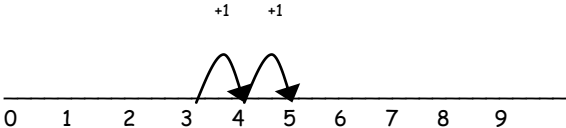
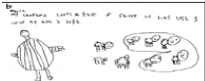
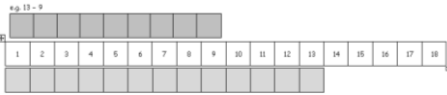
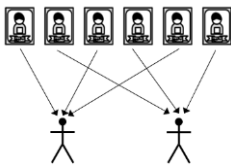
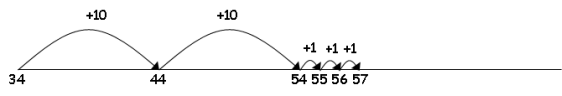
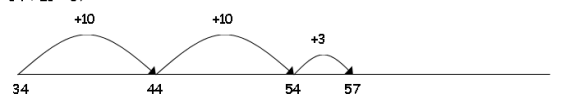
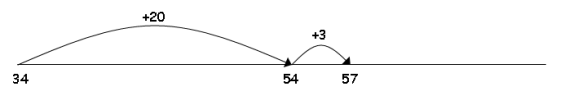
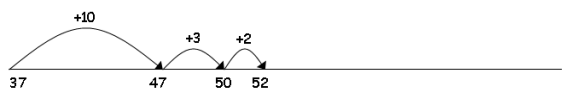
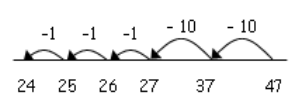
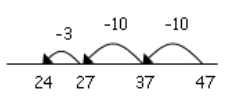
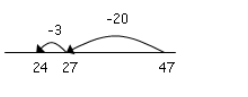
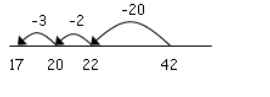
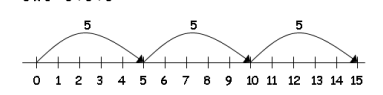
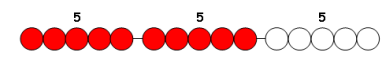
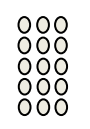
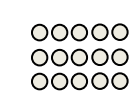
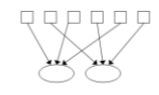
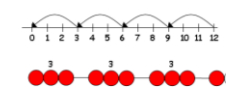


	Addition	Subtraction	Multiplication	Division
Rec	Children are encouraged to develop a mental picture of the number system in their heads to use for calculation. They should experience practical calculation opportunities using a wide variety of equipment, e.g. small world play, role play, counters, cubes, songs and their fingers. They develop ways of recording calculations using pictures, marks and numbers. They begin to understand the use of a numberline / number track through teacher demonstration.	Children are encouraged to develop a mental picture of the number system in their heads to use for calculation. They should experience practical calculation opportunities using a wide variety of equipment, e.g. small world play, role play, counters, cubes, songs and their fingers. They develop ways of recording calculations using pictures, marks and numbers.  They begin to understand the use of a numberline / number track through teacher demonstration.	Children will experience equal groups of objects and will count in 2s 5s and 10s. They will work on practical problem solving activities involving equal sets or groups using a wide variety of equipment, e.g. small world play, role play, counters, songs, cubes etc. They develop ways of recording calculations using pictures, marks and numbers. 	Children are encouraged to develop a mental picture of the number system in their heads to use for calculation. They will count in 2's, 5's and 10's. They should experience practical calculation opportunities involving equal groups and sharing items using a wide variety of equipment, e.g. small world play, role play, counters, cubes etc. They develop ways of recording calculations using pictures, marks and numbers. 
Y1	Children will initially use practical equipment to combine groups of objects to find the total. They will move on to the use of number tracks and Base 10 equipment to support their developing understanding of addition.  They also use numberlines and practical resources to support calculation. $3 + 2 = 5$ 	Using pictures  Children will use practical equipment for subtraction by taking away (counting back).  Count out 13 cubes along the number track followed by removal of 5 cubes to give answer: $13 - 5 = 8$ Subtraction as finding the difference In preparation for understanding how to find the difference by counting up, children should be shown that finding the difference is linked to subtraction and the teacher should ensure the children know that it is an appropriate strategy to use when the numbers are close together 	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 count in 2s and 10s and later in 5s. In problem solving contexts, children will use practical equipment to share out objects equally and to group objects to represent division. Sharing 6 football stickers are shared between 2 people, how many do they each get? Children may solve this by using a 'one for you, one for me' strategy until all of the cards have been given out.  Children should find the answer by counting how many cards 1 person has got. Grouping There are 6 football stickers, how many people can have 2 stickers each?  Children should find the answer by counting how many groups of 2 there are. The teacher can model the link between sharing and grouping in the following way by relating back to the first football sticker question: Placing the football stickers in a bag or box, the teacher can ask the children how many stickers would need to be taken out of the box to give each person one sticker each (i.e. 2) and exemplify this by putting the cards in groups of 2 until all cards have been removed from the bag.

	Addition	Subtraction	Multiplication	Division
Y2	Children will continue to use the Base 10 equipment (dienes) to support their calculations. They will record the calculations using their own drawings of the Base 10 equipment (as lines for the 10 rods and dots for the unit blocks) e.g. $34 + 23 =$  They would add the tens first and then count on the units. 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 move on to using the Base 10 equipment (dienes) to support their calculations. They need to understand that the number being subtracted does not appear as an amount on its own, but rather as part of the larger amount. e.g. $39 - 17 =$  Children would count out 39 using the Base 10 equipment (dienes) (3 tens and 9 units) and would remove 7 units and then one ten, counting up the answer of 2 tens and 2 units to give 22. 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 5×3 Repeated addition can be shown easily on a number line: $5 \times 3 = 5 + 5 + 5$  and on a bead bar: $5 \times 3 = 5 + 5 + 5$  ✓ Commutativity Children should know that 3×5 has the same answer as 5×3. 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. e.g. 3×5 can be represented as an array in two forms (as it has commutativity):  $3 + 3 + 3 + 3 + 3 = 15$  $5 + 5 + 5 = 15$	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 $12 \div 3 = 4$  The bead bar will help children with interpreting division calculations such as $30 \div 5$ as 'how many 5s make 30?' Using symbols to stand for unknown numbers to complete equations using inverse operations $\square \div 2 = 4$ $20 \div \triangle = 4$ $\square \div \triangle = 4$ Children will utilise practical equipment to represent division calculations as grouping (repeated subtraction) and use jottings to support their calculation. Children should also move onto calculations involving remainders. $13 \div 4 =$ 

