Number: Addition and Subtraction

NUMBER BONDS					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
represent and use number bonds and related subtraction facts within 20	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 (multiples of 10)	Consolidate derive and use related facts up to 100 (multiples of 5 and 10)	Consolidate derive and use related facts up to 100 (for any pairs of numbers)	Derive and use addition and subtraction facts to 1 and 10. (0.1 + 0.9 = 1, 1.1 + 8.9 = 10)	
MENTAL CALCULATION					
add and subtract one-digit and two-digit numbers to 20, including zero	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	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	add and subtract numbers mentally with increasingly large numbers and decimals	perform mental calculations, including with mixed operations and large numbers and decimals
read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Written Methods)	show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot			Understand use of brackets in a calculation	use their knowledge of the order of operations to carry out calculations involving the four operations (BODMAS)

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WRITTEN METHODS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Mental Calculation)		add and subtract numbers with up to three digits, using methods of addition and subtraction in line with calculation policy/tracking grid; using appropriate stages	add and subtract numbers with up to 4 digits using the formal written methods of expanded columnar addition and subtraction where appropriate in line with the calculation policy/tracking grid	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)in line with the calculation policy /tracking grid	
INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS					
Contextually and through practical exploration, understand addition and subtraction as each other's inverse.	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.

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PROBLEM SOLVING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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 *solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change* *(copied from Measurement)*	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