

Maths Knowledge Progression

This document sets out the expectation for Maths learning in each term for each year group. It is divided into sections within different parts of the maths curriculum.

Garden Class

EYFS			Year 1			Year 2			
Number: Addition and Subtraction									
	Autumn	Spring	Summer	Autumn	Spring	Summer	Autumn	Spring	Summer
Number Bonds		To find bonds to 10.		represent and use number bonds and related subtraction facts within 10	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 Calculations		To find one more	To add more	add and subtract one-digit and two-digit numbers to 10, including 0	add and subtract one-digit and two-digit numbers to 20, including 0		add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> a two-digit number and 1s a two-digit number and 10s 2 two-digit numbers adding 3 one-digit numbers 		
		To find one less	To find how many I added	read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs		show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 number from another cannot		
		To combine two groups.	To take away						
			To find how many I took away						
		To deepen understanding of what makes a number.							



Maths Knowledge Progression

Written Methods				read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs				
Inverse Operations, estimating and checking							recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems		
Problem Solving				solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = ? - 9$	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: <ul style="list-style-type: none"> using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods 		

Lower KS2

		Year 3			Year 4		
		Number: Addition and Subtraction					
		Autumn	Spring	Summer	Autumn	Spring	Summer
254	Mental Calculations	add and subtract numbers mentally, including: <ul style="list-style-type: none"> a three-digit number and 1s a three-digit number and 10s a three-digit number and 100s 	add and subtract numbers mentally, including: <ul style="list-style-type: none"> a three-digit number and 1s a three-digit number and 10s a three-digit number and 100s 	add and subtract numbers mentally, including: <ul style="list-style-type: none"> a three-digit number and 1s a three-digit number and 10s a three-digit number and 100s 	Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency (Non statutory)	Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency (Non statutory)	Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency (Non statutory)
	Written Methods	add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction	add and subtract numbers with up to 3 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 numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
	Inverse Operations, Estimating and Checking answers		estimate the answer to a calculation and use inverse operations to check answers	estimate the answer to a calculation and use inverse operations to check answers	estimate and use inverse operations to check answers to a calculation		estimate and use inverse operations to check answers to a calculation
	Problem Solving		solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	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 two-step problems in contexts, deciding which operations and methods to use and why



Maths Knowledge Progression

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Upper KS2

		Year 5			Year 6		
		Number: Addition and Subtraction					
		Autumn	Spring	Summer	Autumn	Spring	Summer
Num ber							
Ment al		add and subtract numbers mentally with increasingly large numbers	add and subtract numbers mentally with increasingly large numbers	add and subtract numbers mentally with increasingly large numbers	perform mental calculations, including with mixed operations and large numbers	perform mental calculations, including with mixed operations and large numbers	perform mental calculations, including with mixed operations and large numbers
Calc ulation						use their knowledge of the order of operations to carry out calculations involving the 4 operations	use their knowledge of the order of operations to carry out calculations involving the 4 operations
Written Method		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)	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	Pupils practise addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division (Non Statutory)		Pupils practise addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division (Non Statutory)
Inverse Operations, Estimating and Checking answers			use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	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, an appropriate degree of accuracy	
Problem Solving				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 addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
Problem Solving						solve problems involving addition, subtraction, multiplication and division	solve problems involving addition, subtraction, multiplication and division