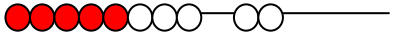
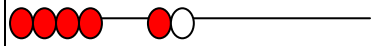
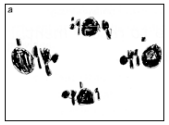
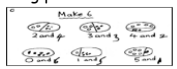
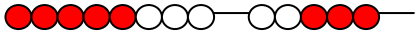
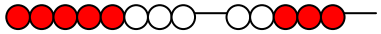
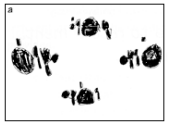
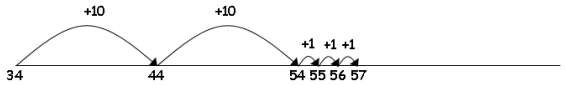
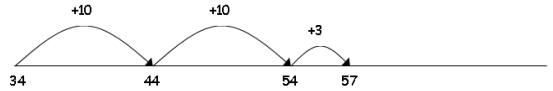
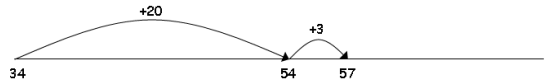
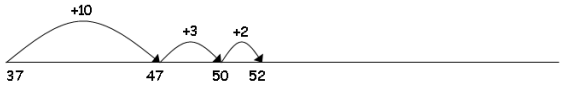
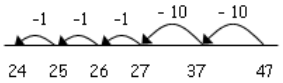
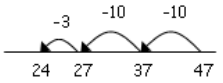
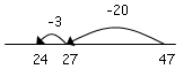
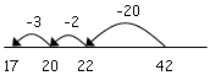
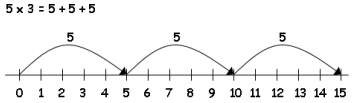
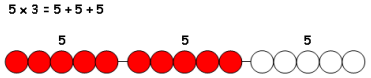
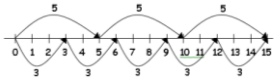
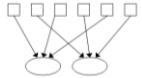
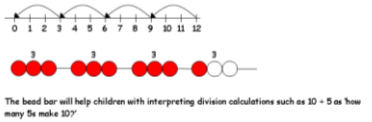
	Addition	Subtraction	Multiplication	Division
Rec	Children are encouraged to develop a mental picture of the number system in their heads to use for calculation. They develop ways of recording calculations using pictures, etc.  Bead strings or bead bars can be used to illustrate addition  8+2=10 They use numberlines and practical resources to support calculation and teachers *demonstrate* the use of the numberline.	Children are encouraged to develop a mental picture of the number system in their heads to use for calculation. They develop ways of recording calculations using pictures etc.  Bead strings or bead bars can be used to illustrate subtraction including bridging through ten by counting back 3 then counting back 2.  6-2= They use numberlines and practical resources to support calculation. Teachers *demonstrate* the use of the numberline.	Children will experience equal groups of objects. They will count in 2s and 10s and begin to count in 5s. They will work on practical problem solving activities involving equal sets or groups. 	Children will understand equal groups and share items out in play and problem solving. They will count in 2s and 10s and later in 5s. 
Y1	using pictures  Bead strings or bead bars can be used to illustrate addition including bridging through ten by counting on 2 then counting on 3.  They use numberlines and practical resources to support calculation and teachers *demonstrate* the use of the numberline. Children then begin to use numbered lines to support their own calculations using a numbered line to count on in ones.	using pictures  Bead strings or bead bars can be used to illustrate subtraction including bridging through ten by counting back 3 then counting back 2.  13-5= Children then begin to use numbered lines to support their own calculations - using a numbered line to count back in ones. The numberline should also be used to show that 6 - 3 means the 'difference between 6 and 3' or 'the difference between 3 and 6' and how many jumps they are apart.	Children will experience equal groups of objects. They will count in 2s and 10s and begin to count in 5s. They will work on practical problem solving activities involving equal sets or groups. 	Children will understand equal groups and share items out in play and problem solving. They will count in 2s and 10s and later in 5s. 

	Addition	Subtraction	Multiplication	Division
Y2	Children will begin to use 'empty number lines' themselves starting with the larger number and counting on. ✓ First counting on in tens and ones. 34 + 23 = 57  ✓ Then helping children to become more efficient by adding the units in one jump (by using the known fact 4 + 3 = 7). 34 + 23 = 57  ✓ Followed by adding the tens in one jump and the units in one jump. 34 + 23 = 57  ✓ Bridging through ten can help children become more efficient. 37 + 15 = 52  	Children will begin to use empty number lines to support calculations. **Counting back:** ✓ First counting back in tens and ones. 47 – 23 = 24  ✓ Then helping children to become more efficient by subtracting the units in one jump (by using the known fact 7 – 3 = 4). 47 – 23 = 24  ✓ Subtracting the tens in one jump and the units in one jump. 47 – 23 = 24  ✓ Bridging through ten can help children become more efficient. 42 – 25 = 17  Counting on: The number line should still show 0 so children can cross out the section from 0 to the smallest number. They then associate this method with 'taking away'.	Children will develop their understanding of multiplication and use jottings to support calculation: ✓ **Repeated addition** 3 times 5 is 5 + 5 + 5 = 15 or 3 lots of 5 or 5 x3 Repeated addition can be shown easily on a number line: 5 x 3 = 5 + 5 + 5  and on a bead bar: 5 x 3 = 5 + 5 + 5  ✓ **Commutativity** Children should know that 3 x 5 has the same answer as 5 x 3. This can also be shown on the number line.  ✓ **Arrays** Children should be able to model a multiplication calculation using an array. This knowledge will support with the development of the grid method.  	Children will develop their understanding of division and use jottings to support calculation ✓ **Sharing equally** 6 sweets shared between 2 people, how many do they each get?  ✓ **Grouping or repeated subtraction** There are 6 sweets, how many people can have 2 sweets each?  ✓ **Repeated subtraction using a number line or bead bar** 12 ÷ 3 = 4  The bead bar will help children with interpreting division calculations such as 10 ÷ 5 as 'how many 5s make 10?' ✓ **Using symbols to stand for unknown numbers to complete equations using inverse operations** □ ÷ 2 = 4 20 ÷ △ = 4 □ ÷ △ = 4