

Progression in Addition and Subtraction @HCAS

NUMBER BONDS								
Nursery	Reception	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Automatically recall number bonds for numbers 0-10.	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	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100				

MENTAL CALCULATION								
Nursery	Reception	ELG	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: <ul style="list-style-type: none"> * a two-digit number and ones * a two-digit number and tens * two two-digit 	add and subtract numbers mentally, including: <ul style="list-style-type: none"> * 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

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				numbers * adding three one-digit 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								
Nursery	Reception	ELG	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 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)	

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INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS

Nursery	Reception	ELG	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

Nursery	Reception	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Solve real world mathematical problems with numbers up to 5.	Subitise	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 $7 = \square - 9$	solve problems with addition and subtraction: * using concrete objects and pictorial representations, including those involving numbers, quantities and	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

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				<p>measures * applying their increasing knowledge of mental and written methods</p>				
	<p>Link the number symbol (numeral) with its cardinal number value.</p>			<p><i>solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change (copied from Measurement)</i></p>				<p>Solve problems involving addition, subtraction, multiplication and division</p>