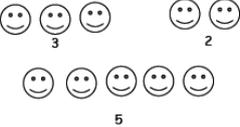
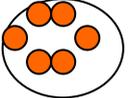
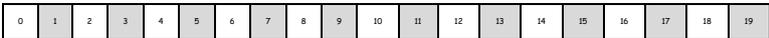
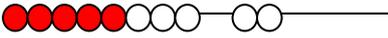
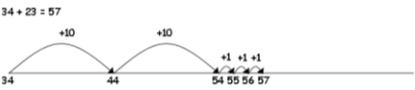
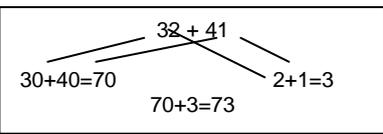
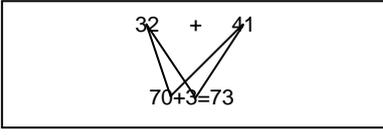
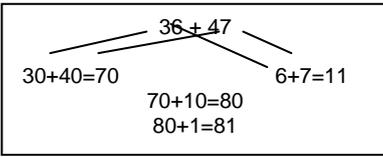


# Addition

[Include problem solving throughout]

No	Sequence/Progression/Recording	Key Skills	Notes
1	Join in with and respond to counting on and addition songs/rhymes/stories	Physical Maths with props	See songs at end of appendix
2	Recite numbers in order forward to 10 [without objects]		
3	Practically count all fingers 1 – 10 	Children raise their fingers or touch their fingers onto their chin as they count them	
4	Beginning to represent numbers using fingers	Chn show the correct number of fingers when asked.	Use finger rhymes to help.
5	Count a group of objects practically to 10  Ask: How many?	Physical 1:1 correspondence Into a counting hoop. Children counting forward	Practically moving the objects from one hoop to another. This in only needed until the child is secure in counting 1:1. Counting objects within the room
6	Recite numbers in order to 20 [without objects]		
7	Count a group of objects practically beyond 10	Practically moving the objects from one hoop to another. This in only needed until the child is secure in counting 1:1	
8	Count a group of objects practically beyond 20 Encourage counting out objects to 100!		
9	Use the language of 'more' to compare two groups of objects and to give more	Make a pile of objects that has more than me	I have 3 teddies can you give me more?
10	Practically find 1 more than any group of objects to 5.	Practically place 1 more object into a group of objects to 5 and say how many now	Use vocab 'makes' 'and'
11	Practically find 1 more than any group of objects to 10		Some children may need to represent this in pictures before moving on
12	Say the number that is 1 more than a given number to 10.		
13	Practically finds the total number of items in two groups by counting them 		Extension – adding 3, 1 digit numbers
14	Use their fingers to complete addition calculations to 10 without recording 		
15	Pictorially find 1 more than any group of objects to 5. Record as:  +  = 4 AND then as 3+1=4	Draw the picture to show how 1 more object is placed into a group of objects to 5 and say how many now	Use vocab 'makes' 'and', and introduce symbols.
16	Pictorially find 1 more of any number to 10. Record as:  +  = 7 AND then as 6+1=7		

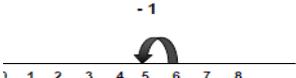
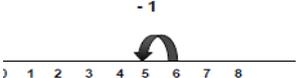
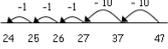
17	Use their fingers to complete addition calculations to 10 $5 + 2 = 7$ 	Children bend or tap fingers onto chin as they count them altogether	
18	Practically combine two groups of objects counting on from the biggest number. Record as: two groups and as a number sentence $4 + $  $4+3=7$	1st - Count biggest number and then count on moving the cubes to show them combined 2nd – Count biggest number and then count on without moving the cubes; just tap each cube	
19	Use Number Tracks with cubes. E.g. $4+3=7$ would be completed as: 4 cubes on + 3 cubes on makes a line up to 7 – showing $4+3=7$ 	Children practically add the cubes to make the full amount	Use unifix cubes.; Remind the answer is hiding
20	Pictorially add a single digit to a single digit to 10. Record as:  +  = 9 AND then as $6+3=9$	Draw more objects into a group of objects to say how many now. Say the bigger number and then count on to find the total	
21	Practically/Mentally – Put the larger number in your head and use cubes to make the smaller number and count on.		
22	Use fingers to place the larger number in their head and count on through 10 using their fingers. $8+7=15$ 	Children hold their head as they put the number into it, e.g. 8 [hold head] put 7 fingers up and count on bending their fingers as they count on	
23	Mentally/Pictorially – Put the largest number in your head and then draw the smallest number and cross out each one as they are added		
24	Know Addition Facts/Number Bonds for the number 10. $8 + 2 = 10$ 	Children to look for the pattern: $0+10=10$ $1+9=10$ $2+8=10$	Children need to be able to recite these parrot fashion when asked $7+?=10$ .
25	Know the Addition Facts/Number Bonds for all numbers to 10. Recognise that addition can be done in any order for addition facts for all the numbers to 10. 	Children to look for the pattern: $0+9=9$ $0+8=8$ $1+8=9$ $1+7=8$ $2+7=9$ $2+6=8$	Children need to be able to recite these parrot fashion when asked $3+?=8$
		Children to look for the pattern: $10=7+3$ $10=3+7$	Use the vocabulary: 10 is the same as $3+7$ and $7+3$
26	Pictorially use Number Lines to add 1 digit numbers by counting on in ones.		

	$6 + 1 = 7$  <ul style="list-style-type: none"> <li>- Single digit to single digit under 10</li> <li>- Single digit to single digit crossing the 10</li> <li>- Single digit to a 2digit, NOT crossing the 10's</li> <li>- Single digit to a 2digit crossing the 10's</li> </ul>		
27	<p>Know the Addition Facts/Number Bonds for all numbers to 20.          "A pair of numbers that totals ..."</p>	<p>Chn to look for the pattern:  <math>10+9=19</math>  <math>0+18=18</math>  <math>11+8=19</math>  <math>1+17=18</math>  <math>12+7=19</math>  <math>2+16=18</math></p>	<p>Chn need to be able to recite these parrot fashion when asked <math>13+?=18</math>.          G&amp;T – extend to above 20</p>
28	<p>Pictorially use Number Lines to add 2digit numbers by counting on in ones  <math>16 + 11 = 27</math></p>  <ul style="list-style-type: none"> <li>- 2digit to 2digit under 30.</li> </ul>	<p>Starting on biggest number on number line</p>	
29	<p>Mentally/Practically use Unifix Cubes to add 2, 2digit numbers; children mentally visualise number line</p>	<p>Put the largest number in your head then use the unifix cubes to count on.</p>	<p>E.g. <math>34+12</math> put 34 in head and use 12 unifix cubes to count on</p>
30	<p>Pictorially/Mentally use Number Lines to add a 2 digit number to a 2 digit</p>		<p>E.g. <math>34+12</math> put 34 in head and use 1-12 on number line to count on.</p>
31	<p>Use Blank Number Lines to add numbers by counting on in ones.</p> <ul style="list-style-type: none"> <li>- Single digit to single digit under 10</li> <li>- Single digit to single digit crossing the 10</li> <li>- Single digit to a 2 digit, NOT crossing the 10's</li> <li>- Single digit to a 2 digit crossing the 10's</li> </ul>	<p>Show counting in 1's</p>	
32	<p>Use a Blank Number Line to add 2digit numbers by partitioning numbers into tens and 1's.</p> 	<p>Add a multiple of 10, then teen numbers and then any 2digit number</p>	<p>Children will need secure understanding and knowledge of place value to accomplish this.</p>
33	<p>Partition 2, 2digit numbers into 10's and 1's          Units NOT bridging the 10</p> <p>1.</p>  <p>2.</p> 		
34	<p>Partition 2, 2digit numbers into 10's and 1's          Units bridging the 10.</p> 		
35	<p>Partition numbers into different combinations of tens and one.</p>		
36	<p>The pupil can reason about addition [e.g. children can reason that the sum of 3 odd numbers will always be odd]</p>		

## Subtraction

[Includes problem solving throughout]

No	Sequence/Progression/Recording	Key Skills	Notes
1	Join in with and respond to counting back and take away songs/rhymes/stories	Counting back	See songs at end of appendix
2	Recite numbers in order backwards from 10 [without objects]		
3	Practically count back on fingers from 10 	Saying 10, 9, 8, 7, 6, etc	
4	Practically count back from 10 with objects	Taking the objects away as you count back	Solid understanding of the number reducing
5	Recite numbers in order backwards from 20 [without objects]		Backwards
6	Practically count back from 20 with objects	Taking the objects away as you count back	Solid understanding of the number reducing
7	Practically make a pile of objects smaller by taking some away		To understand the idea of 'taking away' secure before moving on to finding one less,
8	Use the language of 'less' to compare two groups of objects	Make a pile of objects that has less than me	I have 3 teddies can you give me less?
9	Practically find one less than any group of objects to 5	Practically moving the object out of the group to reduce the number by 1	Teach chn how to now make a row, column and lines in all direction to check that the number is always the same.
10	Practically find one less than any group of objects to 10		
11	Say the number that is one less than a given number to 10.		
12	Pictorially find 1 less than any group of objects to 5. Record as:  AND as $3-1=2$	Draw the picture to show how 1 object is taken away to find how many are left.	Use vocab 'take away' 'less', and introduce symbols.
13	Pictorially find 1 less than any group of objects to 10. Record as:  AND as $6-1=5$		
14	Use their fingers to complete subtraction calculations to 10 without recording "10 - 4 = 6" 		
15	Practically take away a single digit from any number to 10	Practically move the objects out of the group.	
16	Pictorially take away from a group of objects to 5. Record pictorially then as $5-3=2$ 		Allow chn to try to record in their own way first
17	Pictorially take away from a group of objects to 10. Record pictorially then as $7-3=4$ 		
18	To know that subtraction cannot be done in any order/that the biggest number must come first		
19	Use number bonds to derive subtraction facts		Must be secure with addition number facts first.
20	Recite numbers in order backwards from 20, 50, 100 [without objects]	<b>CONTINUOUS!</b>	

21	Subtract a single digit from any number to 20 Use <b>Numbered Tracks</b> with cubes E.g. $7-3=4$ would be completed as: 7 cubes on - 3 cubes leaves a line of 4 cubes left, showing $7-3=4$	Children <b>practically</b> take the cubes away to make the amount that is left.	Use unifix cubes. Number tracks to 20.
22	Subtract a single digit from any number to 20 Use <b>Blank Number Tracks</b> with cubes E.g. $7-3=4$ would be completed as: 7 cubes on - 3 cubes leaves a line of 4 cubes left, showing $7-3=4$		
23	Subtract a single digit from any number to 10 Use a Number line to <b>count back in ones</b> $6 - 3 = 3$ 	Children will move quickly through this step	
24	Subtract a single digit from any number to 20 Use a number line to <b>count back in ones</b> $16 - 3 = 13$ 		
25	Subtract a single digit from any 2 digit number to 30 Use a number line to count back in ones - 2digit minus a single digit, NOT crossing the 10's - 2digit minus a single digit, crossing the 10's		
26	Subtract a single digit from any number to 20 and beyond Practically/mentally complete subtraction calculations by counting back from the largest number	Place the large number in their head, hold up the number of fingers to take away and count back, putting fingers down	
27	Subtract a single digit from any number to 20 and beyond, using a blank number line - Single digit minus a single digit under 10 - 2digit minus a single digit NOT crossing 10's - 2digit minus a single digit crossing 10's	Counting in 1's	
28	Recognise subtraction as the inverse of addition		
29	Use the operation of subtraction to check answers		$12+4=16$ because $16-4=12$
30	<b>Count back in 10's from 100</b>	<b>CONTINUOUS!</b>	
31	Use a blank number line to subtract a two digit number $47 - 23 = 24$ 	Subtract a multiple of 10, then teen number leading onto any 2digit number	Children will need secure understanding and knowledge of place value to accomplish this
32	Subtract mentally a two-digit number from another two-digit number when there is no regrouping required [e.g. $74 - 33$ ]		
33	Mental calculation where regrouping is required ([e.g. $52 - 27$ ; $91 - 73$ ])		