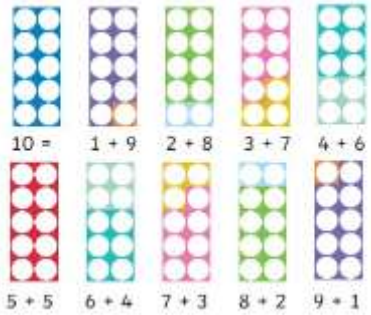
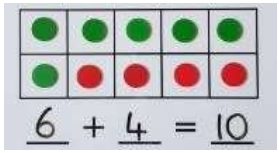
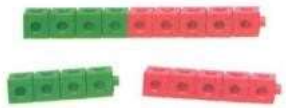
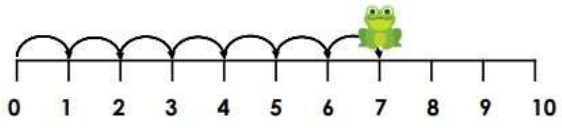
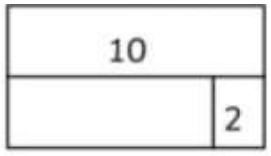
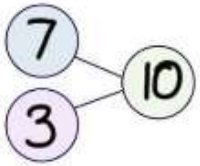
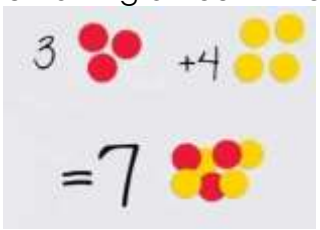
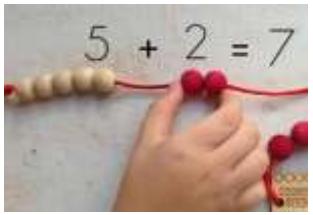
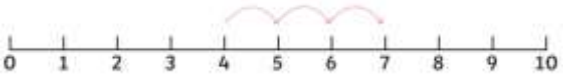
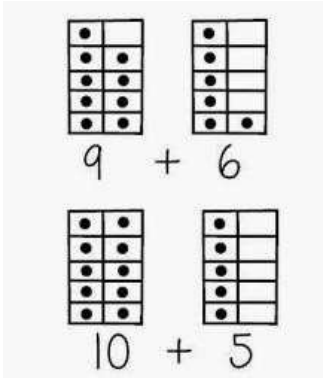
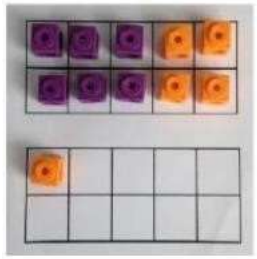
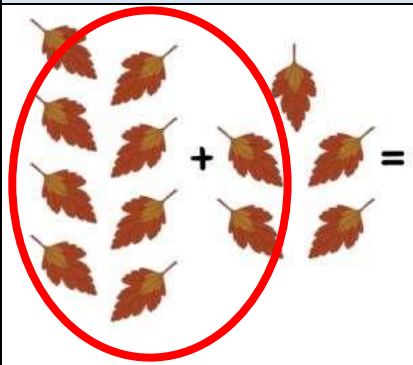
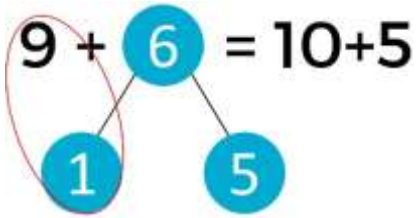
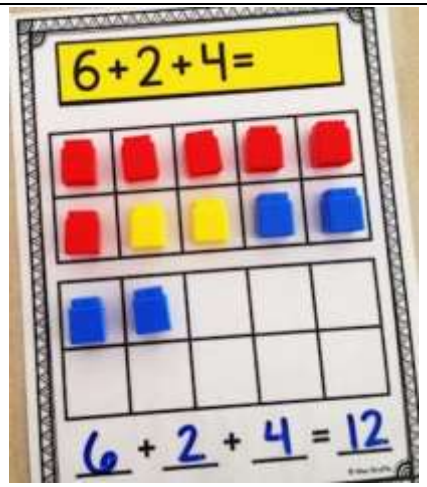
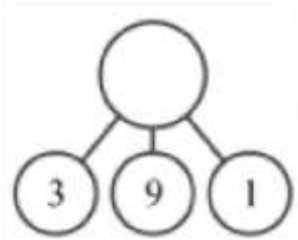
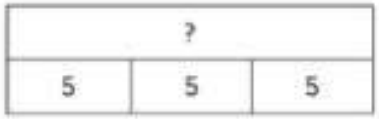
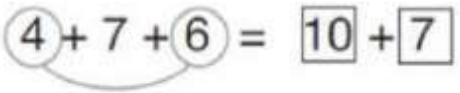
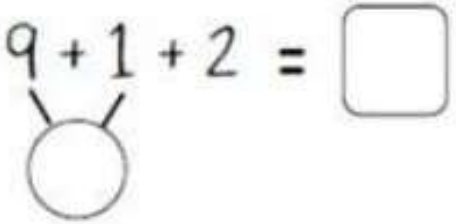
Year 1: Addition

Vocabulary: add, make, altogether, sum, and, **plus,** total, more than, greater than

Strategy	Concrete	Pictorial	Abstract
Number bonds to 5 and 10.	Use counters (ten frame), numicon or multi-link to make/ combine two parts together to make a whole. It is important to use this language.   	Use pictures to add two numbers together as a group of 5 or 10.   Use part, part whole models/bar model to show number bonds to 5/10.  	Number sentence to 5/10: **3 + 2 = 5** **5 = 4 + 1** **10 = 8 + 2** **7 + 3 = 10** Equal symbol should be presented at the beginning and end of the number sentence to reinforce understanding of equals meaning same as/balance.

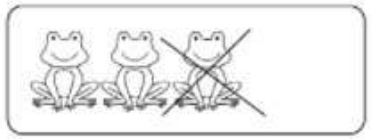
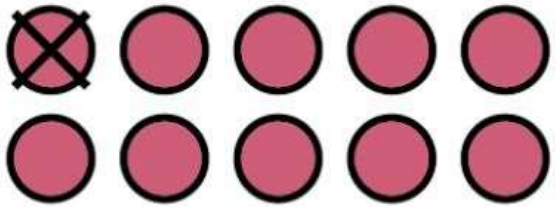
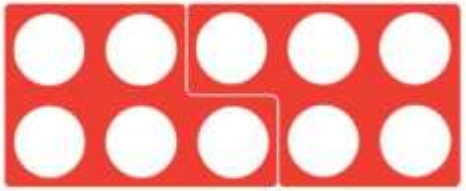
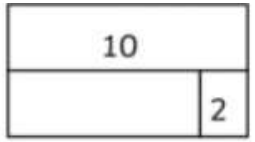
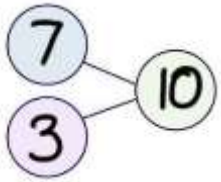
Counting on (starting with the largest number).	Use practical apparatus to make the largest number and then add on the remaining amount through counting on.  	Use a number line, starting with the largest number and counting on.  This can also be done using fingers/putting largest number in head and counting on. From using a part, whole model, demonstrate that numbers can be added in any order (commutative) **<u>however</u>** it is more efficient to begin with the largest number.	Number sentence: **7 + 4 = 11** Reorder the number sentence: **3 + 15 =** **15 + 3 = 18**

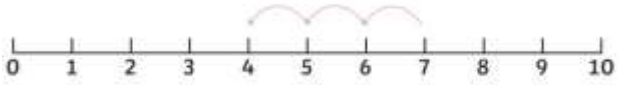
Strategy	Concrete	Pictorial	Abstract
Regrouping to make groups of 10.	Use counters and a ten frame to show number sentence starting with the largest number. Identify number bond to 10 in order to regroup.  	 Draw number sentence starting with the largest number: 8 + 5 =. Group 10 through identifying number bond to 10: 8+2=10. Add on remainder: 10 + 3 = 13 Use part, whole model to demonstrate regrouping. 	Number sentence: **8 + 5 = 12** If I am at 8, how many more do I need to make 10? I need 2 more (to make a group of 10). How many more do I add on now? I add 3 more on (because 2 + 3 = 5).

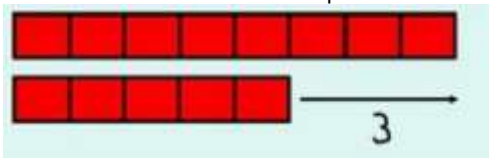
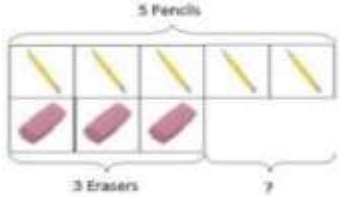
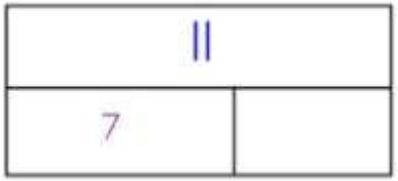
Adding 3 single digits through identifying number bonds.	Use practical apparatus to make the 3 numbers in the number sentence. Identify and combine the two numbers that form the number bond (a ten frame can be used to support children in identifying the number bond to 10). Add on the remainder. 	Identify the number bond through drawing, part, whole model or bar model. Combine the numbers that form the number bond and then add on the remainder:   	Number Sentence:  = 17 

Year 1: Subtraction

Vocabulary: minus, take away, difference, less than, less, leave, left, left over, fewer, **subtract, minus, difference between, distance between**

Strategy	Concrete	Pictorial	Abstract
Subtracting ones.	Use physical objects to show subtraction of ones.   3 – 1 =	Draw total amount of objects. Cross out number being subtracted  **10 – 1 =**	Number sentence: **13 – 1 = 12** **7 = 9 – 2** **Equal symbol should be presented at the beginning and end of the number sentence to reinforce understanding of equals meaning same as/balance.**
Number bonds to 5 and 10.	Use counters, numicon or multi-link to make a whole (5 or 10) and take away a part. It is important to use this language.  **10 – 5 = 5**	Use pictures, part, whole model and bar model to take away from a group of 5/10.  **10 – 2 = 8**  **10 – 3 = 7**	Number sentences: **10 – 4 = 6** **5 = 10 – 5**

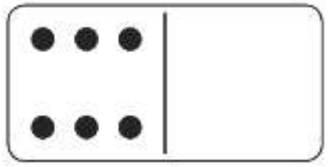
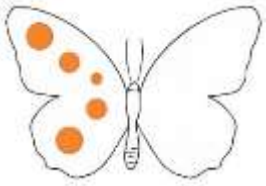
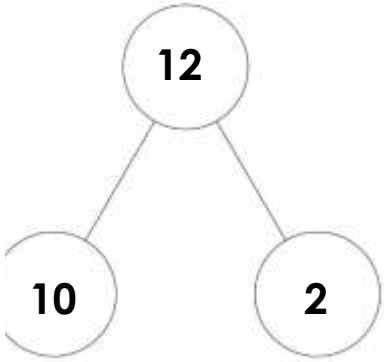
Counting backwards.	Use practical apparatus to subtract by making the largest number in the number sentence and counting backwards. Bead String: Move the beads along the string,  counting backwards in ones. **7 – 2 = 5** Counters/Cubes/Objects: Move the objects away, counting backwards in ones.	Use a number line or number track to count backwards, starting with the largest number and counting backwards in jumps of ones. 7 - 3 = 4  This can also be done using fingers/putting largest number in head and counting backwards.	Number sentence: 7 - 3 = 4 Mental Calculation: **13 – 4 = 9** **Put 13 in your head and count back 4. What number have you landed on?**

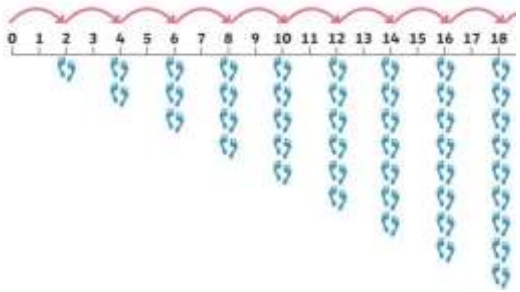
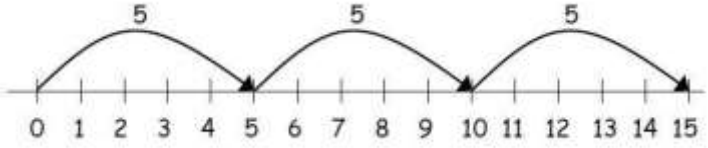
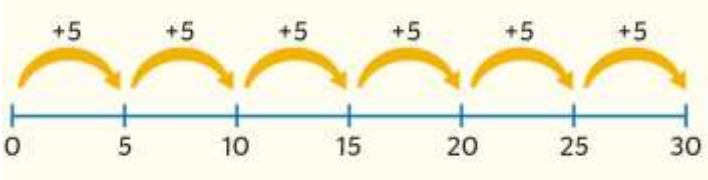
Finding the difference.	Use practical apparatus to show the difference between two numbers. Equipment such as multilink, which is equal in size and can be lined up exactly, demonstrates this concept.  **8 – 5 = 3**	Introduce bar models through drawing objects using a grid.  Use bar models to show finding the difference between two numbers.  	Number Sentence: **11 – 4 = 7** Number Stories: Hannah has 8 sweets. Jack has 3 sweets. Find the difference between the number of sweets. **8 – 3 = 5**

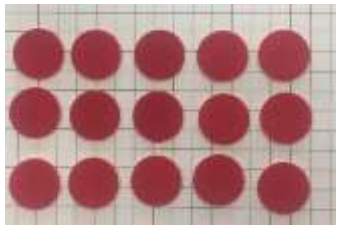
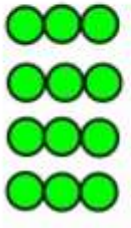
Year 1: Multiplication

Vocabulary: double, groups, lot, **grouping, array, twos, tens, fives**

Timetables Progression: 1s 2s 10s 5s

Strategy	Concrete	Pictorial	Abstract
Doubling.	Use physical apparatus/objects such as counters or multi-link to make one group/lot.  Double the amount to make two groups/lots and count how many there are in total. 	**One Digit** two lots and c nt (one group/lot) and then draw the total.   **Two Digit** Use part whole model to partition the number and double each part. Recombine to find the total.  20 + 4	**Number Sentence:** **4 + 4 = 8** **4 x 2 = 8** **2 x 4 = 8**

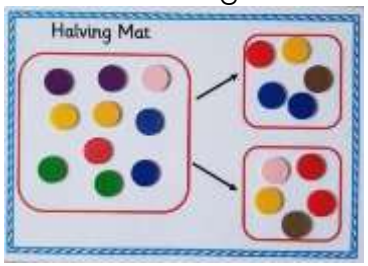
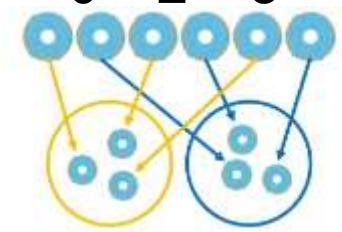
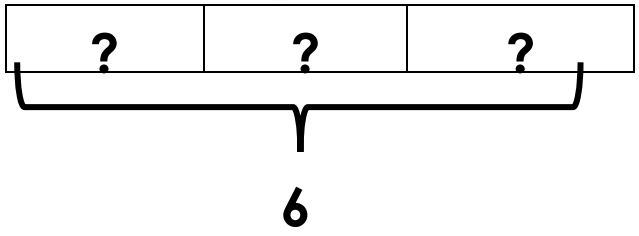
Counting in multiples.	Use practical apparatus/objects to count on in 2's. 	 Count on using a number line or number track.	**Number Sequence:** **2, 4, 6, 8, 10** **5, 10, ?, 20, ?**
Repeated Addition.	Use practical apparatus/objects to make groups for repeated addition.  **2 + 2 + 2 = 6**	**Repeated addition a number line:** **5 + 5 + 5 =**  Numbers or pictorial representations can be used beneath the number line to show intervals. **5 + 5 + 5 + 5 + 5 + 5 =** 	**Number Sentence:** **4 + 4 + 4 = 12** **4 x 3 = 12** **3 x 4 = 12**

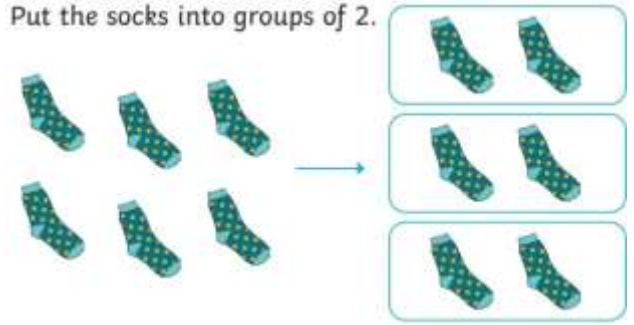
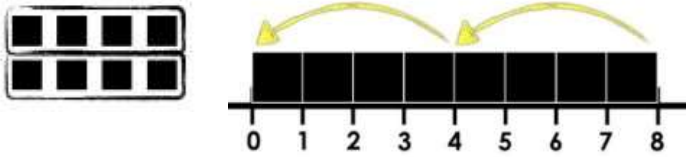
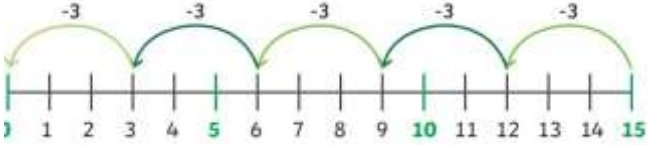
Use of arrays to show commutativity.	Create arrays using counters/cubes to show multiplication.  **3 x 5 =** 	Draw arrays to show multiplication.  3 x 4 = 12  4 x 3 =12 Arrays should be created in different rotations to demonstrate the commutative law.	**Number Sentence:** **4 x 3 = 12** **3 x 4 = 12**

Year 1: Division

Vocabulary: half, halve, pair, share equally, equal groups, grouping, sharing

Timetables Progression: 1s 2s 5s 10s

Strategy	Concrete	Pictorial	Abstract
Sharing (into equal groups)	Use physical apparatus/objects such as counters or multi-link share an amount into equal groups.  **Share the 9 cakes equally between the 3 bears.** Introduce halving as sharing into 2 equal groups.  **Half of 10**	Represent sharing into equal groups pictorially through drawing an amount being shared equally. Bar models can be used in this stage. **6 ÷ 2 = 3**   	**Number Sentence:** **6 ÷ 3 = 2** **Half of 10 = 5**

Grouping	Use physical apparatus/objects such as counters or multi-link to put a given amount into equal groups. 	Represent grouping pictorially through drawing equal groups. 	**Number Sentence:** **6 ÷ 3 = 2**
Repeated subtraction (using a number line).	Use unifix cubes/bead strings to physically demonstrate how many times a smaller number goes into a larger number. Number lines can be used alongside bead strings/ unifix cubes. **8 ÷ 2 =**  **15 ÷ 3 =** 	Use repeated subtraction to demonstrate how many times a smaller number goes into a larger number. **15 ÷ 3 =** 	**Number Sentence:** **15 ÷ 3 =** The number of times you can take 3 from 15 is 5. **15 - 3 - 3 - 3 - 3 - 3 = 0** **15 ÷ 3 = 5**