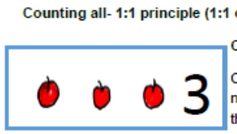
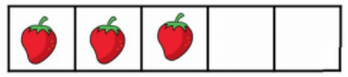
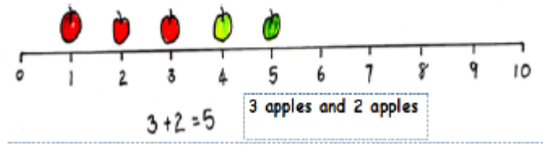
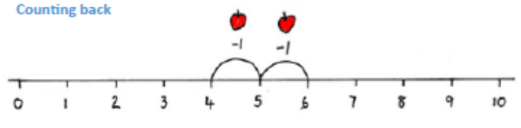
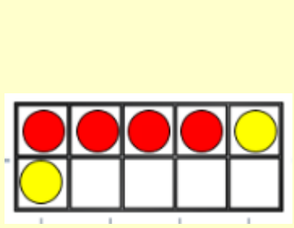
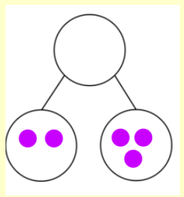
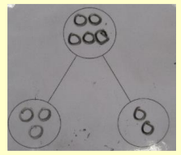
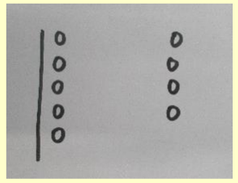
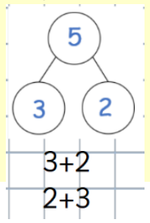
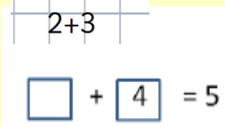
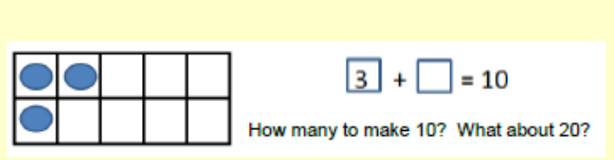
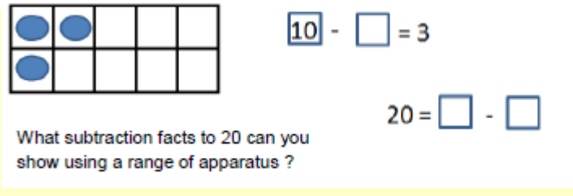
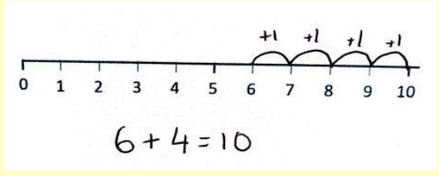
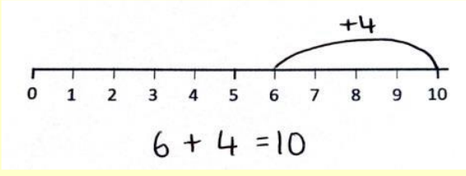
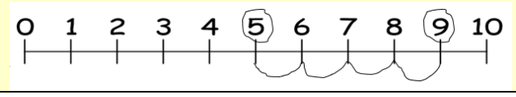
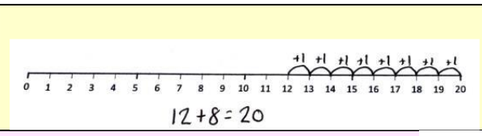
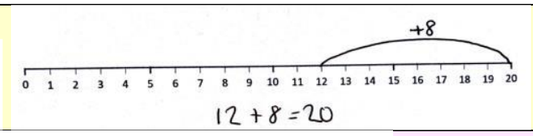
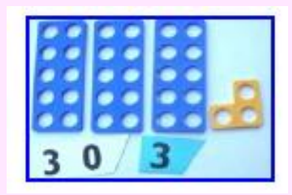
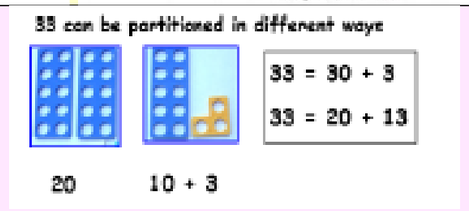
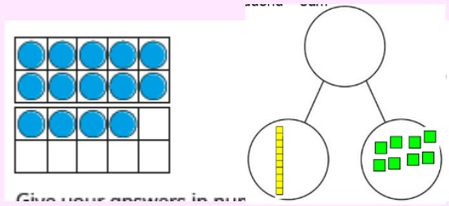
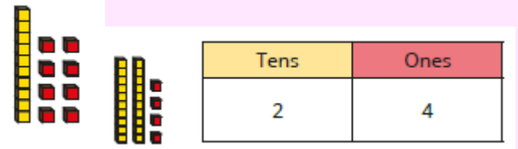
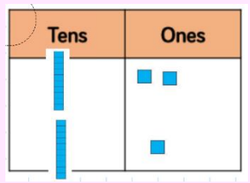
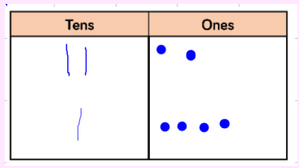
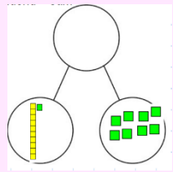
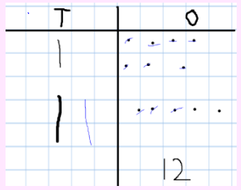
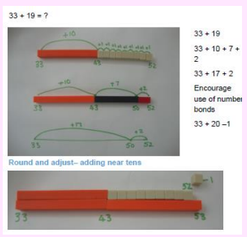
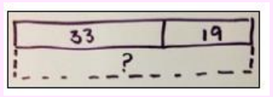
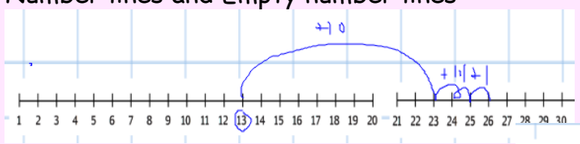
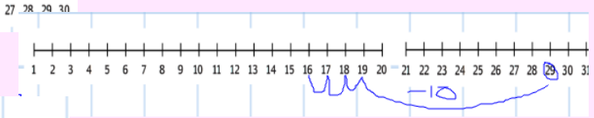
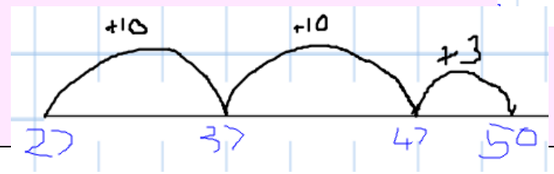
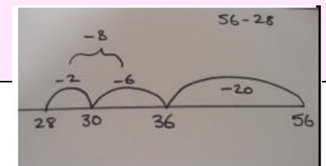
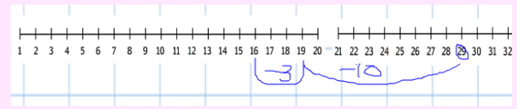
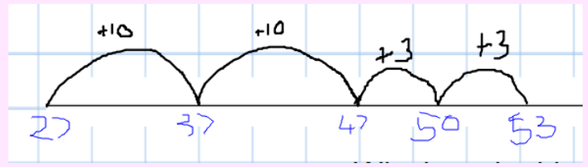
Year group	Addition and Subtraction			Resources
	National Curriculum Objective	**Additional**	**Strategies and methods**	
Year R	**ELG** Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number.	Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing. Count objects. Show me how to make number 5 etc. using different objects. Show objects with numbers on a number track. Make sure children know teen numbers and the pattern. Order consecutive numbers and random numbers. Recognise numerals. Count from any number. Which number comes next/before- 1 more/less (fewer). **Forwards for +** **Backwards for – e.g. 5-3 counting down while subtracting the object.**	 **Counting all- 1:1 principle (1:1 correspondence)** **Counting objects up to 10 then 20.** Children need to understand that number labels (words) match objects as they count them.  use of 5 frame to subitise **One, two, three**  The whole is 5. 3 is a part, 2 is a part of the whole. If you remove 1 part, the other is left. E.g. 5 - 3 = 2 or 5 - 2 = 3 If you put the parts together, you get the whole. 3 + 2 = 5 2 + 3 = 5 These are commutative .      Counting on from first number 2, 3, 4, 5 There are 5 apples Counting on from the greatest number. 3, 4, 5  **Using comparative language to describe group size** Which group has more/fewer? Which has most/least?  Counting all, 1, 2, 3, 4, 5 There are 5 apples  Counting back 	Objects Bead strings Numicon Number track Tens frames** later on in the year. Drawing Part whole model Number sentences

Year 1	Place Value • count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens • given a number, identify one more and one less • use the language of: equal to, more than, less than (fewer), most, least • identify and represent numbers using objects and pictorial representations including the number line • read and write numbers from 1 to 20 in numerals and words <u>Addition and Subtraction</u> · represent and use number bonds and related subtraction facts within 20. · add and subtract 1-digit and 2-digit numbers to 20, including 0. · read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Written Methods)	**<u>Place Value</u>** The position a digit is placed in a number determines its value. The language used to name numbers does not always expose the place value, for example the word 'twelve' does not make it transparent that the value of this number is ten and two. It is important that children develop secure understanding of the value of each digit. Place value is based on unitising: treating a group of things as one 'unit'. In mathematics, units can be any size, for example units of 1, 2, 5 and 10 are used in money. In place value units of 1, 10 and 100 are used. **<u>Addition and subtraction</u>** Number bonds within 10 help to develop an understanding of addition and subtraction. For example understanding that 3 + 5 = 8 then ?3 + ?5= ?8. Relating numbers to 5 and 10 helps develop knowledge of the number bonds within 20. For example, given 8 + 7, thinking of 7 as 2 + 5 and adding the 2 to 8 to make 10 and then the 5 to total 15. Thinking of part whole relationships is helpful in linking addition and subtraction. For example, where the whole is 6, and 4 and 2 are parts. This means that 4 and 2 together form the whole, which is 6 and 6 subtract 4 leaves the 2 and 6 subtract 2 leaves the 4.	     4 is a part. 3 is a part. 6 is the whole.  Then understanding that 3 plus 2 is equal to 5. 3 + 2 = 5    Number lines   	Objects Bead strings Numicon Number track Tens frames** later on in the year. Tens frames Base 10** when ready 100 square ** when ready Rule of rocket Counting on and counting back Part whole model Tens frame Number sentences Number line Bar model Jottings. Tens and ones chart

			 	
Year 2	Place Value • count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward • compare and order numbers from 0 up to 100; use <, > and = signs • identify, represent and estimate numbers using different representations, including the number line • read and write numbers to at least 100 in numerals and in words Addition and Subtraction • solve problems with addition and subtraction: • using concrete objects and pictorial representations, including those involving numbers, quantities and measures • applying their increasing knowledge of mental and written methods • add and subtract numbers using concrete objects, pictorial representations, and mentally, including: * a two-digit number and ones * a two-digit number and tens * two two-digit numbers * adding three one-digit numbers • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot	**Place Value** The position (place) of a digit in a number determines its value. Hence the term *place value.* **Addition and subtraction** Understanding that addition of two or more numbers is commutative (can be done in any order) which is important to support children's fluency. Children will understand that addition and subtraction are the inverse of each other and can be used to support their learning. When adding three or more numbers it is helpful to look for pairs of numbers they know to be related facts. For example, given 5 + 8 + 2 it is easier to add 8 + 2 first because they add to 10 rather than to begin with 5 + 8. When adding two numbers it can be more efficient to put the largest number first which also supports the children's understanding of addition being commutative. For example, given 3 + 8 it is easier to calculate 8 + 3.Children will understand that the value increases through addition and decreases through subtraction. Understanding the importance of the equals sign meaning 'equivalent to' (i.e. that 6 + 4 = 10, 10 = 6 + 4 and 5 + 5 = 6 + 4 are all valid uses of the equals sign) is crucial for later work in algebra. Missing number problems can support the development of this key idea. Correct use of the equals sign should be reinforced at all times. Altering where the equals sign is placed develops fluency and flexibility. Understanding that addition and subtraction are the inverse if I know that 13 + 12 = 25 25 – 12 = 13	    In year 2 children will progress through these strategies':    Exchanging and regrouping    Number lines and Empty number lines    	Objects Bead strings Numicon Number track Tens frames** later on in the year. Base 10** when ready 100 square ** when ready Base 10 100 square Counting on and counting back Counting on and counting back Drawing Part whole model Tens frame Place value chart Number sentences Number line Bar model Jottings. Blank number lines- jumping tens and ones Jumping in jumps of any number (making sure it's appropriate). Mental addition of tens/tens and ones. Inverse

			 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 -3 -10  +10 +10 +3 +3 27 37 47 50 53	