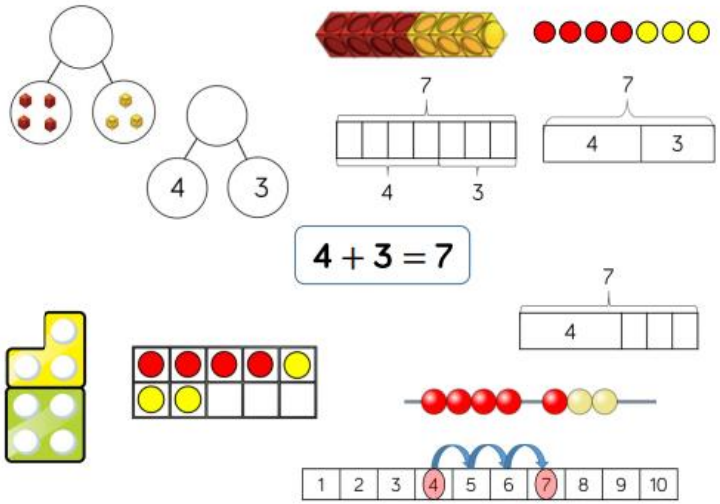
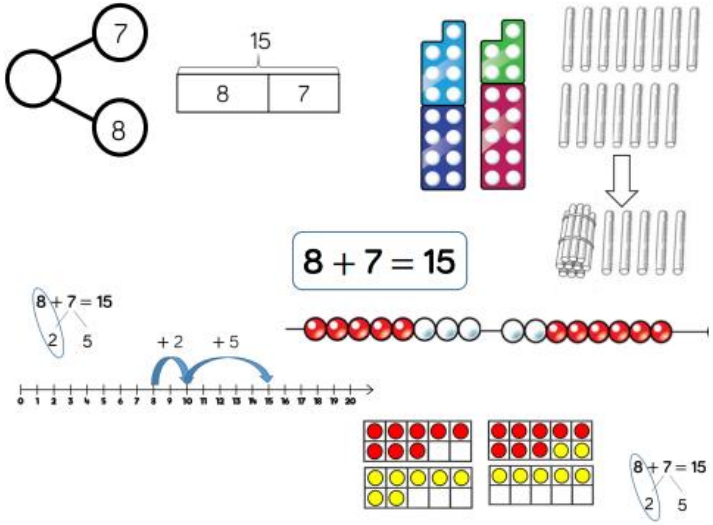
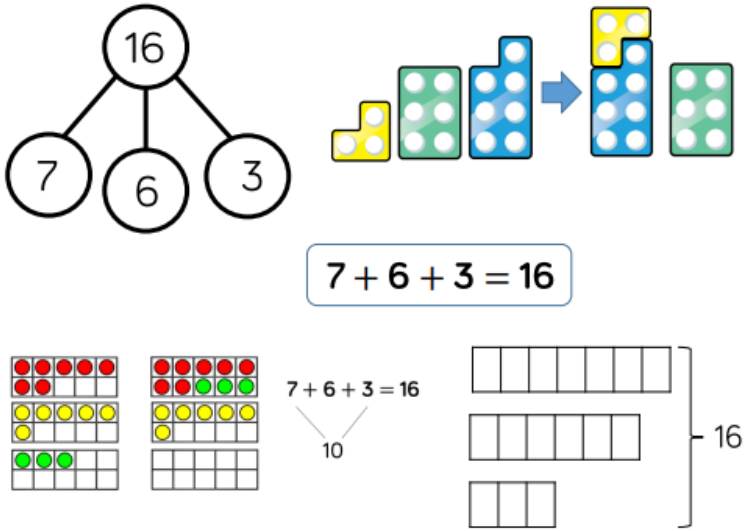
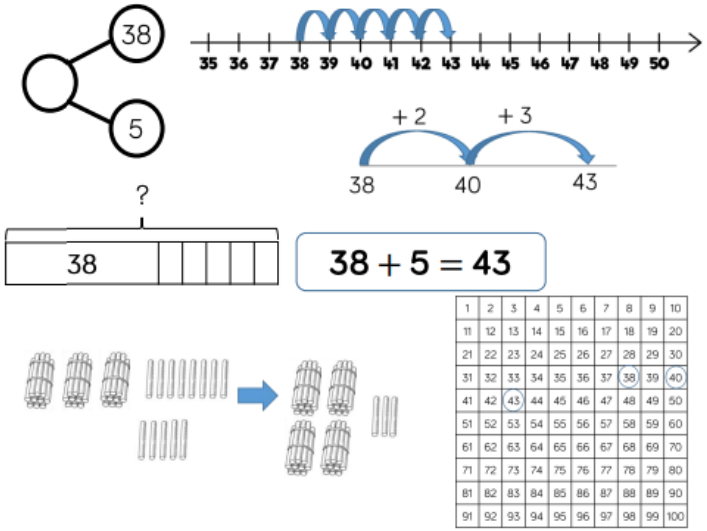
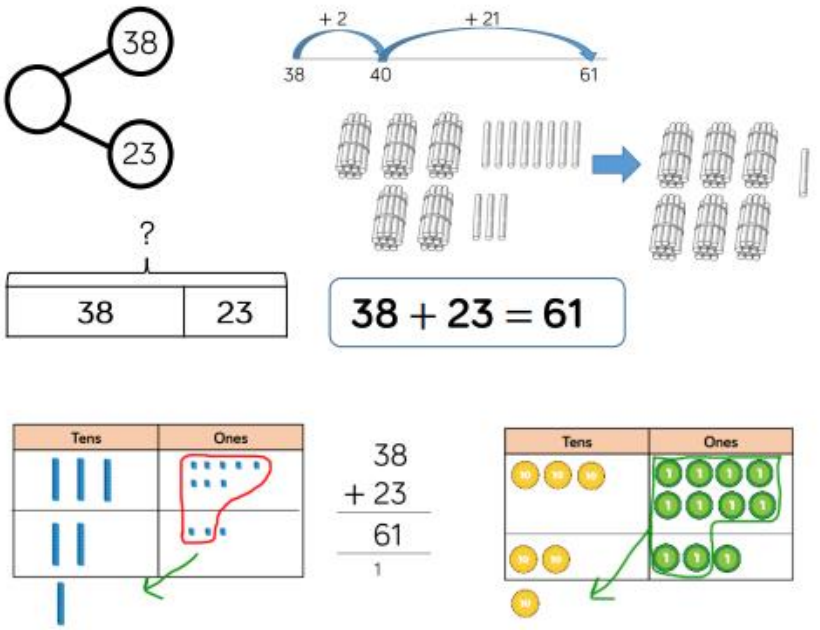
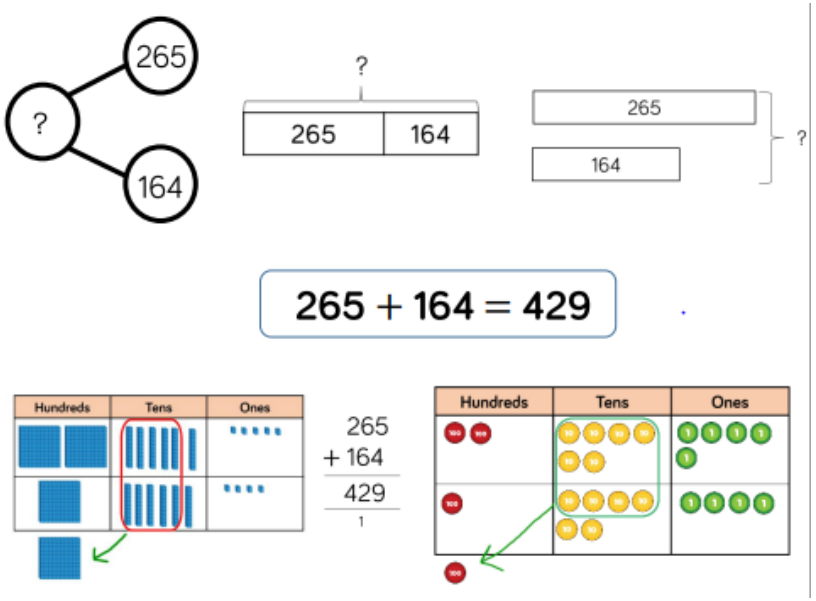
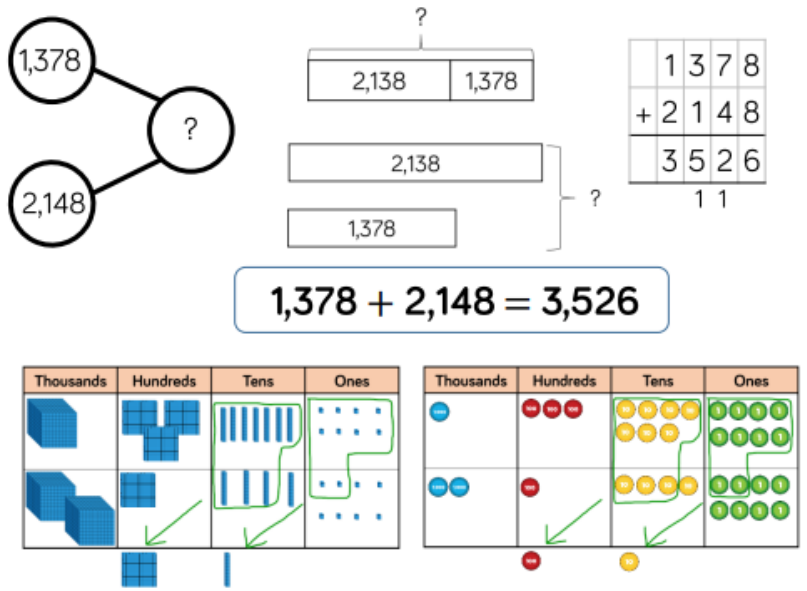
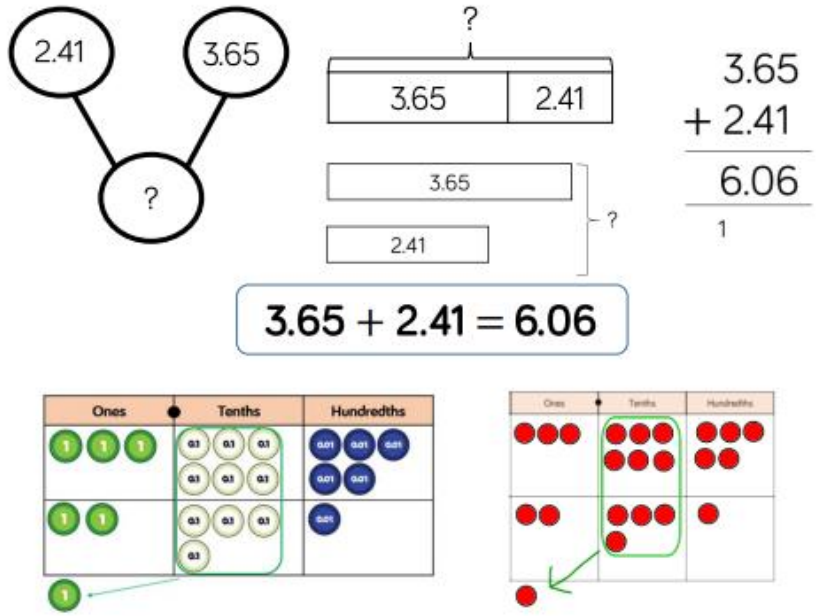
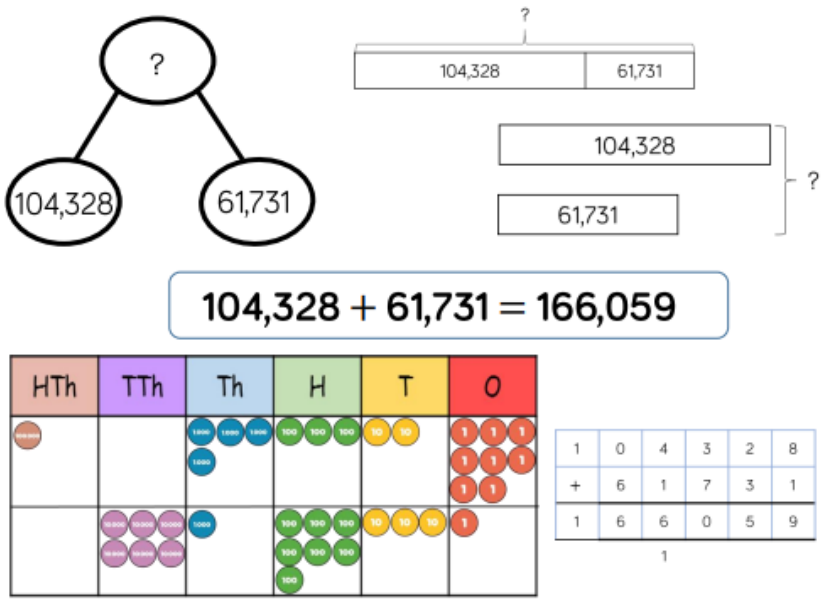
Maths Calculation Progression and Policy – Addition and Subtraction

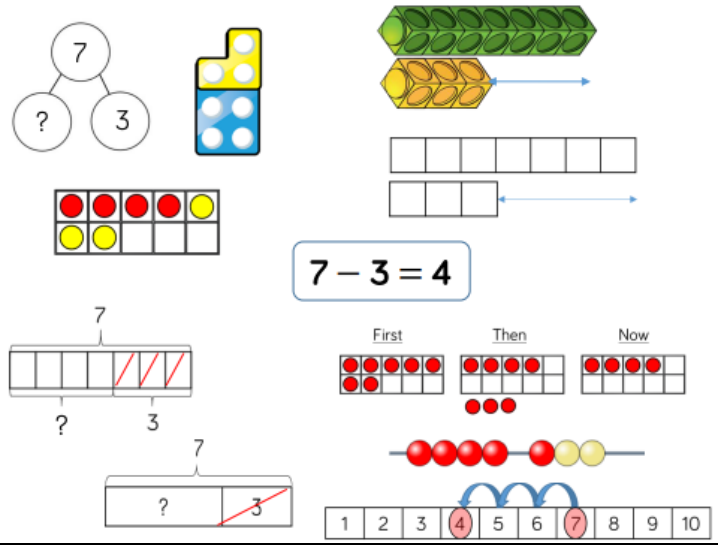
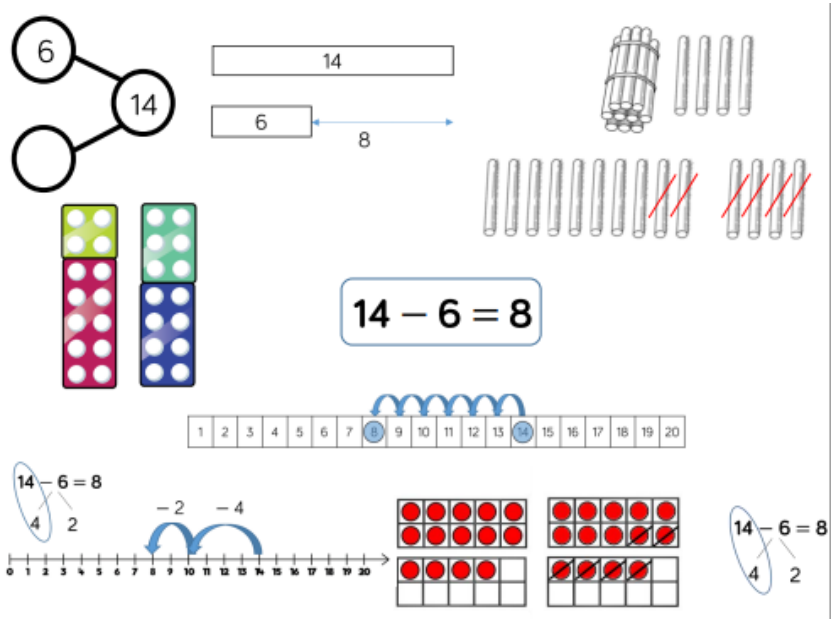
Addition		
Skill	**Information**	**Representations**
Year 1 - Add 1-digit numbers within 10	When adding numbers to 10, children can explore both aggregation and augmentation. The part-whole model, discrete and continuous bar model, number shapes and ten frame support aggregation. The combination bar model, ten frame, bead string and number track all support augmentation.	
Year 1 - Add 1 and 2-digit numbers to 20	When adding one-digit numbers that cross 10, it is important to highlight the importance of ten ones equalling one ten. Different manipulatives can be used to represent this exchange. Use concrete resources alongside number lines to support children in understanding how to partition their jumps.	

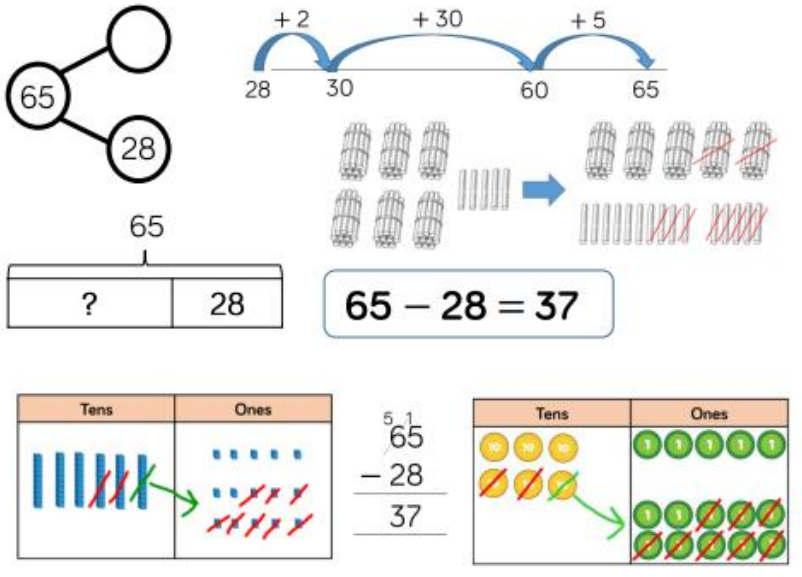
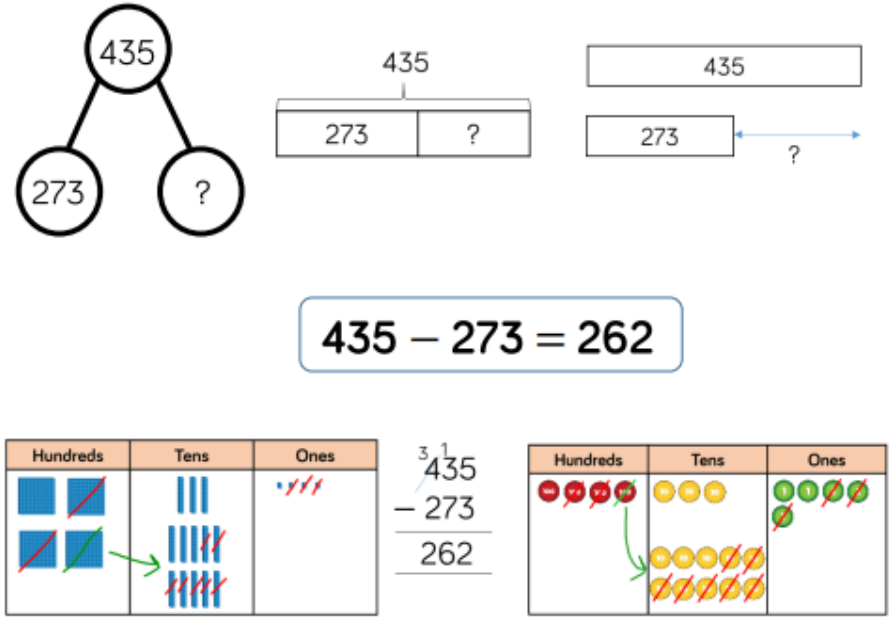
Year 2 – Add three 1-digit numbers	When adding three 1-digit numbers, children should be encouraged to look for number bonds to 10 or doubles to add numbers more effectively. This supports children in their understanding of commutativity. Manipulatives that highlight number bonds to 10 are effective when adding three 1-digit numbers.	
Year 2 – Add 1 digit and 2 digit numbers to 100	When adding single digits and a two-digit number, children should be encouraged to count on from the larger number. They should know to apply their knowledge of number bonds to add more efficiently eg. 8 + 5 = 13 so 38 + 5 = 43. Hundred squares and straws can support children to find the number bond to 10.	

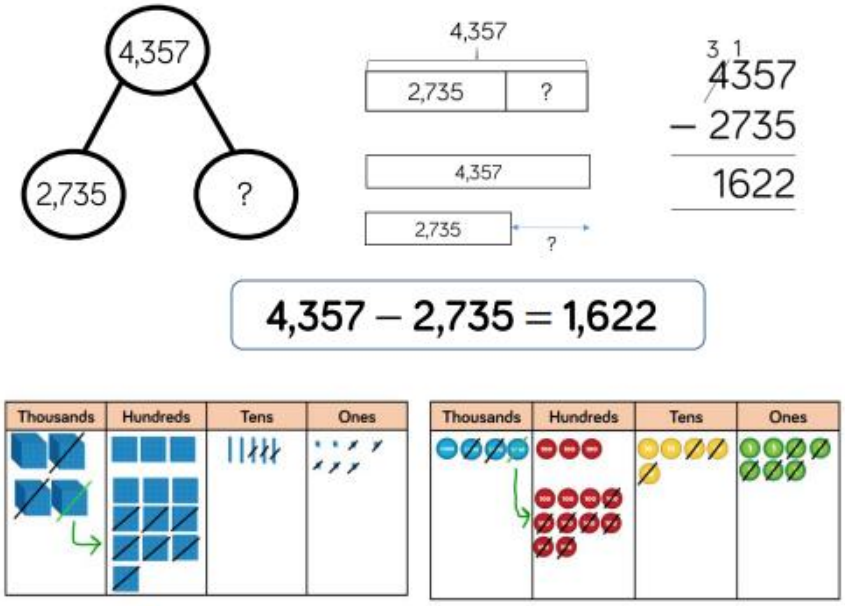
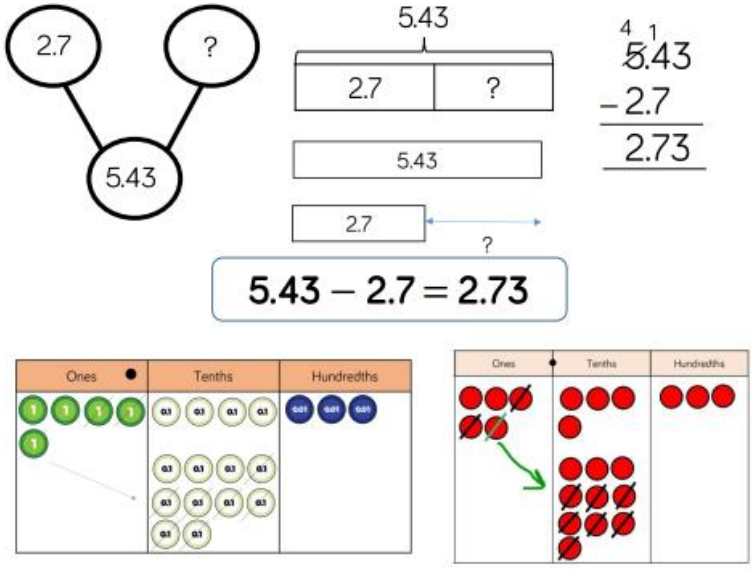
Year 2 – Add two 2-digit numbers to 100	At this stage, encourage children to use the formal column methods when calculating alongside straws, base 10 or place value counters. As numbers become larger, straws become less efficient. Children can also use a blank number line to cont. on to fond the total. Encourage them to jump to multiples of 10 to become more efficient	
Year 3 – Add numbers with up to 3 digits	Base 10 and place value counters are the most effective manipulatives when adding numbers with up to 3 digits. Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method. Plain counters on a place value grid can also be used to support learning.	

Year 4 – Add numbers with up to four digits	Base 10 and place value counters are the most effective manipulatives when adding numbers with up to 4 digits. Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method. Plain counters on a place value grid can also be used to support learning	
Year 4 – Add with up to 3 decimal places	Place Value counters or plain counters on a place value grid are the most effective manipulatives when adding decimals with 1, 2 and then 3 decimal places. Ensure children have experience of adding decimals with a variety of decimal places. This includes putting this into context when adding money and other measures.	

Year 5– Add numbers with more than 4 digits	Place Value counters or plain counters on a place value grid are the most effective concrete resources when adding numbers with more than 4 digits. At this stage, children should be encouraged to work in the abstract, using the column method to add larger numbers efficiently.	

Subtraction		
Skill	**Information**	**Representations**
Year 1 – Subtract 1-digit numbers within 10	Part-whole models, bar models, ten frames and number shapes support partitioning. Ten frames, number tracks, single bar models and bead strings support reduction. Cubes and bar models with two bars can support finding the difference.	
Year 1 – Subtract 1 and 2-digit numbers to 20	When subtracting one-digit numbers that cross 10, it is important to highlight the importance of ten ones equalling one ten. Children should be encouraged to find the number bond to 10 when partitioning the subtracted number. Ten frames, number shapes and number lines are particularly useful for this.	

Year 2 – Subtract 1 and 2-digit numbers to 100	At this stage, encourage children to use formal column method when calculating alongside straws, base 10 or place value counters. As numbers become larger, straws become less efficient. Children can also use a blank number line to count on to find the difference. Encourage them to jump multiples of 10 to become more efficient.	
Year 3 - Subtract numbers with up to 3 digits	Base 10 and place value counters are the most effective manipulative when subtracting numbers with up to 3 digits. Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method. Plain counters on a place value grid can also be used to support learning.	

Year 4 – Subtract numbers with up to 4 digits	Base 10 and place value counters are the most effective manipulative when subtracting numbers with up to 4 digits. Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method. Plain counters on a place value grid can also be used to support learning.	
Year 4 – Subtract with up to 3 decimal places	Place value counters and plain counters on a place value grid are the most effective manipulative when subtracting decimals with 1, 2 and then 3 decimal places. Ensure children have experience of subtracting decimals with a variety of decimal places. This includes putting this into context when subtracting money or other measures.	

Year 5 – Subtract numbers with more than 4 digits	Place value counters or plain counters on a place value grid are the most effective concrete resource when subtracting numbers with more than 4 digits. At this stage, children should be encouraged to work in the abstract, using column method to subtract larger numbers efficiently.