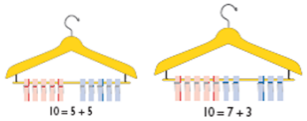
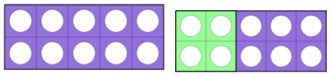
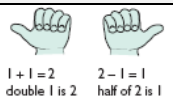
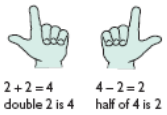
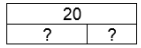
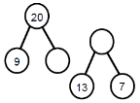
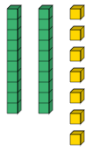
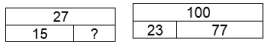
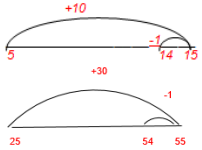
Tilstock Calculation Policy Addition KS1

EYFS	**Reception: ELG 2021** • Have an understanding of number to 10, linking names of numbers, numerals, their value, and their position in the counting order. • Subitise (recognise quantities without counting) up to 5. • Automatically recall number bonds for numbers 0-5 and *for 10*, including corresponding partitioning facts. • Automatically recall double facts up 5+5 • Compare sets of objects up to 10 in different contexts, considering size and difference. • Explore patterns of numbers within numbers up to 10, including evens and odds.					
Year	Year 1			Year 2		
Layers of vocabulary **Appendix 1a** Beck's Tiers of Vocabulary **Appendix 1b:** Vocabulary book	**Basic to subject specific (Beck's Tiers):** +, add, more plus make, sum, total altogether score double, near double one more, two more… ten more how many more to make…? how many more is… than…? how much more is…? **Instructional vocabulary:** start from, start with, start at look at point, to show me			**Basic to subject specific (Beck's Tiers):** +, add, addition, more, plus make, sum, total altogether score double, near double one more, two more... ten more... one hundred more how many more to make…? how many more is… than…? how much more is…? **Instructional vocabulary:** tell me, describe, name, pick out, discuss, talk about, explain, explain your method, explain how you got your answer, give an example of… show how you…		
NC 2014	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.			Using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods		
	Concrete, pictorial, abstract			Concrete, pictorial, abstract		
Developing Conceptual/ Procedural Understanding	**Number bonds**  We have 10 pegs on the coathangers, how can we split them into 2 groups? Is there another way? How can we be sure we have got them all? 	  **Recognise small quantities** **Count on**	**Whole-part model**   Fill in the missing numbers **Balance image for concept of equality.**	**Base 10**  **Whole-part model**  	**Adjustment strategy** 5 + 9 = 5 + 10 – 1= 14  (Round and adjust) **Doubles then near doubles**	**Partition and recombine** Record partitioned steps in number sentences then add mentally. 40+20=60 6+7 =13 60+13=73 Moving on to: 46 + 27 = 60 + 13 = 73

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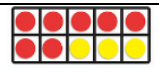
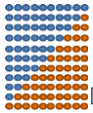
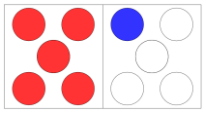
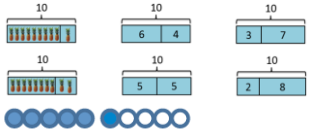

Ten Frames

2 + □ = 10
5 + □ = 10
□ + 4 = 10
10 - □ = 3
10 - □ = 9
10 – 0 = □
Hungarian frames

Use the pattern to complete the number sentences.

Use bonds of 10 to calculate bonds of 20.
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Count on, on number track in 1s.
Develop knowledge of fact families.

10 = 3+7
10 = 7+3
10 – 7 = 3
10 – 3 = 7

20 = 3 + 17
20 = 17 + 3
20 – 3 = 17
20 – 17 = 3
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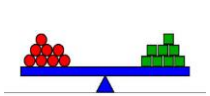
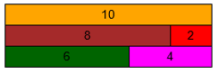

9 = 9
9 = 8 + 1
9 = 7 + 2
8 + 1 = 7 + 2

10 = 10
10 = 8 + 2
10 = 6 + 4
8 + 2 = 6 + 4
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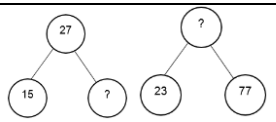
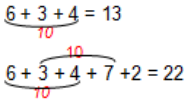

Fill in the missing numbers

All answers to be recorded in a number sentence following any informal recording.

Adding more than two numbers

Strategy to include looking for facts or bonds that are useful e.g. bonds up to and including 10, doubles or adding 10 to a given number.

Record thinking.
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5 + 6 =
5 + 5 + 1 = 11

7 + 8 =
8 + 8 - 1 = 15

47+50 =
Re-arranging
18+4 =
Tell me what you know about 4, e.g. 3+1, 2+2
18+4= Rearrange the 4 into 2+2
18+2+2= 20+2 =22

59+24 = Partition the 24 into 20 +4 and rearrange the 4 into 1+3.

So 59+24=
59+20+1+3 =
59+1+20+3 = 83
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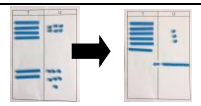
Regrouping the 10.

Balance in the equation
14 = 8 + 6, 7+6=8+5
□= 13+9
3+ □+6 =16
14+ ◇= 15+27

Decision making

Using statements such as:
Ben did 14 + 9 = 23
How could he have done it?
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<td>Known facts</td>
<td colspan="2">Represent & use number bonds and related subtraction facts within 20
Add and subtract 1 digit and 2 digit numbers to 20, including zero</td>
<td colspan="4">Recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100.</td>
</tr>
<tr>
<td>Essential Knowledge</td>
<td>1 more</td>
<td>Number bonds: 5 and 6</td>
<td>10 more</td>
<td>Number bonds:20,12 and 13</td>
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<td>Largest number first.</td>
<td>Number bonds: 7 and 8</td>
<td>Add 1 digit to 2 digit by bridging</td>
<td>Number bonds: 14 and 15</td>
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<td>Add 10.</td>
<td>Number bonds:9 and 10</td>
<td>Partition second number and add tens then ones.</td>
<td>Number bonds: 16 and 17</td>
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<td>Ten plus ones.</td>
<td>Use number bonds of 10 to derive bonds of 11</td>
<td>Add 10 and multiples of 10.</td>
<td>Number bonds: 18 and 19</td>
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<td>Doubles up to 10.</td>
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<td>Doubles up to 20 and multiples of 5.</td>
<td>Partition and recombine.</td>
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<td>Add near multiples of 10.</td>
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