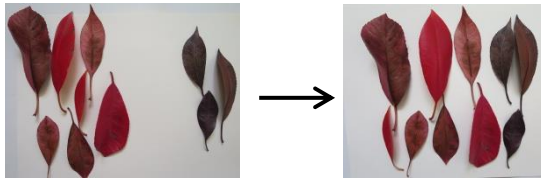
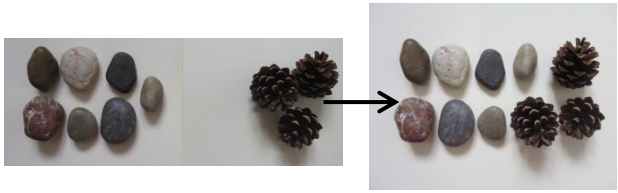
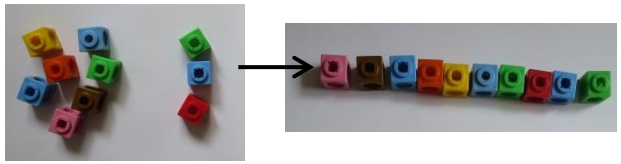
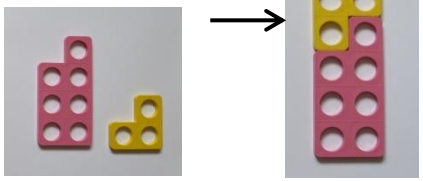
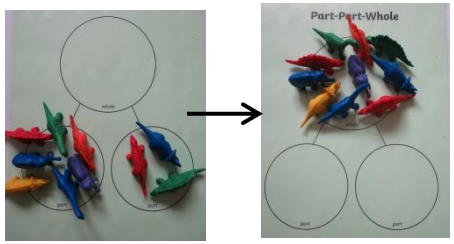
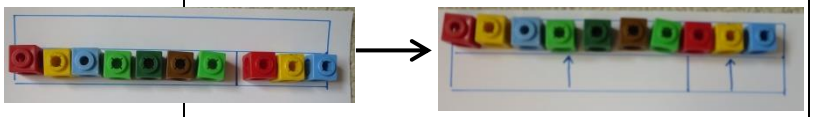
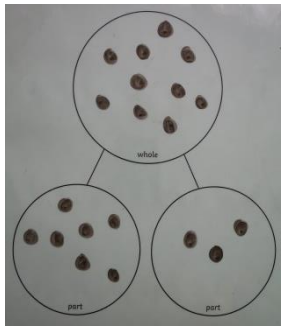
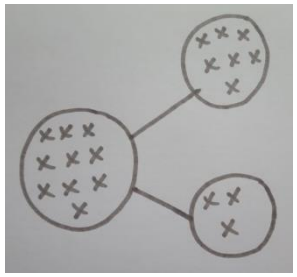
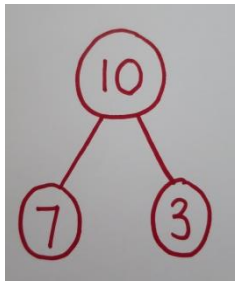
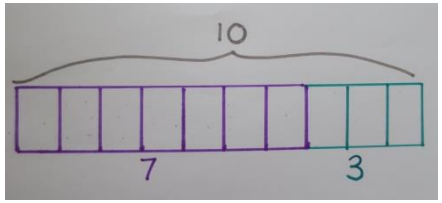
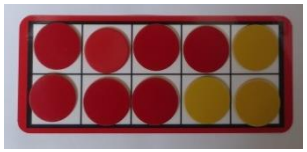
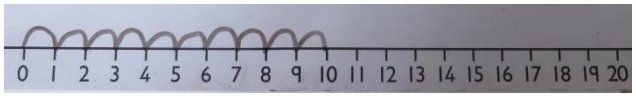
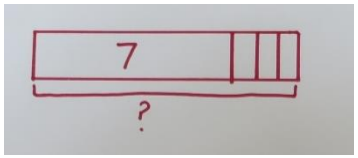
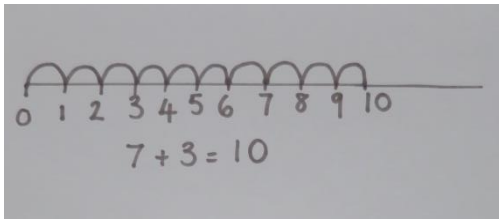
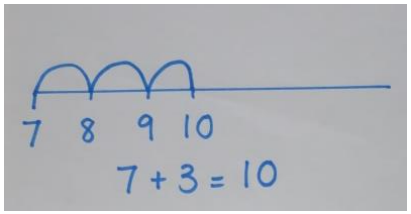
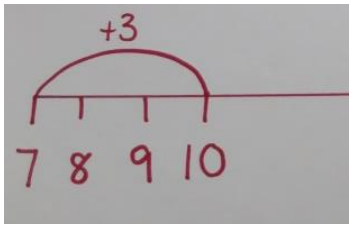
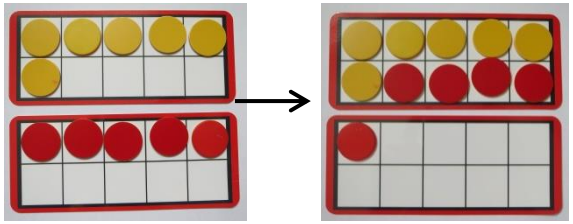
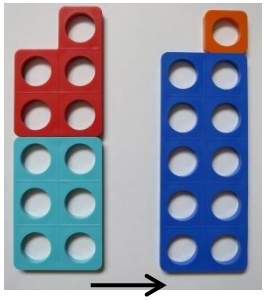
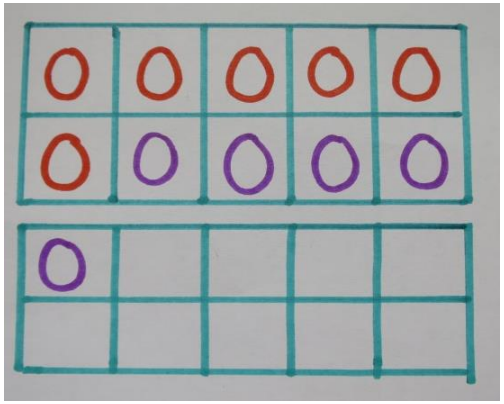
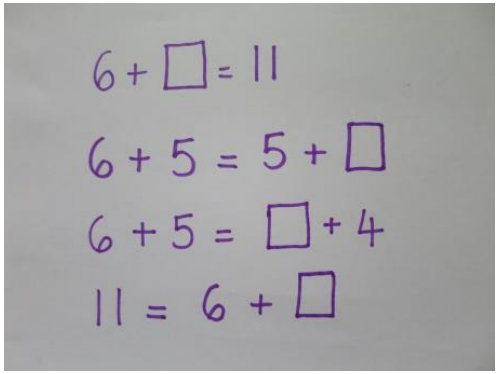
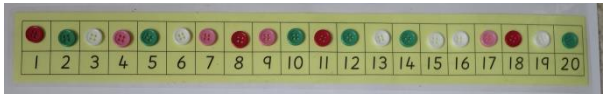
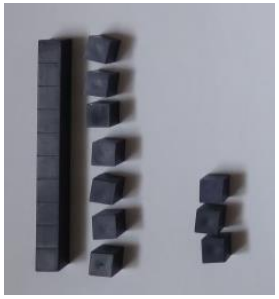
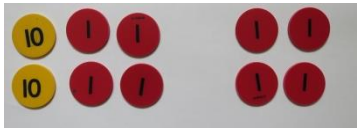
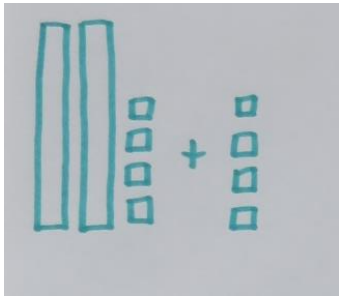
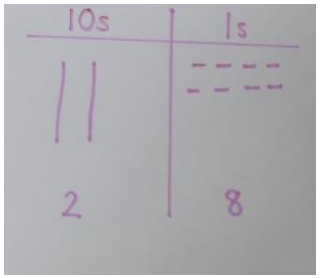
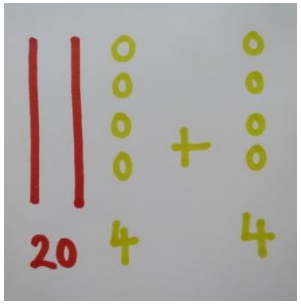
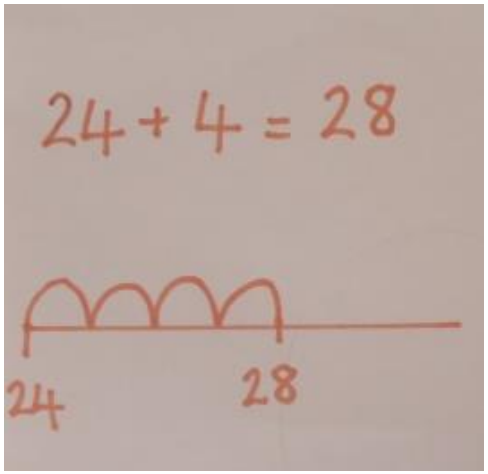
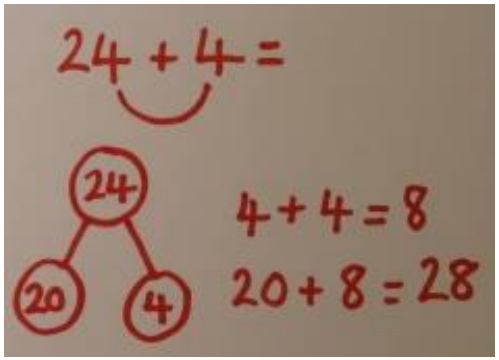
The Oaks CE Learning Federation
Mathematics Calculation Policy
Addition Progression - using a CPA Approach

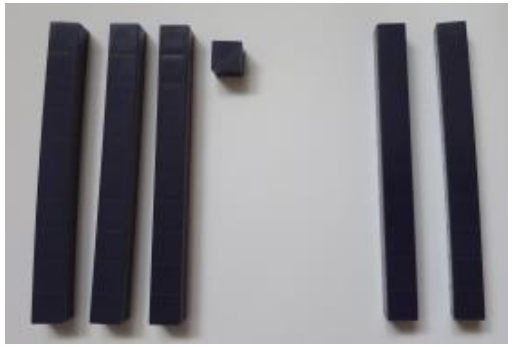
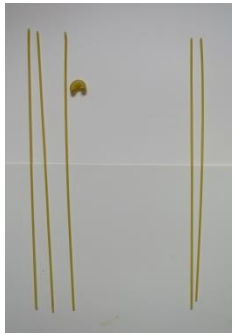
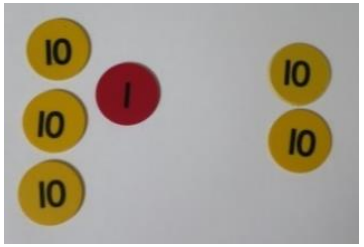
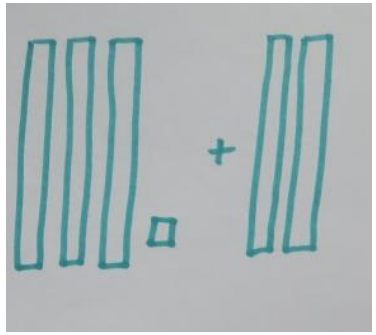
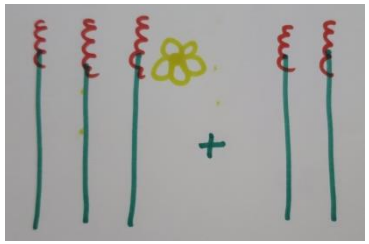
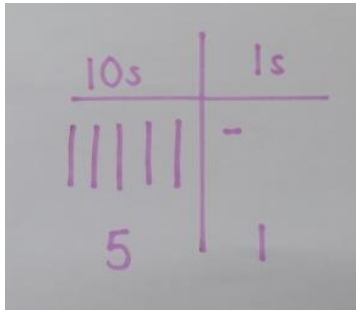
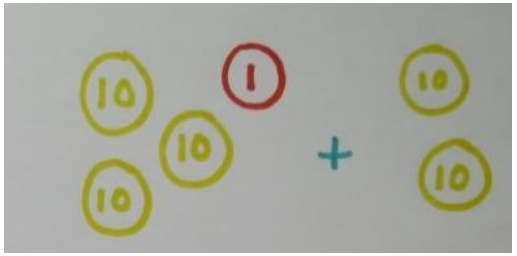
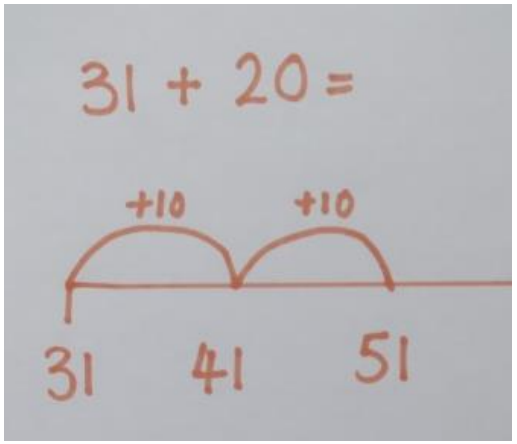
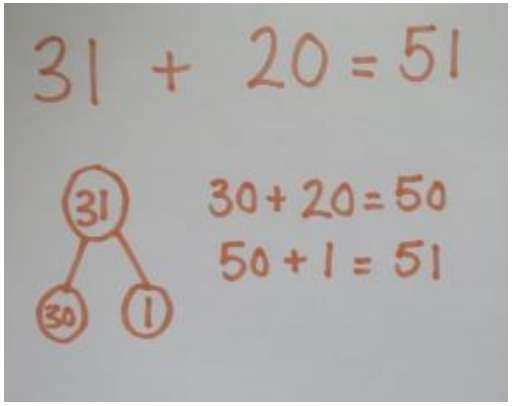
EYFS Framework	ELG Number: Children at the expected level of development will: • Have a deep understandingof number to 10, including the composition of each number • Automatically recall number bonds to 5 and some number bonds to 10, including double facts.
National Curriculum Year 1	Pupils should be taught to: • Given a number, identify **one more** and one less • Read, write and interpret mathematical statements involving **addition (+),** subtraction (–) and equals (=) signs • Represent and use **number bonds** and related subtraction facts within 20 • **Add** and subtract one-digit and two-digit numbers to 20, including zero • Solve one-step problems that involve **addition** and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = – 9.
National Curriculum Year 2	Pupils should be taught to: • Solve problems with **addition** and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures • Applying their increasing knowledge of mental and written methods • Recall and use **addition** and subtraction facts to 20 fluently, and derive and use related facts up to 100 • **Add** and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones, a two-digit number and tens, two two-digit numbers, adding three one-digit numbers • Show that **addition** of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • Recognise and use the inverse relationship between **addition** and subtraction and use this to check calculations and solve missing number problems.

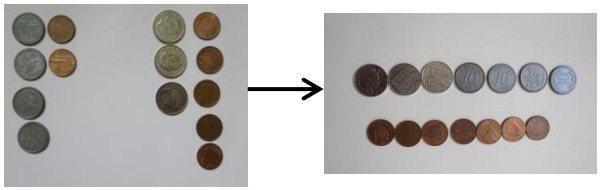
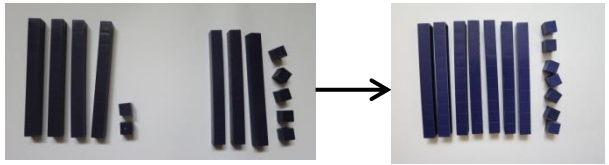
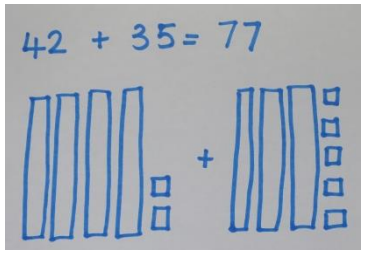
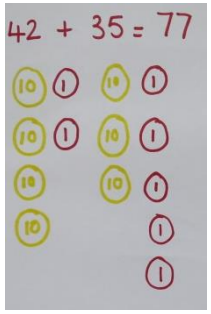
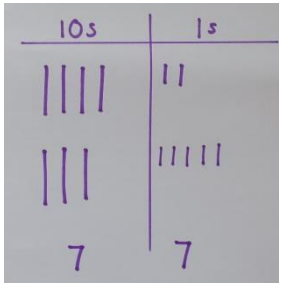
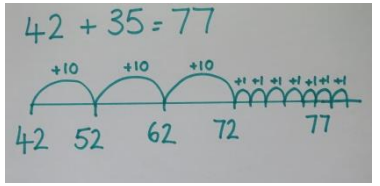
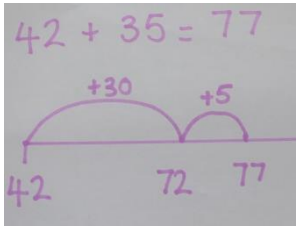
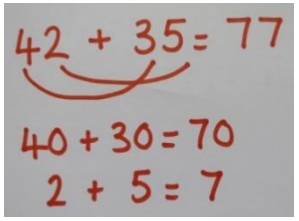
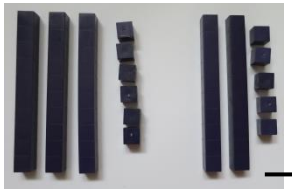
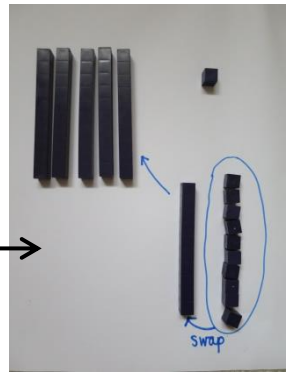
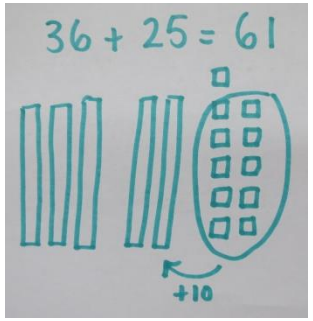
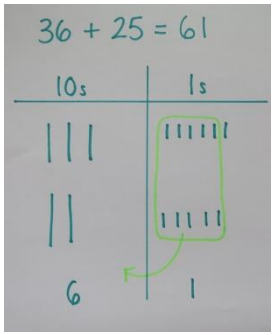
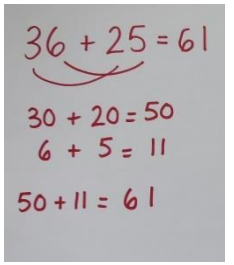
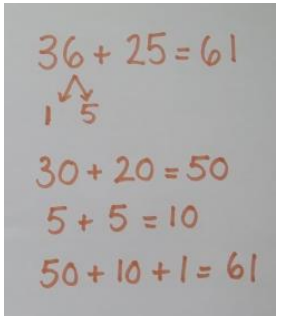
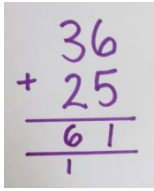
Key Language: sum, total, parts and wholes, plus, add, altogether, more, is equal to, is the same as.
Key Apparatus: Numicon, cubes, objects, counters, coins, bead strings, tens frames, number tracks, number lines, part-part whole diagrams, bar model diagrams

	Concrete	Pictorial	Abstract
	(Most applicable to EYFS / Y1)		
Step 1- Combining 2 parts to make a whole **7 + 3 = 10**	We encourage the use of objects from the natural world and common everyday objects as well as school resources.      	We teach the children to draw pictures and/ or use symbols to represent objects.    	Children use their concrete and pictorial representations to help them transfer their thinking into the abstract  

	Concrete	Pictorial	Abstract
	(Most applicable to EYFS / Y1)		
Step 2- Counting on… from the first number, then from the biggest number **"1,2,3,4,5, 6,7,8,9,10"** then **"7, 8, 9, 10"**	    	    	  
	(Most applicable to Y1)		
Step 3- Regrouping to make 10 **6 + 5 = 11** 5 + 5 = 10 10 + 1 = 11	 		

	Concrete	Pictorial	Abstract
	(Most applicable to Y1/ Y2)		
Step 4- Adding a 2-digit number and ones **17 + 3 = 20** **24 + 4 = 28**	We continue to encourage the use of objects from the natural world and common everyday objects- however objects may represent different values (ie tens and ones)      	We continue to teach the children to draw pictures and/ or use symbols to represent objects.      	Children might begin using concrete and/or pictorial and then use this to help them transfer their thinking into the abstract  

	(Most applicable to Y2)		
Step 5- Adding a 2 digit number and tens **31+20 = 51**	    	   	 

	Concrete	Pictorial	Abstract
	(Most applicable to Y2)		
Step 6- Adding two, 2-digit numbers. (no re-grouping) **42+35 = 77**	  	  	  
	(Most applicable to Y2)		
Step 7- Adding two, 2-digit numbers with regrouping required **36+25=61**	 	 	  

N.B column method may only be introduced to some Y2 children.