Number: Addition and Subtraction

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COMPOSITION/ NUMBER BONDS								
Pre FS1	FS1	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Have a deep understanding of numbers to 10- explore the composition of numbers to 10 automatically recall number bonds up to 5 (including subtraction facts) recall some number bonds to 10, including doubling facts explore and represent patterns within numbers up to 10	represent and use number bonds and related subtraction facts within 20 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and nonstandard partitioning	Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10 calculate complements to 100 compose and decompose three-digit numbers using standard and non-standard partitioning	Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100 compose and decompose four-digit numbers using standard and non-standard partitioning	Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01 compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning	Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000) compose and decompose numbers up to 10 million using standard and non-standard partitioning
MENTAL CALCULATION								
react to			add and subtract	add and subtract	add and subtract		add and subtract	perform mental

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changes of amount in a group of up to three items			one-digit and two-digit numbers to 20, including zero develop fluency in addition and subtraction facts within 10	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 secure fluency in addition and subtraction facts within 10, through continued practice Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number.	numbers mentally, including: * a three-digit number and ones * a three-digit number and tens * a three-digit number and hundreds secure fluency in addition and subtraction facts that bridge 10, through continued practice		numbers mentally with increasingly large numbers	calculations, including with mixed operations and large numbers Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.
			read, write and	show that addition of				use their

Number: Addition and Subtraction

National Centre for Excellence in the Teaching of Mathematics

			interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Written Methods)	two numbers can be done in any order (commutative) and subtraction of one number from another cannot				knowledge of the order of operations to carry out calculations involving the four operations
					Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	
Combine objects like stacking blocks and cups. Put objects inside others and take them out again.								

Number: Addition and Subtraction

National Centre for Excellence in the Teaching of Mathematics

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 any 2 two-digit numbers	add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and 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 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, and understand the related property for	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.

Number: Addition and Subtraction

		subtraction.			

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National Centre for Excellence in the Teaching of Mathematics

PROBLEM SOLVING								
Pre FS1	FS1	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	solve real world mathematical problems with numbers up to 5		solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9 relate additive expressions and equations to real-life contexts.	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 the form, "How many more…?".	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 ratio relationships. Solve problems with 2 unknowns.

Number: Addition and Subtraction

				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 involving addition, subtraction, multiplication and division