Strand – Addition and subtraction					
Rationale					
The addition and subtraction strand runs throughout primary school. It is split into five sections: number bonds; mental calculations; written methods; inverse operations, estimating and checking answers. Addition and subtraction are used to represent and solve many kinds of problems. Many different types of problems can be represented by addition or subtraction. It is important to learn how to recognise these situations and represent them symbolically, building on counting with whole numbers.					
Learning					
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	Knowledge is built on from previous year.	Knowledge is built on from previous year.	Knowledge is built on from previous year.	Knowledge is built on from previous year.
Mental calculations					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
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	Knowledge is built on from previous year.	add and subtract numbers mentally with increasingly large numbers	perform mental calculations, including with mixed operations and large numbers

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				use their knowledge of the order of operations to carry out calculations involving the four operations
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)	Knowledge is built on from previous year.	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)	Knowledge is built on from previous year.
Inverse operations, estimating and checking answers					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	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.
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 $7 = \square - 9$	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 problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	Knowledge is built on from previous year.	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
Key Vocabulary					
add, addition, more, plus, increase sum, total, altogether score double, near double how many more to make…? subtract, subtraction, take (away), minus, decrease		leave, how many are left/left over? difference between half, halve how many more/fewer is… than…? how much more/less is…? equals, sign, is the same as tens boundary, hundreds boundary units boundary, tenths boundary inverse			