Number: Addition and Subtraction

Number Bonds							
Pre-school	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Begin to recall number bonds for numbers 0-5	Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts	represent and use number bonds and related subtraction facts within 20 **Develop fluency in addition and subtraction facts within 10.**	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 **Secure fluency in addition and subtraction facts within 10, through continued practice.**	**Secure fluency in addition and subtraction facts that bridge 10, through continued practice.**			
Mental Calculations							
		add and subtract one-digit and two-digit numbers to 20, including zero	**add & subtract numbers using concrete objects, pictorial representations, & mentally, including:** * **a two-digit number & ones** * **a two-digit number & tens** * **two two-digit numbers** * **adding three one-digit numbers**	add and subtract numbers mentally, including: * a three-digit number and ones * a three-digit number and tens * a three-digit number and hundreds		add and subtract numbers mentally with increasingly large numbers	perform mental calculations, including with mixed operations and large numbers
		read, write, interpret mathematical statements involving (+),(-) & (=) signs (also in Written methods)	show that addition of 2 numbers can be done in any order (commutative) & subtraction of one number from another cannot	**Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure.** **Understand and use the commutative property of addition,**			use their knowledge of the order of operations to carry out calculations involving the four operations

				and understand the related property for subtraction.			
Written Methods							
		read, write, interpret mathematical statements involving (+),(-) & (=) signs (also in Written methods)		**add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction**	add & subtract numbers with up to 4 digits using formal written methods of columnar addition & subtraction where appropriate	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	
Inverse Operations, Estimating And Checking Answers							
		recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	estimate the answer to a calculation and use inverse operations to check answers	estimate and use inverse operations to check answers to a calculation	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.	**recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.**
Problem Solving							
	Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly	solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9	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 **Recognise the subtraction structure of 'difference' and answer questions of**	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Solve problems involving addition, subtraction, multiplication and division

			the form, "How many more…?". *solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change* (copied from Measurement)				