

The Mathematics Curriculum

Early Years Structure

Key stage 1 readiness skills

- To count confidently
- To show a deep understanding of numbers up to 10.
- To be able to identify relationships and patterns between numbers up to 10
- To develop spatial reasoning across all areas of mathematics including shape, space and measures.

Knowledge organisation

Working Fluently	Reasoning mathematically	Solving Problems
 Can I recall number knowledge accurately and quickly? Am I accurate in my calculations? 	 What patterns can I spot in the mathematics I'm working on? What am I trying to find out about? Why do I want to know? 	 What is the problem I'm trying to solve? What will I do if I'm finding this problem difficult to solve?

Number								
Counting	Comparing Numbers		Identifying, representing and estimating numbers	Reading and Writing numbers	Understanding place value		Problem Solving	
Addition and Subtraction								
Number bonds			Mental calculation					
Geometry: Properties of Shape			Geometry: Position and direction					
Identifying shapes a properties	Identifying shapes and their Comparing properties		aring and classifying	Position, direction and movement			Pattern	
	Meas	sure						
Comparing and estimating	Measuring and calculating		Telling the time					





Key Stage 1 Structure

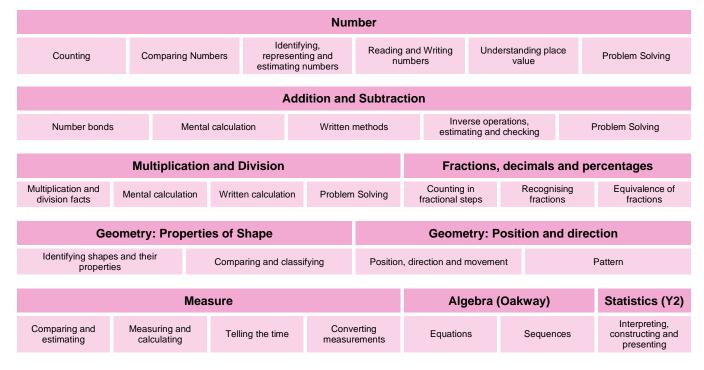
Disciplinary knowledge

In Mathematics, the disciplinary knowledge is broken into four distinct areas and should be used to work with numbers and solve increasingly complex problems in line with the expectations set out in the National Curriculum Programme of Study.

Working Fluently	Reasoning mathematically					
 Can I recall number knowledge accurately and quickly? Am I accurate in my calculations? Can I use my accuracy to answer questions quickly enough? Which calculations to I need to practice to help improve my accuracy and speed? 	 What patterns can I spot in the mathematics I'm working on? What rules do I need to use to aid my calculations? What am I trying to find out about? Why do I want to know? What questions could I ask about this new information? What mathematical language is needed in the work I'm doing? 					
Solving Problems	All underpinned by Checking and Evaluating					
 What is the problem I'm trying to solve? Which mathematical information helps? What do I need to do to solve the problem? How will I know when I've found the solution? What steps will I take to solve this problem? What efficient method can I use? What will I do if I'm finding this problem difficult to solve? 	 Can I make an estimate before I complete a detailed calculation? How will I know if my answer is correct? Could I have used a different method that would have made this easier or quicker? Which steps did I need to think most carefully about? If I've made a mistake, can I spot where the errors are? Can I reframe the problem in a way that makes it easier to solve? Can I talk about my methods in completing a problem that is clear and concise? 					

Knowledge organisation

The National Curriculum Programmes of Study for Key Stage 1 are used to determine the minimum knowledge requirements in each area.





Lower Key Stage 2 Structure

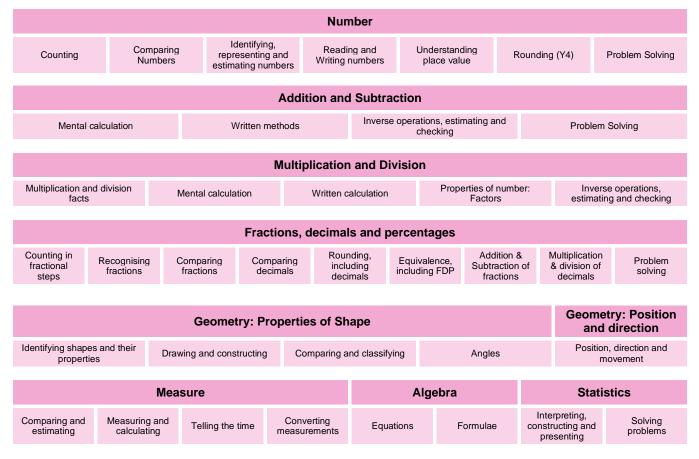
Disciplinary knowledge

In Mathematics, the disciplinary knowledge is broken into four distinct areas and should be used to work with numbers and solve increasingly complex problems in line with the expectations set out in the National Curriculum Programme of Study.

A – Working Fluently	B – Reasoning mathematically					
 Can I recall number knowledge accurately and quickly? Am I accurate in my calculations? Can I use my accuracy to answer questions quickly enough? Which calculations to I need to practice to help improve my accuracy and speed? 	 What patterns can I spot in the mathematics I'm working on? What rules do I need to use to aid my calculations? What am I trying to find out about? Why do I want to know? What questions could I ask about this new information? What mathematical language is needed in the work I'm doing? 					
Solving Problems	All underpinned through Checking and Evaluating					
 What is the problem I'm trying to solve? Which mathematical information helps? What do I need to do to solve the problem? How will I know when I've found the solution? What steps will I take to solve this problem? What steps will I take to solve this problem? What efficient method can I use? What will I do if I'm finding this problem difficult to solve? 	 Can I make an estimate before I complete a detailed calculation? How will I know if my answer is correct? Could I have used a different method that would have made this easier or quicker? Which steps did I need to think most carefully about? If I've made a mistake, can I spot where the errors are? Can I reframe the problem in a way that makes it easier to solve? Can I talk about my methods in completing a problem that is clear and concise? 					

Knowledge organisation

The National Curriculum Programmes of Study for Lower Key Stage 2 are used to determine the minimum knowledge requirements in each area.





Upper Key Stage 2 Structure

Disciplinary knowledge

In Mathematics, the disciplinary knowledge is broken into four distinct areas and should be used to work with numbers and solve increasingly complex problems in line with the expectations set out in the National Curriculum Programme of Study.

Working Fluently	Reasoning mathematically						
 Can I recall number knowledge accurately and quickly? Am I accurate in my calculations? Can I use my accuracy to answer questions quickly enough? Which calculations to I need to practice to help improve my accuracy and speed? 	 What patterns can I spot in the mathematics I'm working on? What rules do I need to use to aid my calculations? What am I trying to find out about? Why do I want to know? What questions could I ask about this new information? What mathematical language is needed in the work I'm doing? Why does the suggested always work? What prior knowledge do I need to use to support my thinking? How do I use generalisations to support my thinking? 						
Solving Problems	All underpinned through Checking and Evaluating						
 What is the problem I'm trying to solve? Which mathematical information helps? What do I need to do to solve the problem? How will I know when I've found the solution? What steps will I take to solve this problem? What steps will I take to solve this problem? What efficient method can I use? What will I do if I'm finding this problem difficult to solve? 	 Can I make an estimate before I complete a detailed calculation? How will I know if my answer is correct? Could I have used a different method that would have made this easier or quicker? Which steps did I need to think most carefully about? If I've made a mistake, can I spot where the errors are? Can I reframe the problem in a way that makes it easier to solve? Can I talk about my methods in completing a problem that is clear and concise? 						

Knowledge organisation

The National Curriculum Programmes of Study for Upper Key Stage 2 are used to determine the minimum knowledge requirements in each area.

Number													
Counting		Comparing Numbers	repres			ng and numbers	Understanding place value		Rounding			Problem Solving	
Addition and Subtraction													
Mental calculation Written			tten methods	methods Inverse operations, checki						roblem Solving			
Multiplication and Division													
Multiplication an division facts	Multiplication and Mental calculation W division facts		Written calc	Vritten calculation		Properties of number: Multiples, factors, primes, squares and cubes		Order of operations		Inverse operations, estimating and checking			
Fractions, decimals and percentages													
Recognising fractions			incl	nding, uding imals	Equivalence, Su		Addition & Subtraction fractions		Multiplication & division of decimals		Problem solving		
Ratio & Proport (Y6)	Ratio & Proportion G				Geometry: Properties of Shape					Geometry: Position and direction			
Solving problem	Solving problems			Drawing construc		Comparing and classifying			Angles		Posi	osition, direction and movement	
	Measure				Algebra (Oakway)					Statistics (Y2)			
Comparing and estimating			Equ	ations	Formulae S		Sequence	s	Interpreting, constructing and presenting		Solving problems		