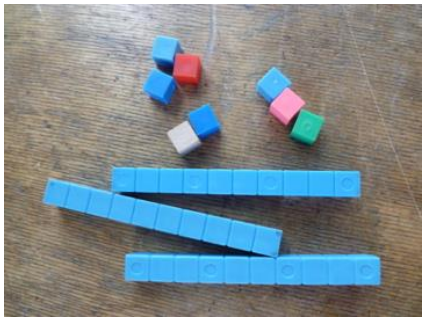
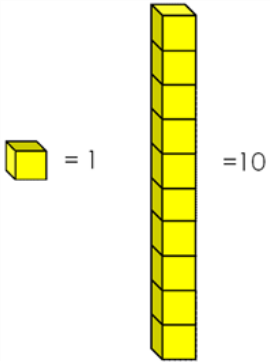
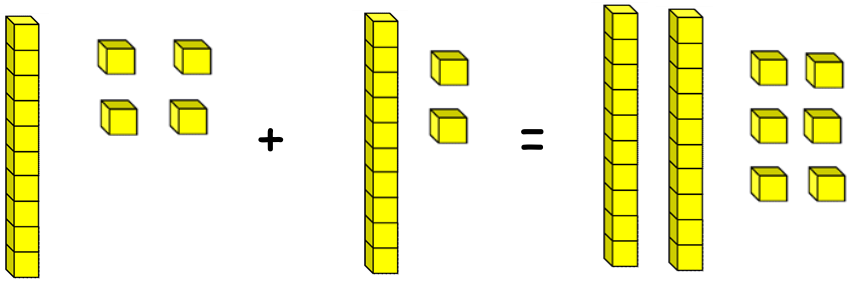
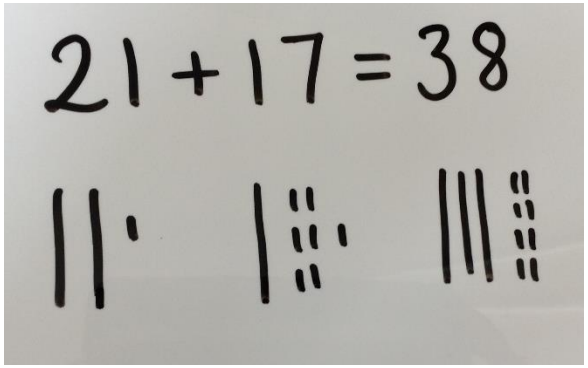
Eling Infant School And Nursery

Progression in Calculations at Eling Infant School
Year 2

Addition Methods

Method	Explanation	Example
Base 10  The name 'Base 10' refers to a set of plastic rods which represent tens and ones. 	For addition, the child will first partition the numbers in the number sentence into tens and ones. They will then add all of the tens and ones together. To begin with, the children will use the physical base 10 rods to make the numbers and support them with addition. As they become more confident with this, they can move on to drawing their own base 10, providing them with an effective written method. The children will draw a vertical line to represent 10 and then a smaller line or a dot for ones.	14 + 12 =  **14** 1 ten 4 ones **12** 1 ten 2 ones **26** 2 tens 6 ones 

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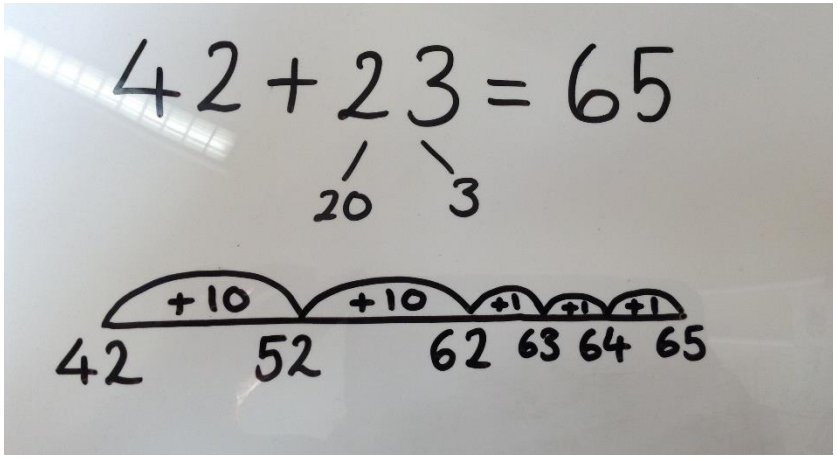
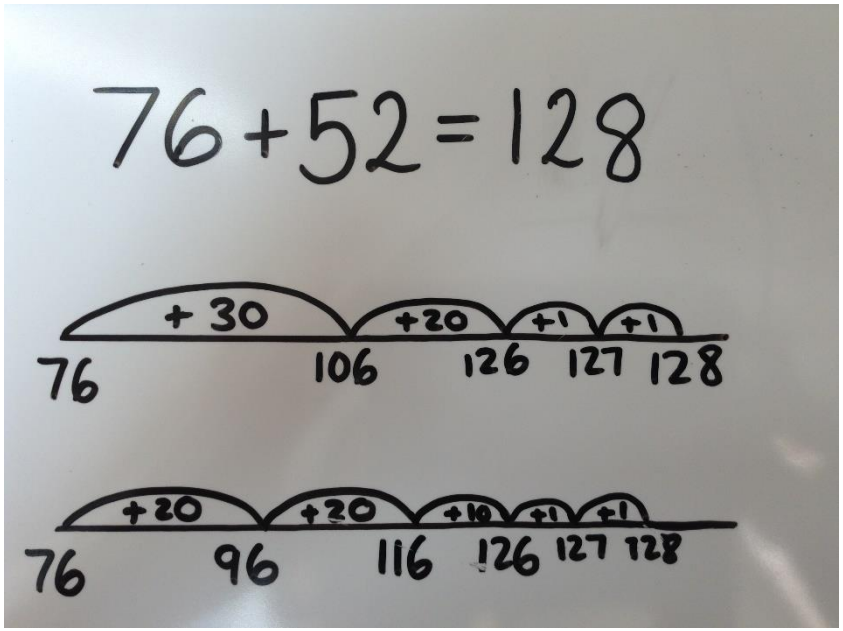
Method	Explanation	Example
Number Line (Blank or 'unstructured') A blank or 'unstructured' number line is one with no markers or numbers and acts as a visual representation for mental calculation. The child writes their own numbers on the number line using their number knowledge.	For addition, the child will begin their number line with the largest number. They will then partition the smaller number into tens and ones. Next they will jump forwards on the top of the line in tens and ones, writing the number they land on each time underneath. Once the children are confident with jumping in tens and ones, they are able to choose more efficient jumps, such as jumping in 2s, 5s, 20s, using their bonds to help them. The children are able to use this method for all addition questions, including crossing the ten and hundred boundaries.	 

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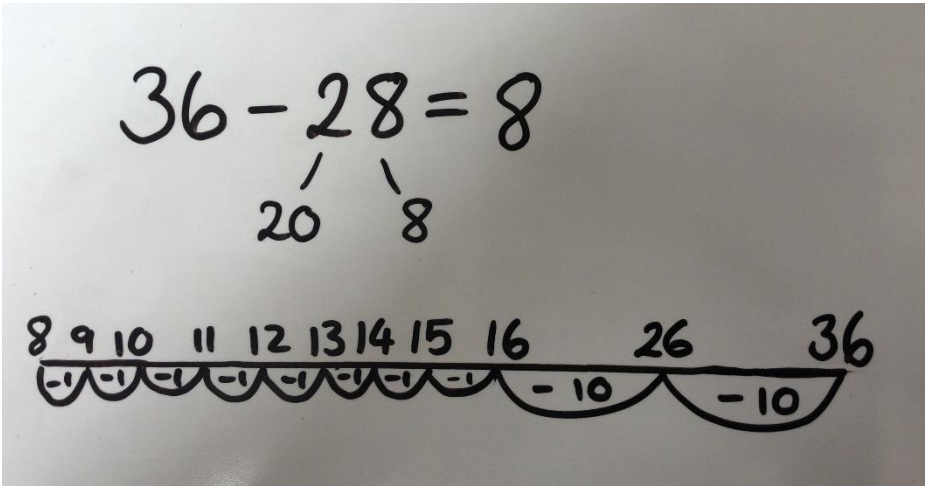
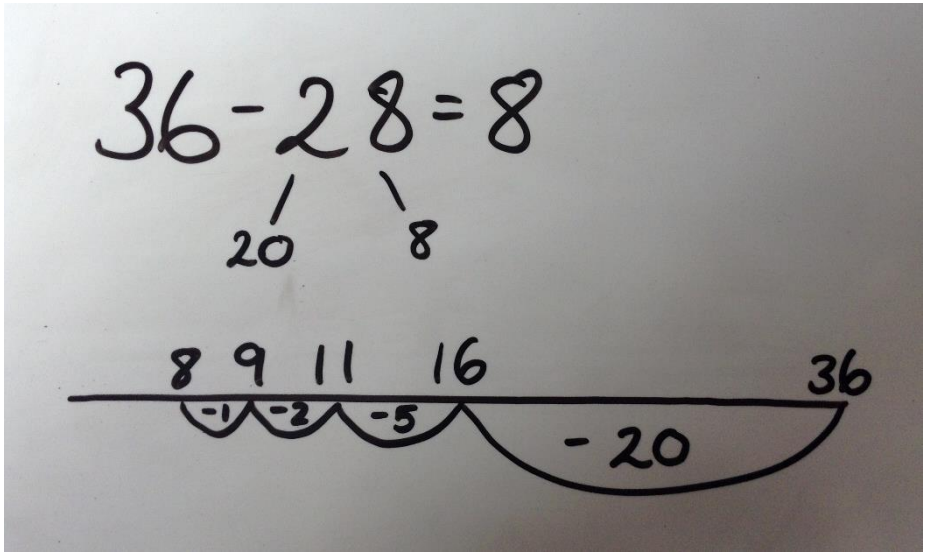
Subtraction Methods

Method	Explanation	Example
Number Line (blank or 'unstructured') A blank or 'unstructured' number line is one with no markers or numbers and acts as a visual representation for mental calculation. The child writes their own numbers on the number line using their number knowledge.	For subtraction, the child will place the largest number at the end of the number line. They will then partition the smaller number in tens and ones. Next, they will jump backwards underneath the number line in tens and ones, writing the number they land on each time on top. Once the children are confident with jumping in tens and ones, they are able to choose more efficient jumps, such as jumping in 2s, 5s, 20s, using their bonds to help them. The children are able to use this method for all subtraction questions, including crossing the ten and hundred boundaries.	 

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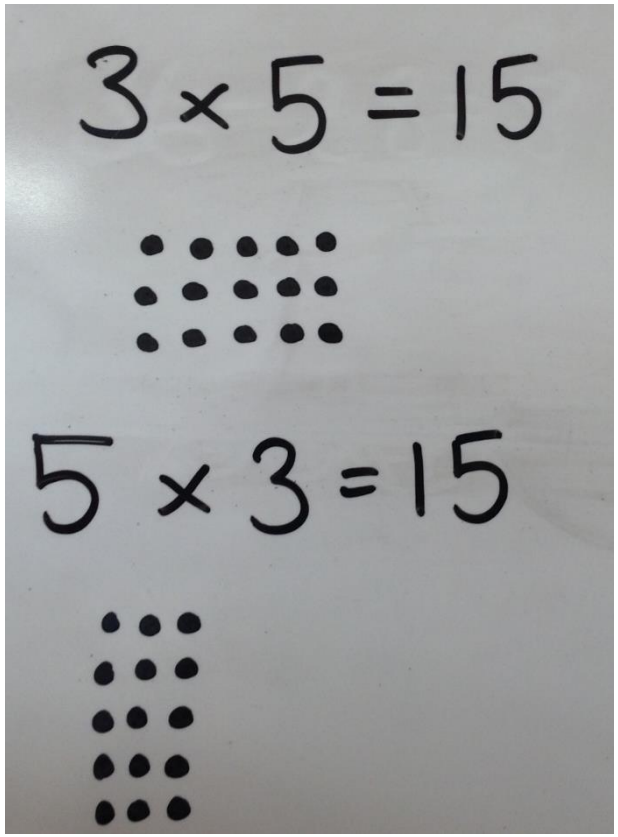
Multiplication Methods

Method	Explanation	Example
Arrays An array is a pictorial representation of multiplication which is usually shown as rows of dots. For example 2 x 3 would be shown as 2 rows of 3 dots. ●●● ●●●	In order to draw an array for multiplication the child will read the number sentence as the first number is how many 'lots of' the second number there are. For example 3 x 5 would be 3 lots of 5. They will then use this to draw rows of dots representing this e.g. 3 rows of 5 dots, working from left to right. The child then counts how many dots there are altogether. They can either count each individual dot or use their times tables for speed. The number sentence can be rearranged and still have the same answer but this time there are 5 rows of 3 dots.	

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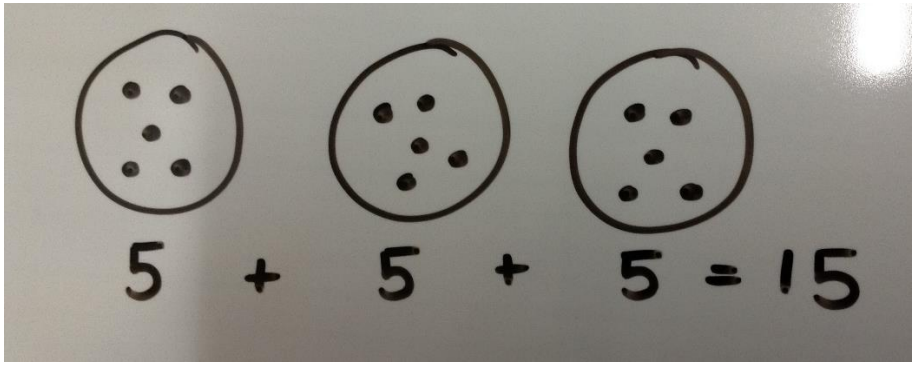
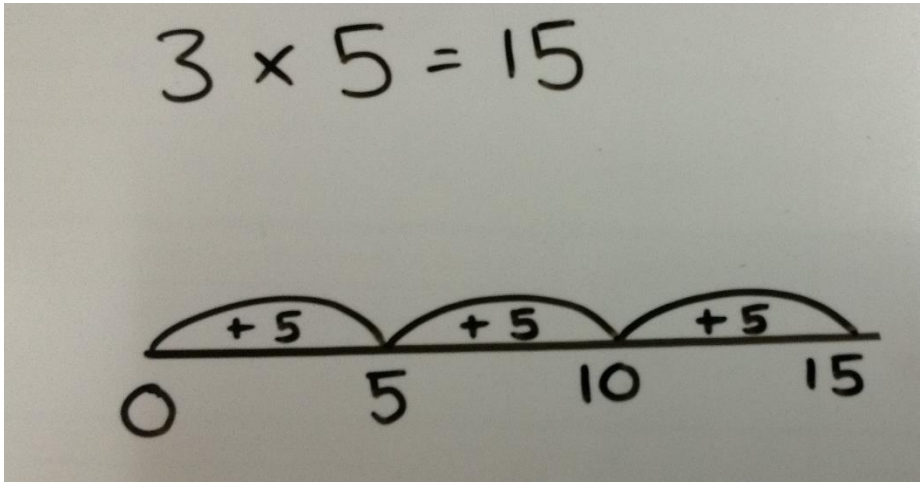
Method	Explanation	Example
Repeated Addition Repeated addition is simply adding the same number again and again in order solve multiplication questions.	In order to use repeated addition for multiplication the child will first need to convert the multiplication number sentence into a repeated addition number sentence. The child is then able to use jottings (drawings such dots) to support them with this addition or they may be able to solve this mentally. If using jottings, the child will draw groups of dots and then add them together.	3 x 5 = is the same as 5 + 5 + 5 = 
Number Line (blank or 'unstructured') using repeated addition A blank or 'unstructured' number line is one with no markers or numbers and acts as a visual representation for mental calculation. The child writes their own numbers on the number line using their number knowledge.	For multiplication, the child will first read the number sentence to determine how many jumps they need and of how much. For example 3 x 5 would be 3 jumps of 5. They will then begin their number line at 0 and complete their jumps, recording the number they land on each time. The final number they land on is their answer.	

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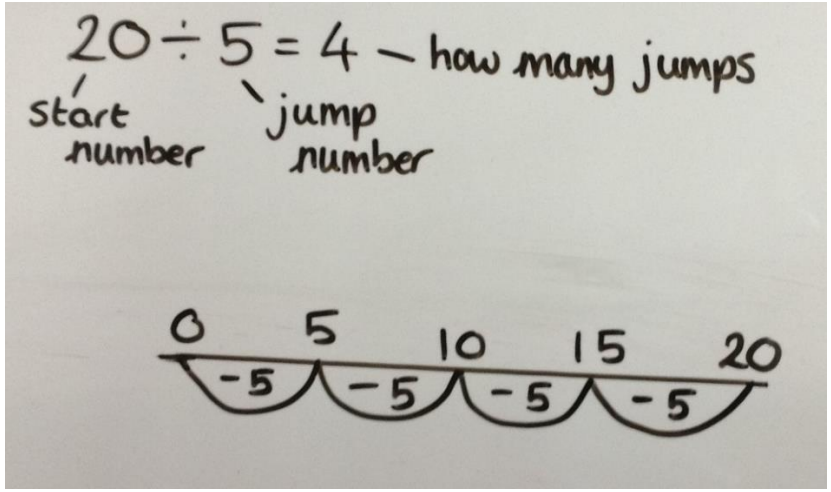
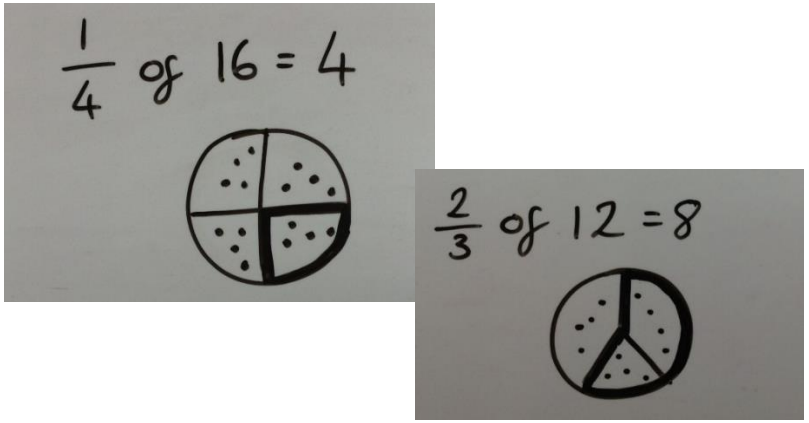
Division Methods

Method	Explanation	Example
Number Line (blank or 'unstructured') using repeated subtraction A blank or 'unstructured' number line is one with no markers or numbers and acts as a visual representation for mental calculation. The child writes their own numbers on the number line using their number knowledge.	For division, the child will begin their number line by placing the largest number at the end of the number line. They will then jump backwards underneath the number line in the second number until they reach 0, recording the numbers they land on each time above the line. The child will then count how many jumps they have performed which will give them the answer.	

Finding Fractions of Amounts

Method	Explanation	Example
Sharing	In order to find the fraction of an amount, the child will first need to draw a circle and 'cut' it into the correct number of pieces. They will then share the number equally between the pieces. The child will then look at one or more of the pieces to find out the answer.	

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