

Progression in Addition and Subtraction

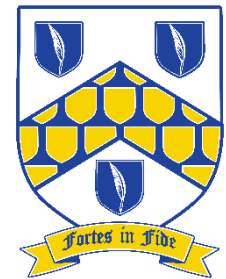
St Teresa's Catholic Primary School Maths Progression Map

Respect – Resilience – Read – Retain

'Do the little things well'



St Teresa's Catholic Primary School



Progression in Addition and Subtraction

NUMBER BONDS						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Automatically recall number bonds for numbers 0-5 and some to 10.</p> <p>Say how many are hidden in a known number of things. Using number bonds.</p>	<p>represent and use number bonds and related subtraction facts within 20</p>	<p>recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</p>				
MENTAL CALCULATION						
	<p>add and subtract one-digit and two-digit numbers to 20, including zero (This helps to establish addition and subtraction as related operations)</p>	<p>add and subtract numbers first using concrete objects, then pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> * a two-digit number and ones * a two-digit number and tens * two two-digit numbers * adding three one-digit numbers 	<p>add and subtract numbers mentally, including:</p> <ul style="list-style-type: none"> * a three-digit number and ones * a three-digit number and tens * a three-digit number and hundreds 	<p>add and subtract numbers mentally, including:</p> <ul style="list-style-type: none"> * a three-digit number and ones * a three-digit number and tens * a three-digit number and hundreds <p>(Consolidation from Year 3)</p>	<p>add and subtract numbers mentally with increasingly large numbers</p>	<p>perform mental calculations, including with mixed operations and large numbers</p>

Progression in Addition and Subtraction

	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	show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot (Consolidation from Year 2)			use their knowledge of the order of operations to carry out calculations involving the four operations
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Progression in Addition and Subtraction

WRITTEN METHODS

Reception	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)	Record addition and subtraction calculations as a number sentence. $2 + 4 = 6$	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)	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) (Consolidation from Year 5)

INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS

Partition a number of things into two groups, and to recognise that those groups can be recombined to make the same total.		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.
Conservation: knowing that the number does not change if things are rearranged (as long as none have been added or taken away)						

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PROBLEM SOLVING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>solve one-step problems that involve addition and subtraction, first using concrete objects and then pictorial representations, and missing number problems such as $7 = \square - 9$</p>	<p>solve problems with addition and subtraction:</p> <ul style="list-style-type: none"> * first using concrete objects and then pictorial representations, including those involving numbers, quantities and measures * applying their increasing knowledge of mental and written methods 	<p>solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction including previous years learning.</p>	<p>solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why including previous years learning.</p>	<p>solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why including previous years learning.</p>	<p>solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why including previous years learning.</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>