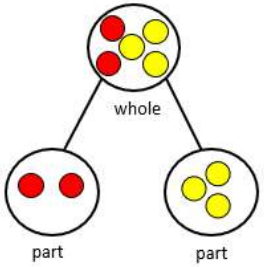
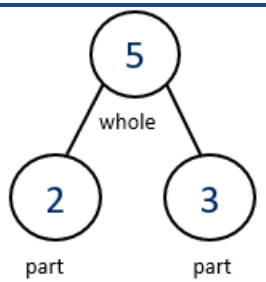
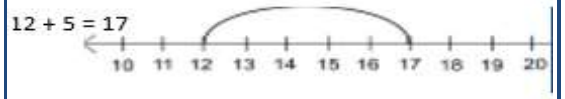
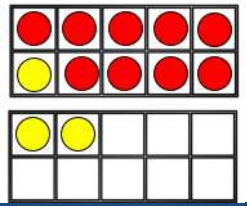
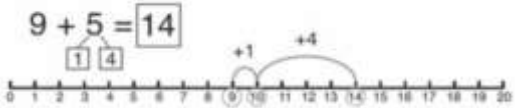
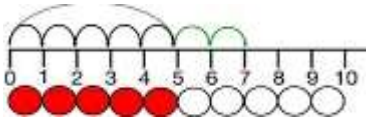
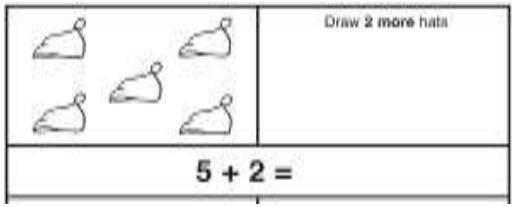
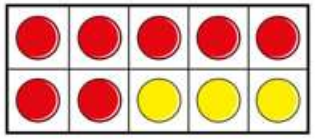
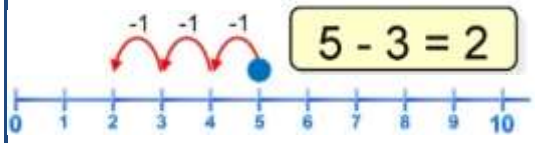
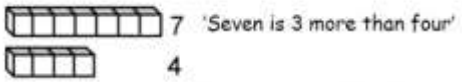
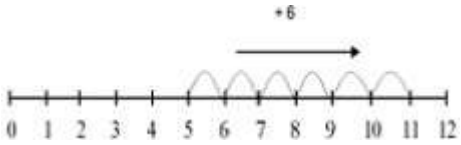
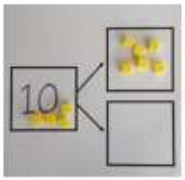
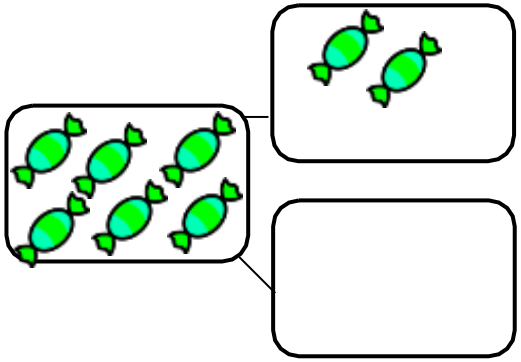
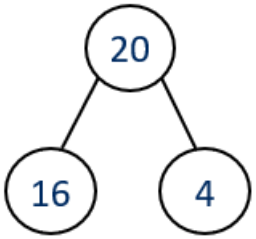
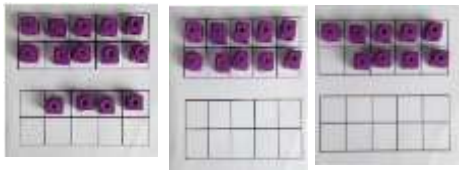
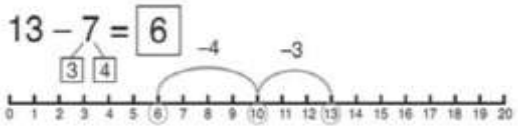
Addition + Year 1

Objective & Strategy	Concrete	Pictorial	Abstract
Combining two parts to make a whole: part whole model	 Use a part whole model. Use cubes to add two numbers together as a group or in a bar. 	 Use the part whole model with numbers or pictures to add two numbers together or in a bar model. 	**4 + 3 = 7** Use the part whole model or bar model to move into the abstract. **8 + 1 = 9**
Starting at the bigger number and counting on	 Start with the larger number on the bead string and then count on to add the smaller number 1 by 1 to find the answer.	 Start at the larger number on the number line and count on in ones or in one jump to find the answer.	**12 + 5 = 17** Place the larger number in your head and count on adding the smaller number to find the answer.

Regrouping to make 10. *This is an essential skill for column addition later.*	 9 + 3 = 11 Start with the bigger number and use the smaller number to make 10. Use a ten frame to add the counters completing the first ten. 	 3 + 9 = Use pictures or a number line. Regroup or partition the smaller number using the part whole model to make 10. 	**9 + 3= 11** If I am at nine, how many more do I need to make 10. How many more do I add on now?
Represent & use number bonds and related subtraction facts within 20	 Finding 2 more than 5.	 	Emphasis should be on the language. ***'2 more than 5 is equal to 7.'*** ***'2 more than 5 is 7.'*** ***'7 is 2 more than 5.'***

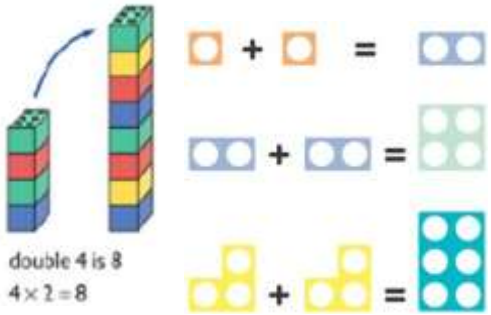
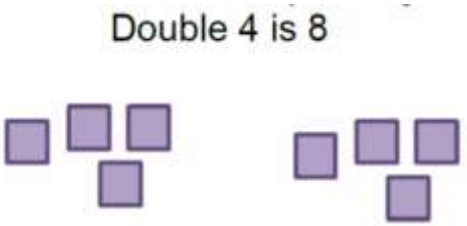
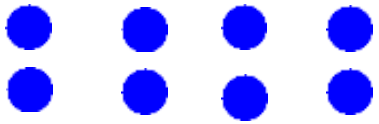
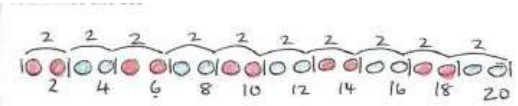
Subtraction - Year 1

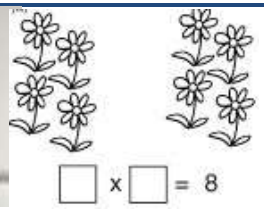
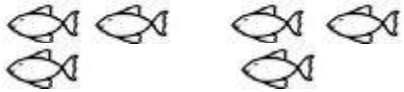
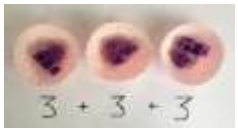
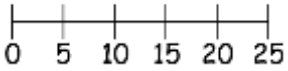
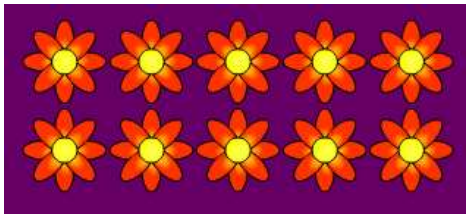
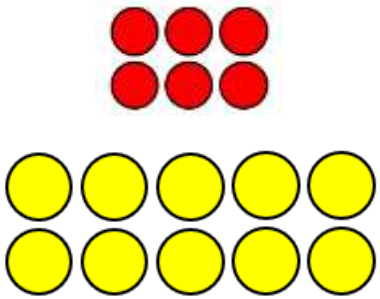
Objective & Strategy	Concrete	Pictorial	Abstract
Taking away ones	Use physical objects, counters, cubes on ten frames to show how objects can be taken away. 	Cross out drawn objects to show what has been taken away.  8 - 4 = 4	**8 - 4 = 4** **16 - 9 = 7**
Counting back	 Move objects away from the group, counting backwards.  Move the beads along the bead string as you count backwards. .	 Count back in ones using a number line, children find it helpful to draw the jumps and then check they have subtracted the correct amount.	Put 13 in your head, count back 4. What number are you at?

Find the Difference	Compare objects and amounts  Kim has fewer cars than Eva. Eva has more cars than Kim.  'Seven is 3 more than four'	Count on using a number line to find the difference.  	Problem solving question: Hannah has 11 sweets and her sister has 5. How many more does Hannah have than her sister?
Represent and use number bonds and related subtraction facts within 20	 Link to addition. Use PPW model to model the inverse. If 10 is the whole and 6 is one of the parts, what is the other part? 10 – 6 = 4	 Use pictorial representations to show the part.	 Move to using numbers within the part whole model. Using the number bonds to ten to apply related facts with number bonds to 20. **10 – 6 = 4** **20 – 16 = 4** **20 – 6 = 14**
Make 10	14 - 5  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?

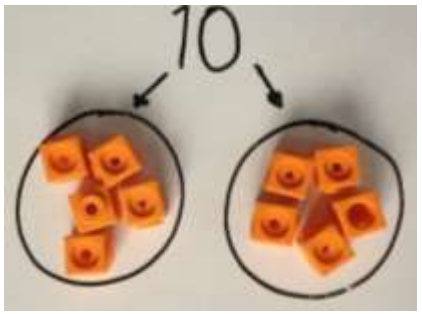
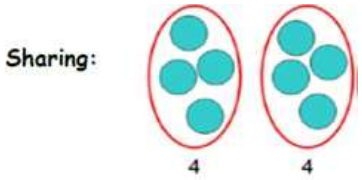
Bar model	 5 - 2 = 3 Objects lined up to compare.	  Pictorial example showing objects lined up with a bar model.	 Use a bar model to create a fact family. **10 = 8 + 2** **10 = 2 + 8** **10 - 2 = 8** **10 - 8 = 2**

Multiplication X Year 1

Objective & Strategy	Concrete	Pictorial	Abstract
Doubling	Practical activities using manipulatives including cubes and Numicon to demonstrate doubling. 	Draw pictures to show how to double numbers. 	**2 x 4 = 8** **4 + 4 = 8**
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**

Making equal groups and counting the total	  Use manipulatives to create equal groups.	Draw  to show 2 x 3 = 6 Draw and make representations. 	Completing multiplication sentences. 2 x 4 = 8
Repeated addition	Use different objects to add equal groups.   	Use pictorial including number lines to solve problems. There are 5 sweets in one bag. How many sweets are there in 3 bags altogether?  5 + 5 + 5 = 15 	Write addition sentences to describe objects and pictures.  2 + 2 + 2 + 2 + 2 = 10
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

Division ÷ Year 1

Objective & Strategy	Concrete	Pictorial	Abstract
Division as sharing	   I have 10 cubes; can you share them equally in 2 groups?	Children use pictures or shapes to share quantities. 8 shared between 2 is 4 	***'8 shared between 2 is 4.'***