pictorially; remembering to show what has been exchanged. 	Formal column method. Children must understand what has happened when they have crossed out digits. 

Jesson's C.E. Primary School Calculation Policy

Year	Strategy	Concrete	Pictorial	Abstract
Y5, Y6		As Year 4 but with increasingly difficult amounts, decimals and having to exchange across 3 columns (for example 1000 - 2536) When exchanging across 3 columns because the top number is a 1000s number, allow children the time to physically do this with place value counters or base 10 so that they understand the process of exchanging.	Children draw the counters into the correct column and cross out to show how many have been taken away, remembering to show what has been exchanged.	

Conceptual variation; different ways to ask children to solve 391 - 186



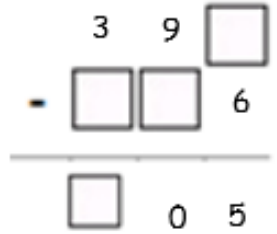
391	
186	?

Raj spent £391, Timmy spent £186.
How much more did Raj spend?
Calculate the difference between 391 and 186.

□ = 391 - 186

What is 186 less than 391?

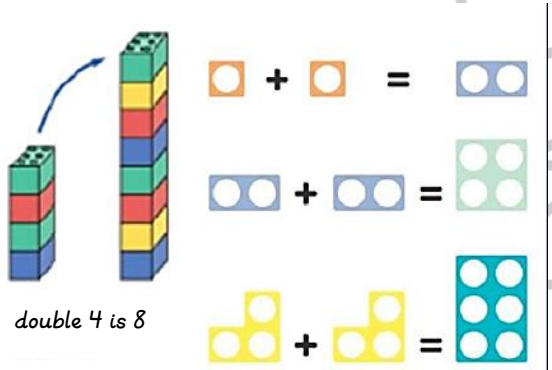
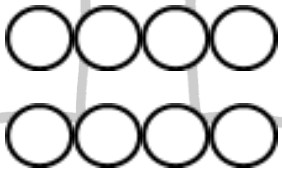
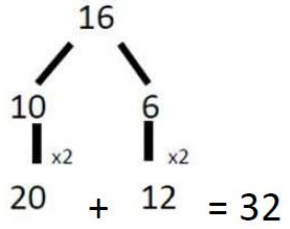
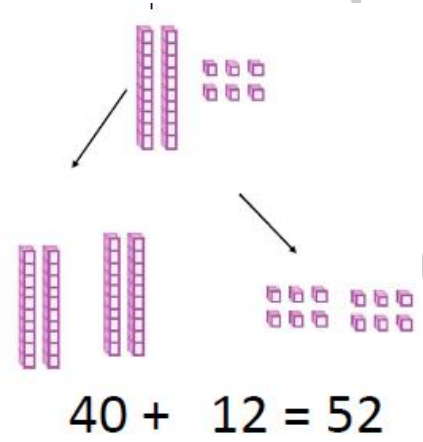
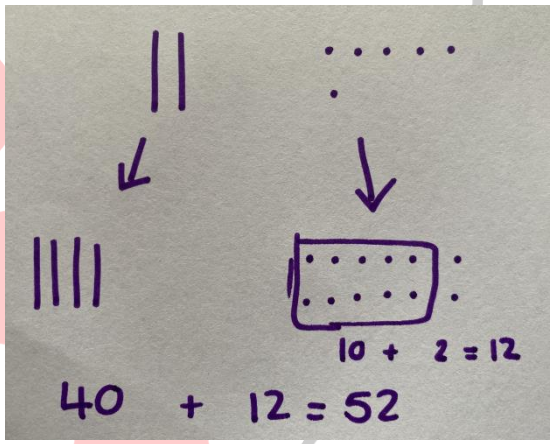
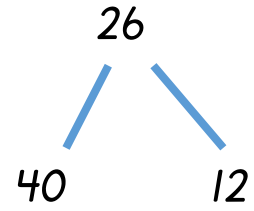
Missing digit calculations



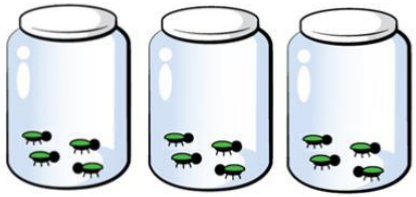
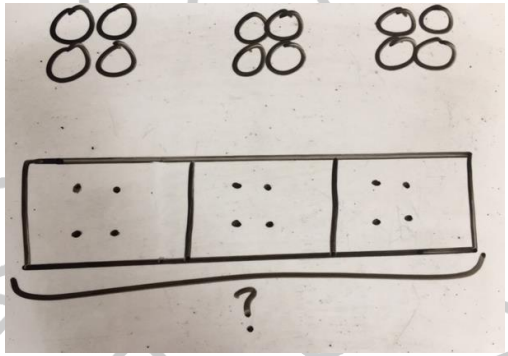
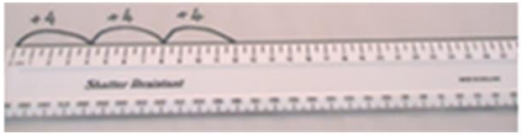
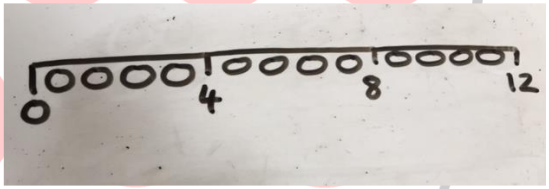
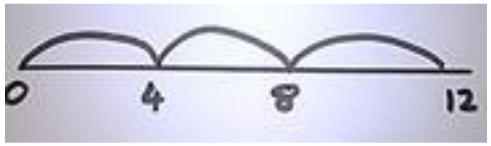
Jesson's C.E. Primary School Calculation Policy

MULTIPLICATION

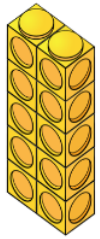
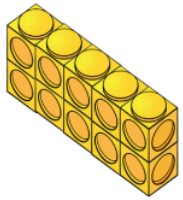
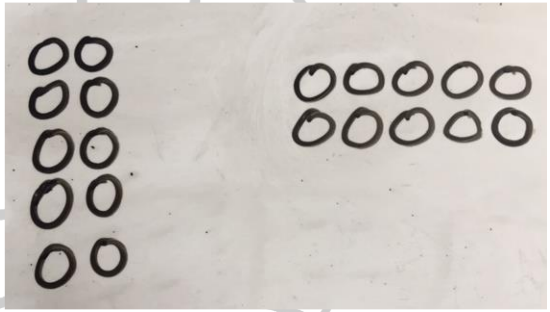
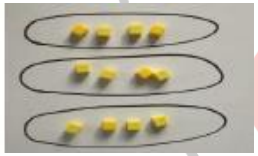
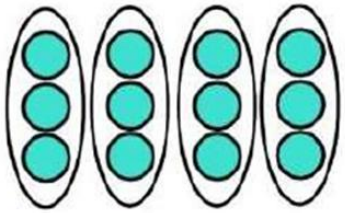
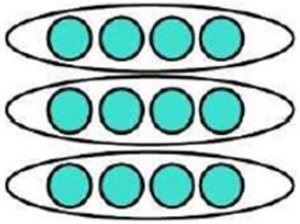
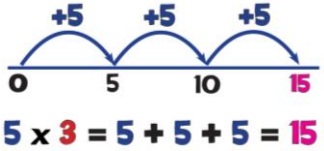
Key language: double, times, multiplied by, the product of, groups of, lots of, equal groups.

Year	Strategy	Concrete	Pictorial	Abstract
EYFS Y1	Doubling	Use practical activities using manipulatives including cubes and Numicon to demonstrate doubling  double 4 is 8	Draw pictures to show how to double numbers  Double 4 = 8 Lead to 2 digit numbers by partitioning tens and ones	4 + 4 = 8 2 x 4 = 8 Partition a number and then double each part before recombining it back together. 
Y2, Y3	Doubling	Model doubling using dienes and place value counters. Double 26 = 	Represent the base 10 pictorially using sticks and stones (lines and dots) 	 40 + 12 = 52

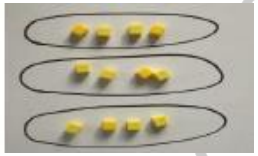
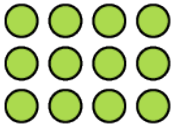
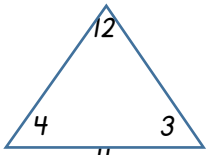
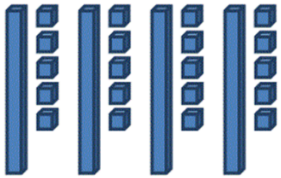
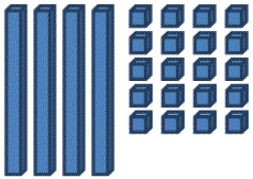
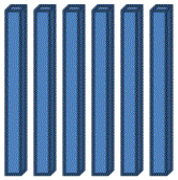
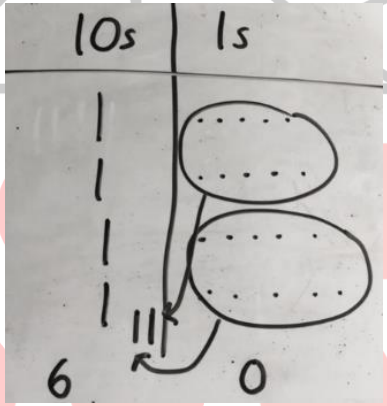
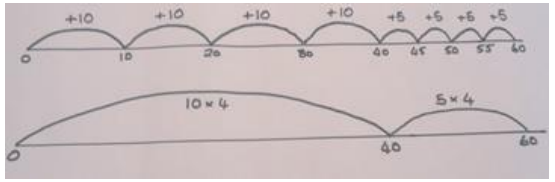
Jesson's C.E. Primary School Calculation Policy

Year	Strategy	Concrete	Pictorial	Abstract
Y1, Y2	Repeated grouping/ repeated addition	Place objects into cups, bowls, circles etc to show repeating the same number of objects in the group 3 x 4 (3 lots of 4) 4 + 4 + 4 There are 3 equal groups with 4 in each group.  	Children to represent the practical resources in a picture and use a bar model. 	3 × 4 = 12 4 + 4 + 4 = 12
Y1, Y2, Y3	Number lines to show repeated groups	Children lay out cubes, Numicon or Cuisenaire rods in a straight line next to each other in a horizontal line. 3 x 4  	Represent this pictorially alongside a number line 	Abstract number line showing three jumps of four. 3 × 4 = 12 

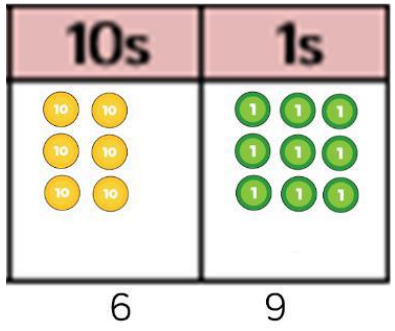
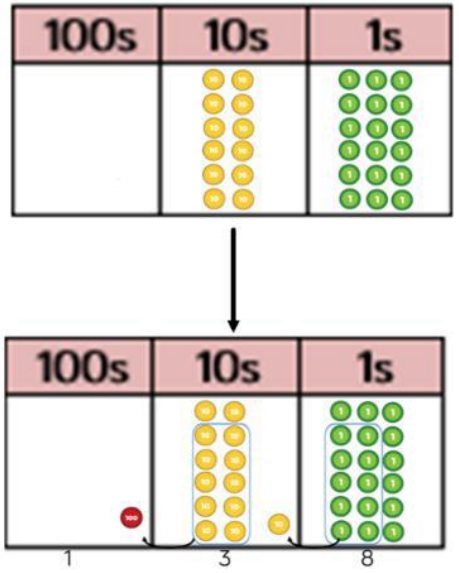
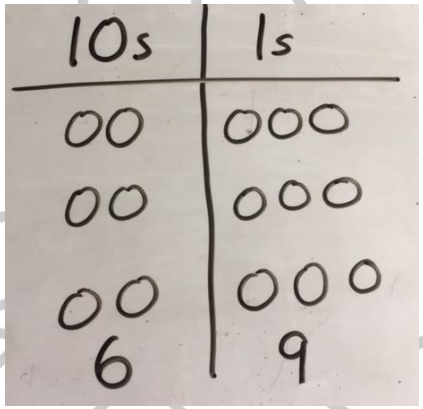
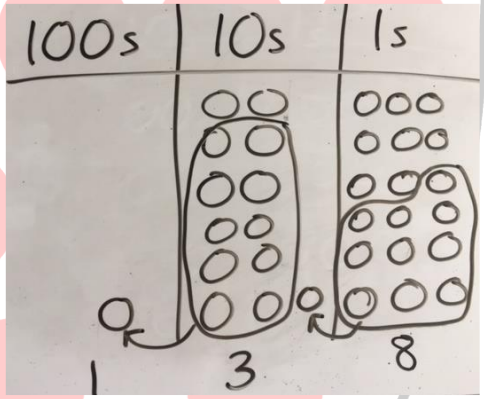
Jesson's C.E. Primary School Calculation Policy

Year	Strategy	Concrete	Pictorial	Abstract
Y2, Y3	Arrays to illustrate commutati-vity	Counters, cubes and other objects can be used. 2 × 5 = 5 × 2  2 lots of 5  5 lots of 2	Children to represent the arrays pictorially. 	Children to be able to use an array to write a range of calculations. For example: 10 = 2 × 5 5 × 2 = 10 2 + 2 + 2 + 2 + 2 = 10 10 = 5 + 5
		Extra examples:    Pupils should understand that an array can represent different equations and that, as multiplication is commutative, the order of the multiplication doesn't affect the answer.  	Use representations of arrays to show different calculations and explore commutativity.  	Use an array to write multiplication equations and reinforce repeated addition.  5 + 5 + 5 = 15 3 + 3 + 3 + 3 + 3 = 15 5 x 3 = 15 3 x 5 = 15 Number lines can also be used  5 x 3 = 5 + 5 + 5 = 15

Jesson's C.E. Primary School Calculation Policy

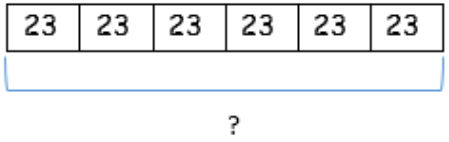
Year	Strategy	Concrete	Pictorial	Abstract
Y2, Y3, Y4	Using the Inverse	This should be taught alongside division, so pupils learn how they work alongside each other.  	Use fact families to write equations from the arrays.  3 x 4 = 12 4 x 3 = 12 12 ÷ 4 = 3 12 ÷ 3 = 4	Use fact families to write equations from the arrays.  3 x 4 = 12 4 x 3 = 12 12 ÷ 4 = 3 12 ÷ 3 = 4
Y2, Y3	Partition to multiply 2 digit x 1 digit	Use base 10 or Numicon to represent numbers 4 x 15  Group tens and ones  Exchange 10 ones for a 10 stick to get final answer: 	Children to represent the concrete manipulatives pictorially. 	Children to be encouraged to show the steps they have taken. 4 x 15 10 5 10 x 4 = 40 5 x 4 = 20 40 + 20 = 60 A number line can also be used 

Jesson's C.E. Primary School Calculation Policy

Year	Strategy	Concrete	Pictorial	Abstract
Y3, Y4	Formal column method – 2 digit numbers x 1 digit	With place value counters. (for children who find the counters confusing, let them use base 10 first) 3 x 23  With exchange: 6 x 23  	Children to represent the counters pictorially.  6 x 23  	Children to record what it is they are doing to show understanding. 3 × 23 → 20 3 3 × 20 = 60 3 × 3 = 9 60 + 9 = 69 |	2 | 3 | | x | | 3 | | | 6 | 9 | 6 x 23 → 20 3 6 x 20 = 1200 6 x 3 = 18 1200 + 18 = 1218 tens digit to be written <u>below</u> the total bar |	2 | 3 | | x | | 6 | | 1 | 3 | 8 | | ~~1~~ | ~~1~~ | | Children to be encouraged to <u>cross out</u> any numbers below the total bar when they have added them to the total so that they are not forgotten.

Jesson's C.E. Primary School Calculation Policy

Conceptual variation; different ways to ask children to solve 6 × 23



Mai had to swim 23 lengths, 6 times a week.
How many lengths did she swim in one week?

With the counters, prove that 6 x 23 = 138

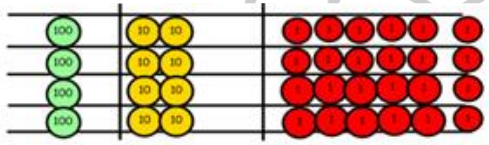
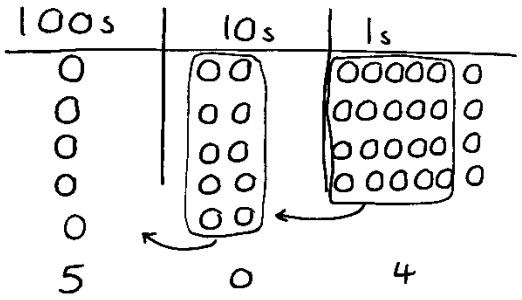
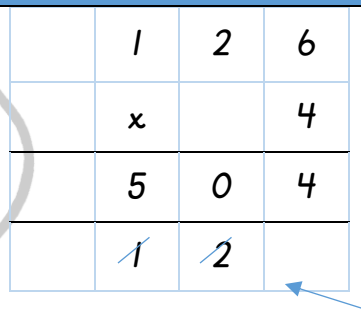
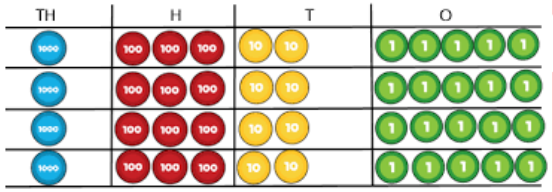
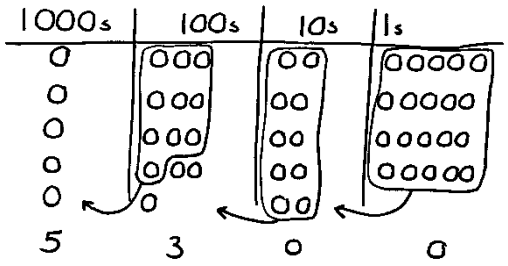
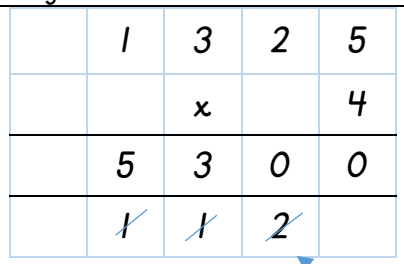
Find the product of 6 and 23

$6 \times 23 =$

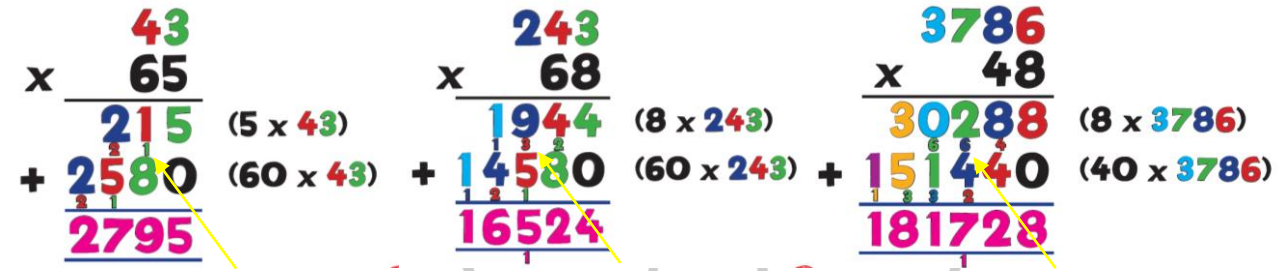
$\square = 6 \times 23$

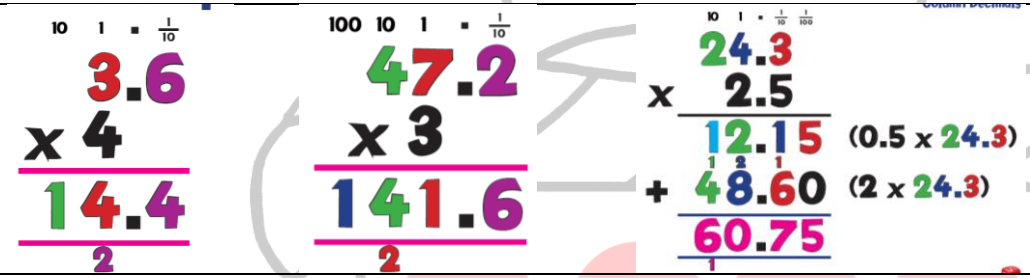
6×23 $\quad$ 23×6

What is the calculation?
What is the product?

Year	Strategy	Concrete	Pictorial	Abstract
Y4, Y5	Formal column method - 3 digit numbers x 1 digit	*Use place value counters.* *4 x 126* *We are multiplying by 4 so we need 4 rows of 126*  *Add up each column, starting with the ones making any exchanges needed*	*Children to represent the counters pictorially* 	 *Children to be encouraged to cross out any numbers below the total bar when they have added them to the total so that they are not forgotten.*
	4 digit numbers x 1 digit	*4 x 1325* 	*Children to represent the counters pictorially* 	 *Children to be encouraged to cross out any numbers below the total bar when they have added them to the total so that they are not forgotten.*

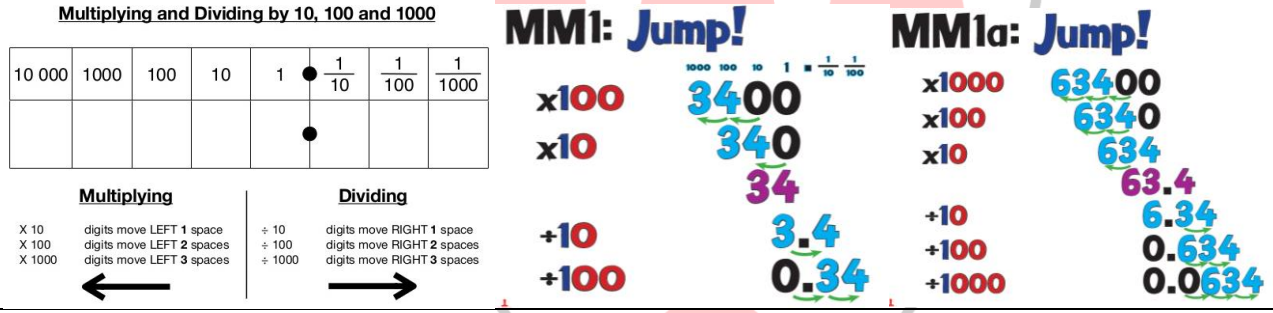
Jesson's C.E. Primary School Calculation Policy

<table>
<tr>
<td>Y5, Y6</td>
<td>Multiplying numbers by 2-digits</td>
<td>


Children will need to write the numbers so that they have enough space to carry any digits when recording products. Children with large handwriting may need to leave an extra row so they have enough space until they can write small enough. The numbers to be carried over will be written <u>beneath.</u>
</td>
</tr>
<tr>
<td>Y6</td>
<td>Multiplying decimals</td>
<td>


</td>
</tr>
<tr>
<td>Y4, Y5, Y6</td>
<td>Multiplying and dividing by 10, 100 and 1000</td>
<td>
Children <u>must use a place value chart</u> NOT short multiplication or division.

Children need to learn that the digits always stay next to each other when they move (like they're holding hands), it's only the value that changes; <u>the decimal point never moves</u>- it's the digits that move; you can't just 'stick a zero on the end' because that doesn't work for decimal numbers. BBC Supermovers has a good song for this.

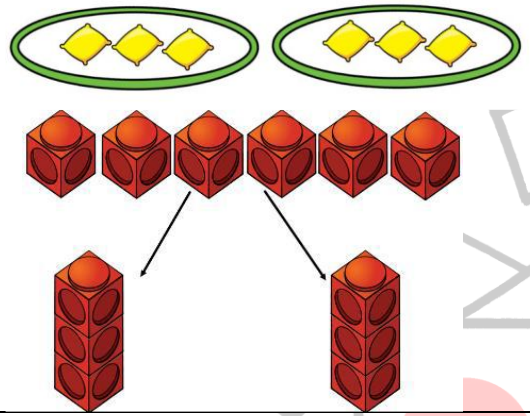
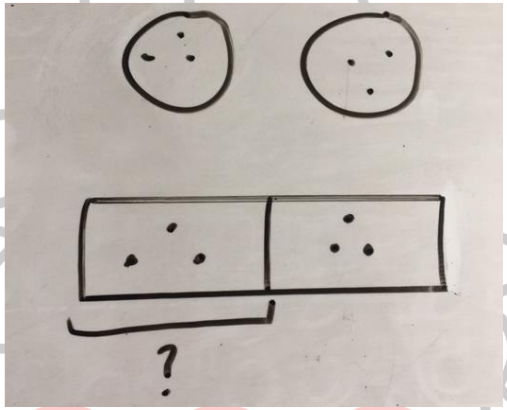
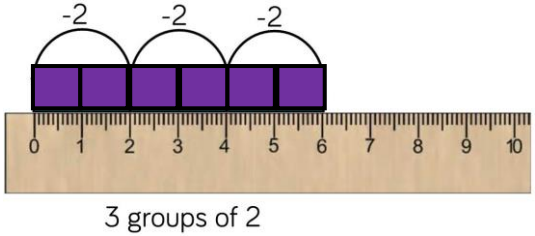
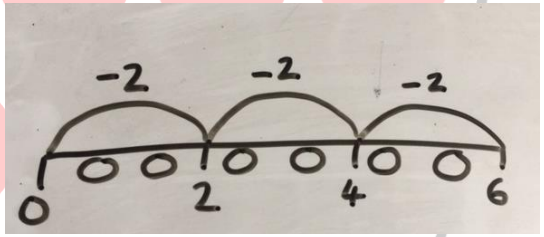
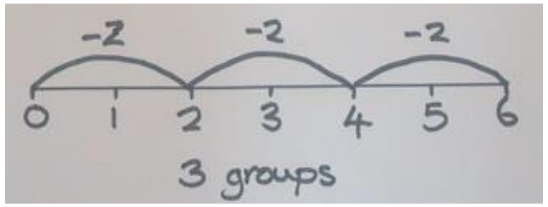


</td>
</tr>
</table>

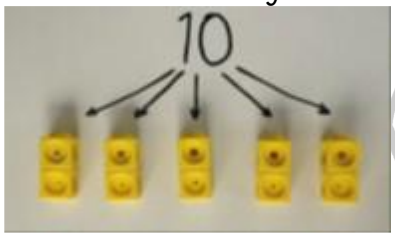
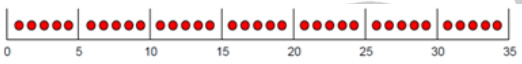
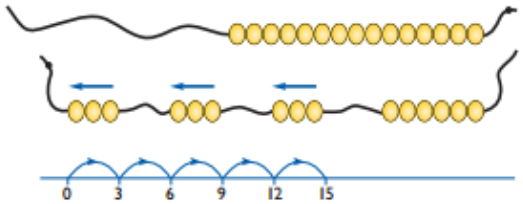
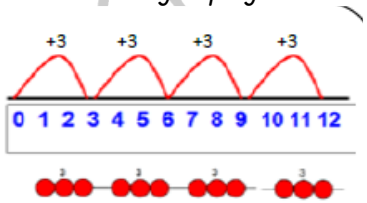
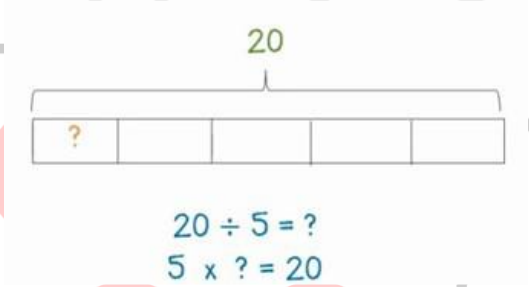
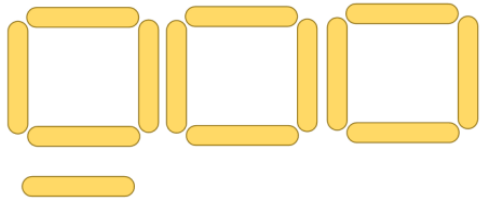
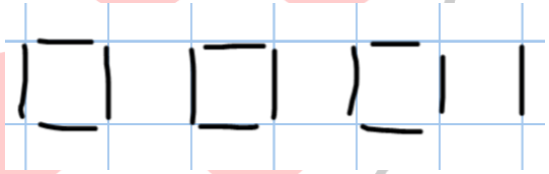
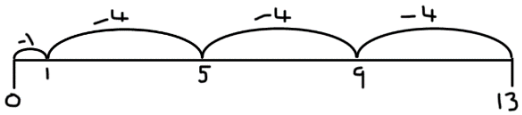
Jesson's C.E. Primary School Calculation Policy

DIVISION

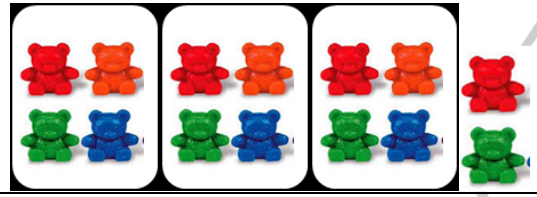
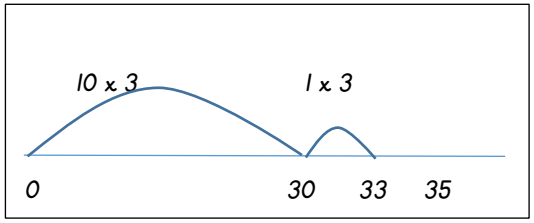
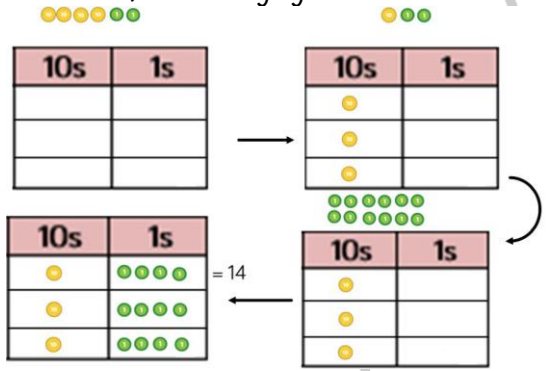
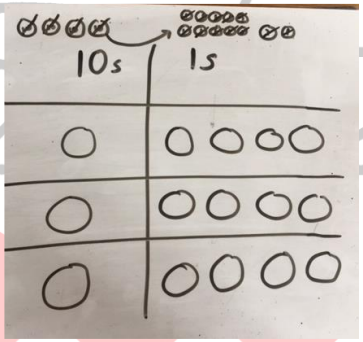
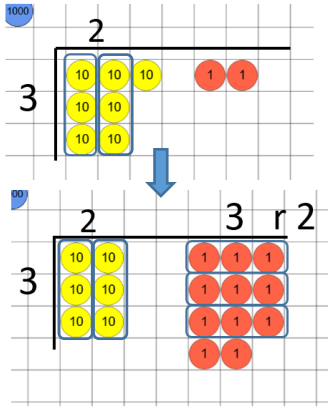
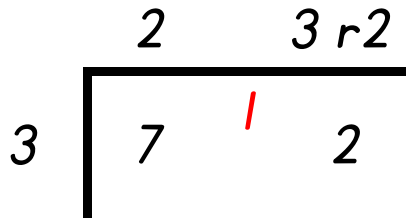
Key language: share, group, divide, divided by, half.

Year	Strategy	Concrete	Pictorial	Abstract
EYFS Y1, Y2	Division as sharing	Use a range of objects to share the amount. 6 ÷ 2 	Represent the sharing pictorially. Link to the bar model. 	6 ÷ 2 = 3  Children should also be encouraged to use their 2 times tables facts.
Y1, Y2	Repeated subtraction	Use cubes on a number track, or Cuisenaire rods/ cm cubes above a ruler 6 ÷ 2 	Children to represent what they see pictorially 	Abstract number line to represent the equal groups that have been subtracted. 

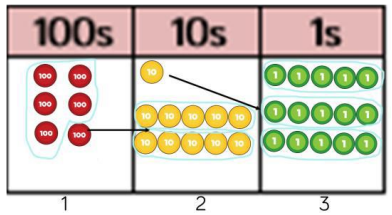
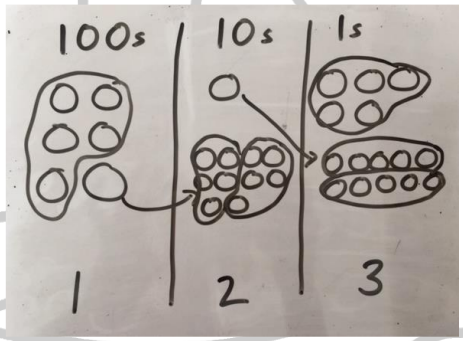
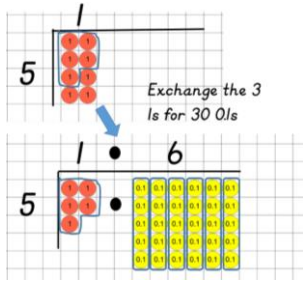
Jesson's C.E. Primary School Calculation Policy

Year	Strategy	Concrete	Pictorial	Abstract
EYFS Y1, Y2, Y3	Division as grouping EYFS Y1, Y2: 2s, 5 and 10s (3s if ready) Y3: use this for new times tables	Divide quantities into equal groups. Use cubes, counters, objects or place value counters to aid understanding.  10 ÷ 2 = 5 groups of 2  35 ÷ 5 = 7 groups of 5 Bead strings can be used to model the process.  	Use number lines for grouping.  **12 ÷ 3 = 4** Think of the bar as a whole. Split it into the number of groups you are dividing by and work out how many would be within each group.  	28 ÷ 7 = 4 Divide 28 into 7 groups. How many are in each group?
Y2, Y3	2-digit number divided by 1-digit with remainders	Use lollipop sticks. 13 ÷ 4 Use of lollipop sticks to form wholes- squares are made because we are dividing by 4.  There are 3 whole squares, with 1 left over. CONTINUED ON NEXT PAGE	Children to represent the lollipop sticks pictorially.  There are 3 whole squares, with 1 left over. CONTINUED ON NEXT PAGE	13 ÷ 4 = 3 remainder 1 Children should be encouraged to use their times table facts; they could also represent repeated addition on a number line. '3 groups of 4, with 1 left over'  As numbers become larger, children can use known facts to make larger jumps CONTINUED ON NEXT PAGE

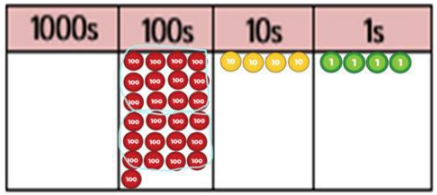
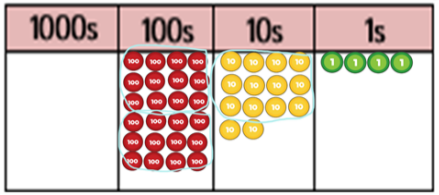
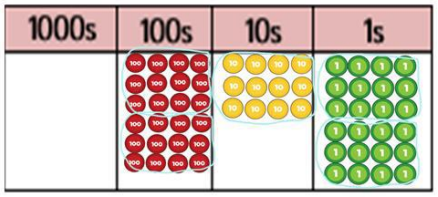
Jesson's C.E. Primary School Calculation Policy

	CONTINUED	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. 	
Y3, Y4	Sharing using place value counters.	42 ÷ 3 = 14 Ensure children are sharing the counters by their value, so exchanging where needed. 	Children to represent the place value counters pictorially.  Each group has 14 so 42 ÷ 3 = 14	Children to be able to make sense of the place value counters and write calculations to show the process. 42 ÷ 3 42 = 30 + 12 30 ÷ 3 = 10 12 ÷ 3 = 4 10 + 4 = 14
Y3, Y4	Short division 2 digit by 1 digit	This example includes regrouping. Base 10 should be used for children who need less abstract representation. £72 shared between 3 people = 	Children draw the counters pictorially.	Use the formal method. £72 ÷ 3 = 

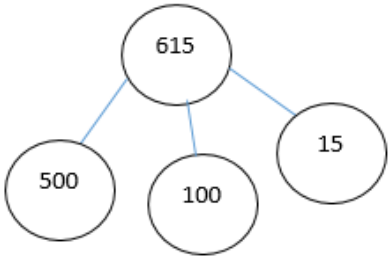
Jesson's C.E. Primary School Calculation Policy

Year	Strategy	Concrete	Pictorial	Abstract
Y4, Y5	Short division Y4: 3 digits Y5: up to 4 digits	Use place value counters to group. 615 ÷ 5  1. Make 615 with place value counters. 2. How many groups of 5 hundreds can you make with 6 hundred counters? 3. Exchange 1 hundred for 10 tens. 4. How many groups of 5 tens can you make with 11 ten counters? 5. Exchange 1 ten for 10 ones. 6. How many groups of 5 ones can you make with 15 ones?	Represent the place value counters pictorially.  	Children to the calculation using the short division scaffold. Ensure they understand that the groups are written above the 'bus stop' lines and not below like when they were using the place value counters. 1 2 3 5 | 6 1 1 5
Y6	Short division with decimals	Children to use plastic money or place value counters  	Children to draw the counters/coins pictorially	1 . 6 5 | 8 . 0 3 Insert a place holding zero so the remainder can be passed on

Jesson's C.E. Primary School Calculation Policy

Year	Strategy	Concrete	Pictorial
Y6	Long division	Use place value counters 2544 ÷ 12  We can't group 2 thousands into groups of 12 so we will exchange them  We can group 24 hundreds into groups of 12 which leaves us with 1 hundred 02 12 2544 24 1  After exchanging the hundred, we have 14 tens. We can group 12 tens into a group of 12 which leaves us with 2 tens 021 12 2544 24 14 12 2  After exchanging the 2 tens, we have 24 ones. We can group 24 ones into 2 groups of 12 and this leaves us with no remainder. 0212 12 2544 24 14 12 24 24 0 Children will need to use the counters alongside the written method until they are secure. Pictorial version can be used by drawing what they see pictorially.	Write the abstract calculation. 0212 12 2544 24 14 12 24 24 0

Conceptual variation; different ways to ask children to solve 615 ÷ 5

Using the part whole model below, how can you divide 615 by 5 without using short division? 	*I have £615 and share it equally between 5 bank accounts. How much will be in each account?* *615 pupils need to be put into 5 groups. How many will be in each group?*	$5\overline{)615}$ $615 \div 5 =$ $\square = 615 \div 5$	*What is the calculation?* *What is the answer?*