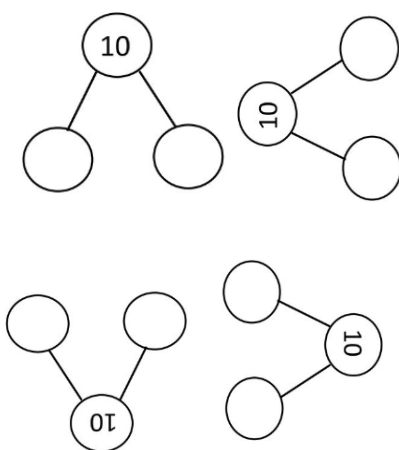
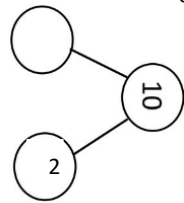
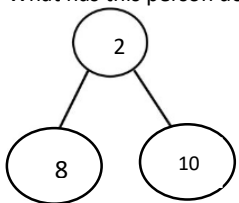
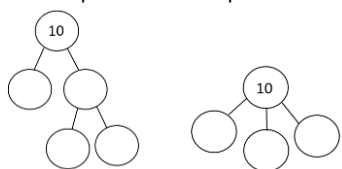
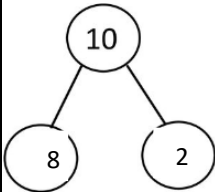



Weaving CPA and Variation Example 1



Key Stage 1 Concept: Number Bonds to 10

	Procedural Variation: Small Steps	Concrete, Pictorial and Abstract Representations	Conceptual Variation	Deepening Opportunities (Reasoning and Problem Solving)
Small Step One	Numicon Exploration Start concrete equipment the children are used to e.g. Numicon and stacking to make 10 in all the different ways. (Don't forget to explore the concept of zero within this) Vocabulary: Stem Sentence: ___ and ___ make 10. 10 can be made from ___ and _____.		N/A at the initial introduction	Stacking tiles on a ten but having a missing numicon tile: Have you found all of the number bonds to 10? How can you check?
Small Step Two	Using counters Can the children then use double sided counters to represent these? Vocabulary: Stem Sentence: ___ and ___ make 10. 10 can be made from ___ and _____.		What is the same and different as the counters and the numicon? Children can make the counters into the same 'shape' as the numicon to see the relationship between the two initially.	Check misconceptions of having '10' as your whole – is this a number bond to 10? Show with an inaccuracy.
Small Step Three	Linking counters and tens frames Linking a concrete representation to a pictorial representation? Vocabulary: Stem Sentence: ___ and ___ make 10. 10 can be made from ___ and _____.		Can they work in a concrete way and represent this in a pictorial way in on a tens frame? Initially placing counters in the tens frames and then drawing them.	
Small Step Four	Part / Part Whole Introducing the part / part whole to record the parts and the whole they have investigated with the counters and the tens frames. Vocabulary: Stem Sentence: ___ is the whole; ___ is a part and ___ is a part.		Children using counters again but now on a part /part whole model to the strengthen the element of addition by drawing the two parts together to make the whole.	Take away coloured parts and just have one colour. Add mistakes to place a part in the whole to check understanding of the two parts to make a whole. Miss out a part – what is it and how can you check?

Procedural Variation: Small Steps		Concrete, Pictorial and Abstract Representations	Conceptual Variation	Deepening Opportunities (Reasoning and Problem Solving)			
Small Step Five	<p>Building abstract understanding</p> <p>Part / part whole without counters</p> <p>Start by modelling one that you have modelled with counters to show the relationship of the counter representing an number.</p> <p>Vocabulary:</p> <p>Stem Sentence:</p> <p>___ is the whole; ___ is a part and ___ is a part.</p>		<p>Vary the orientation of the part / part whole representation so they can identify the whole as a total of the two parts – not ‘the circle at the top’.</p>	<p>What is the missing part?</p>  <p>What has this person done wrong?</p>  <p>Can the children see a part can then identify as a whole that is made up from its own parts?</p>  <p>Can they find three parts to make 10?</p>			
	<p>Linking part / part whole and the bar model</p> <p>Introducing a bar model to continue to consolidate the concept of a whole being equal to the parts.</p> <p>Vocabulary:</p> <p>Stem Sentence:</p> <p>___ is the whole; ___ is a part and ___ is a part.</p>	 <table border="1" data-bbox="676 1128 900 1240"><tr><td colspan="2">10</td></tr><tr><td>2</td><td>8</td></tr></table> <p>Children requiring a step back to the concrete to see where the numbers come from is fine. Use cubes or counters to put in the same shape as the bar to consolidate ‘equal to’.</p>  <p>Begin to record informally: 2 and 8 make 10 8 and 2 make 10</p>	10		2	8	<p>What it the same and what is different?</p>
10							
2	8						
Small Step Seven	<p>Recording in number sentences</p> <p>Vocabulary:</p> <p>Stem Sentence:</p> <p>10 is equal to ___ add ___ ___ add ___ is equal to 10.</p>	<p>Introducing the addition symbol to record equations.</p> <p>2 + 8 = 10 10 = 2 + 8 8 + 2 = 10 10 = 8 + 2</p> <p>Fluency: Practising making all number bonds / finding missing parts in a number bond. Applying knowledge of number bonds to subtraction.</p>	<p>Ensuring you vary the = symbol position to embed ‘equal to’.</p>	<p>Missing numbers</p> <p>Recording all the number sentences systematically</p> <p>See if the children can identify any relationships to subtraction?</p>			

Other concrete equipment choices:

Cubes:

Note: Just putting a handful of cubes on the table can cause a cognitive overload e.g. having the correct amount in the first place, mixing up with others on their tables, colours being distracting for children

Counting Equipment: E.g. plastic figures, natural objects e.g. sticks or fir cones.

Note: Remember the concept here is number bonds to ten and not just counting so think about how you can look at the two separate parts to make the whole.