

Curriculum Ambitions for Maths at Parkside Community Primary School

At Parkside Community Primary teaching for mastery approach is used throughout the school, based on the National Centre for Excellence in the Teaching of Mathematics (NCETM) "Five Big Ideas", first published in 2017. Further information about the Five Big Ideas (coherence, variation, fluency, mathematical thinking and representation and structure)

Planning: At Parkside Community Primary, planning in mathematics is in line with the National Curriculum Programmes of Study for Mathematics. These set out what should be taught in each year group from Year 1 to Year 6. Each year group maps out how many weeks will be spent on each different aspect of mathematics; within each of these units of learning, a clear sequence of learning objectives is established. Each learning objective may be the learning focus for one or several sessions. Each daily session is planned carefully following the Essential Maths medium-term planning sequence directly into PPTs/Smartboard and incorporates a coherent journey with small progressive steps in order for all children to secure their learning. Teachers draw on a number of high-quality resources to support planning. These include the National Centre for Excellence in the Teaching of Mathematics (NCETM), Essential Maths and White Rose premium resources.

Resources: One of the key aspects of effective mathematical pedagogy is the use of both physical resources (manipulatives) and pictorial representations alongside abstract mathematical recording. Concrete and pictorial representations are chosen carefully to reveal the underlying structures, patterns and relationships of the mathematics. It is important that links between the three stages (concrete – pictorial – abstract) are explicitly made during teaching and that all children, regardless of attainment or age, are exposed to a variety of different representations as a result of the planned conceptual variation. Manipulatives are removed at an appropriate stage when conceptual understanding is secure so they are not used procedurally during calculations.

Maths	To develop fluency in	To develop pupils'	To use a range of	To develop pupils'	To interpret and	In addition to the	To provide
curriculum	mental and written	understanding of	measuring instruments	understanding of geometry,	present data	National	opportunities for
ambitions	calculations for	place value, including	to develop their	including properties of	using a range of	Curriculum, strive	pupils to work
are-	addition, subtraction,	larger numbers and	understanding of length,	shapes, position, direction,	graphs and charts	to develop pupils'	collaboratively and
	multiplication, and	decimals, and apply	mass, volume, and time	and movement.	and use this	problem-solving	discuss mathematical
	division, including	this knowledge to	and use these skills to		information to	skills and	ideas and strategies.
	working with	solve problems.	solve problems.		draw conclusions	mathematical	
	fractions and				and make	reasoning abilities.	To encourage pupils
	decimals.				predictions.		to explore and
						To ensure that all	investigate
		•				pupils develop the	mathematical
						essential	concepts and ideas
						mathematical skills	through practical
						and understanding	activities and real-life
						they need to	contexts.
						succeed in later life.	
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Curriculum Number: Counting to and Counting in steps of Counting from 0 in Counting in Countin	Understanding
Ambitions • Counting reliably across 100, 2, 3, and 5 from 0, multiples of 4, 8, 50 and multiples of forwards and	and using
up to 10 objects forwards and and in 10s from any 100 6, 7, 9, and backwards in	negative
and recognising backwards, number	numbers in
numerals up to beginning with 0 • Understanding and using place value up to • Using place powers of 10	context
10 or 1, or from any using place value up 1,000 value to solve • Using place	Solving problems
Comparing and given number to 100 Adding and subtracting problems value to solve	with increasingly
ordering Counting in Using a range of numbers mentally with with larger problems with	complex
numbers up to multiples of strategies to add increasingly large numbers larger and	numbers and
10 twos, fives and and subtract two- numbers • Using written decimal	operations
Exploring and tens digit numbers Recognising and finding methods for numbers	 Multiplying and
recognising Understanding Recognising and fractions of a set of addition and Adding and Adding and Adding and Image Adding Adding and Image Adding Addi	dividing numbers
patterns and and using place using fractions of objects or quantities subtraction subtracting	with up to four
relationships in value up to 20 shapes, objects, and Telling and writing the with numbers with numbers with	digits using
numbers and Recognising and quantities time to the nearest increasingly up to four up to four the nearest increasingly up to four the n	formal written
counting naming common • Measuring and minute large digits using	methods
Using 2D and 3D comparing lengths, Measuring, comparing numbers formal written	Understanding
mathematical shapes mass, capacity and and adding lengths, Comparing methods	and using
language to Telling the time temperature mass, capacity, and and ordering Recognising 	fractions,
describe and to the hour and Describing time fractions with equivalent equivalent	decimals, and
compare half past the properties of	percentages
quantities and hour common 2D and 3D comparing 2D and 3D denominator simplifying	 Calculating and
measures, such Recognising and shapes shapes Converting fractions	comparing ratios
as 'more', 'less', using symbols	and proportions
big', 'small', for addition, problems involving division facts to solve different subtracting	 Drawing and
long', and 'short' subtraction, and multiplication and problems units of fractions with	interpreting line
Understanding equals division measuremen the same	graphs and
the concept of Solving simple t denominator	timetables
one more and one-step • Describing • Converting	Calculating and
one less problems the between units	estimating
Shape space and involving properties of of time	measures,
addition and angles, • Identifying and	including area
Exploring and subtraction including classifying	and volume
recognising 2D acute, shapes based	Solving problems
and 3D shapes in obtuse, and on their	involving all four
the environment properties and	operations,
and in pictures • Identifying symmetry	including
Using Using	fractions and
mathematical multiplication	decimals.

language to		symmetry in	and division to	
describe shapes,		2D shapes	solve	
such as 'circle',		 Solving 	problems,	
'square',		problems	including using	
'triangle', and		involving	factors and	
'rectangle'		multiplication	multiples	
 Understanding 		and division,		
and using		including		
positional		using the		
language, such		formal		
as 'behind', 'next		written		
to'. 'above'. and		methods		
'below'				
 Comparing and 				
ordering objects				
by length				
height weight				
and canacity				
 Understanding 				
and using				
vocabulary				
related to time				
such as				
'morning'				
'afternoon'				
'evening'				
'vesterday'				
'today' and				
'tomorrow'				
comorrow				
Pattern:				
 Recognising, 				
creating and				
continuing				
repeating				
patterns, such as				
red-blue-red-				
blue				
Recognising and				
creating simple				

	sequences of						
	sounds, actions						
	or objects, such						
	as clapping,						
	jumping,						
	hopping						
	Understanding						
	and recognising						
	symmetry in						
	shapes and						
	patterns						
	putterns						
Reasoning	In the EYFS maths curri	iculum, reasoning is an in	nportant aspect of developi	ng mathematical skills and unde	erstanding. The curric	ulum aims to provide c	hildren with
	opportunities to develo	op their reasoning skills t	hrough exploration and play	. Reasoning in EYFS maths involution	ves children using the	eir understanding of m	athematical concepts
	to solve problems, mal	ke connections and expla	in their thinking. It involves	children thinking logically, maki	ng decisions, and dra	wing conclusions based	d on their observations
	and experiences.						
	In the KS1 and KS2 Primary Maths curriculum, reasoning continues to be a vital component of developing children's mathematical skills and understanding. It involves						
	children using their knowledge of mathematical concepts and applying it to solve problems, make connections, and explain their thinking.						
	Through reasoning activities, children are encouraged to think critically, creatively and logically. They develop their problem-solving and decision-making skills, which are						
	important in maths as	well as other areas of lea	rning and in everyday life. T	bey also develop their commun	ication and language	skills as they explain the	hig skills, which dre
	reasoning to others By	the end of Vear 6 childr	ren are expected to be able t	to use reasoning skills to solve r	roblems and to evola	skills as they explain the	mathematical
	language This will helr	them prepare for the m	ore complex mathematical	concepts and problems they will	l encounter in second	larv school	mathematical
Reasoning	Reasoning activities	Reasoning activities	Reasoning activities in	Reasoning activities in the	Reasoning	Reasoning activities	Reasoning activities
activities	in the EYFS maths	in the Year 1 maths	the Year 2 maths	Year 3 maths curriculum	activities in the	in the Year 5 maths	in the Year 6 maths
	curriculum include:	curriculum include:	curriculum include:	include:	Year 4 maths	curriculum include:	curriculum include:
		Using objects or	Using mental and	Using mental and written	curriculum	Using mental and	Using mental and
	Exploring and	pictures to solve	written methods to solve	methods to solve addition,	include:	written methods to	written methods to
	predicting what will	simple addition and	addition and subtraction	subtraction, multiplication	Using mental and	solve problems	solve problems
	happen when objects	subtraction	problems, and explaining	and division problems, and	written methods	involving addition,	involving addition,
	of different shapes	problems, and	how they found their	explaining how they found	to solve problems	subtraction,	subtraction,
	and sizes are placed	explaining how they	answer	their answer	involving	multiplication and	multiplication and
	on a balance scale	found their answer	Recognizing and	Understanding and using	addition,	division with larger	division with large
		Comparing and	extending repeating and	fractions, and explaining	subtraction,	and more complex	numbers and
	Using everyday	ordering numbers up	growing patterns, and	how they know fractions are	multiplication and	numbers, and	decimals, and
	objects, such as	to 20, and explaining	explaining how they	equivalent or not	division with	explaining how	explaining how they
	blocks or toys, to	their reasoning for	know the pattern	Using different methods to	larger numbers,	they found their	found their answer
	create patterns and	their choices	continues or changes	solve problems involving	and explaining	answer	Understanding and
	explaining the	Recognizing and	Investigating and	money, time and	how they found	Understanding and	using fractions,
	pattern to a friend	extending repeating	comparing the	measurement, and	their answer	using fractions,	decimals, and
		patterns, and	properties of 2D and 3D			decimals, and	percentages, and

Exploring and	explaining how they	shapes, and explaining	explaining their reasoning	Understanding	percentages, and	explaining their
comparing the	know the pattern	their reasoning for	for their chosen method	and using	explaining their	reasoning for solving
weight and capacity	continues	classifying shapes in	Recognizing and describing	fractions,	reasoning for	problems involving
of different objects	Investigating and	certain ways	the properties of 2D and 3D	decimals, and	comparing and	ratio and proportion
Investigating the	describing the	Using standard units to	shapes, and explaining their	percentages, and	ordering fractions,	Solving problems
properties of	properties of 2D and	measure length, weight,	reasoning for classifying	explaining their	decimals and	that involve area,
different shapes and	3D shapes, and	and capacity, and	shapes in certain ways	reasoning for	percentages	perimeter, and
identifying	explaining their	explaining their	Using mathematical	equivalent	Solving problems	volume, and
similarities and	reasoning for	reasoning for their	language to describe	fractions,	that involve area,	explaining their
differences between	classifying shapes in	measurements	position, direction and turns	decimals and	perimeter, and	reasoning for their
them	certain ways	Using mathematical	on a grid, and explaining	percentages	volume, and	chosen formula and
	Using non-standard	language to describe	how they know an object	Converting	explaining their	calculation
Estimating and	units to measure	position, direction and	has moved from one	between different	reasoning for their	Recognizing and
measuring the length	length, weight, and	turns, and explaining	position to another	units of measure,	chosen formula and	describing the
of objects using non-	capacity, and	how they know an object	Interpreting and presenting	and explaining	calculation	properties of 2D and
standard units, such	explaining their	has moved from one	data in tables, graphs and	their reasoning	Recognizing and	3D shapes, and
as blocks or hands	reasoning for their	position to another	charts, and explaining their	for their chosen	describing the	explaining their
	measurements	Interpreting simple data	reasoning for their	conversion	properties of 2D	reasoning for
Sorting objects by	Using mathematical	and graphs, and	interpretations and choices	Recognizing and	and 3D shapes, and	classifying shapes in
different criteria,	language to describe	explaining their	Solving multi-step problems	describing the	explaining their	certain ways
such as shape, size,	position and	reasoning for their	that involve several	properties of 2D	reasoning for	Identifying and
and colour, and	direction, and	interpretations	mathematical concepts, and	and 3D shapes,	classifying shapes	describing number
explaining their	explaining how they	Solving simple	explaining their reasoning	and explaining	in certain ways	patterns, and
reasoning to a friend	know an object has	multiplication and	for each step	their reasoning	Identifying and	explaining how they
	moved from one	division problems, and		for classifying	describing number	know the pattern
Solving simple	position to another	explaining their		shapes in certain	patterns, and	continues or changes
number problems,	Interpreting simple	reasoning for their		ways	explaining how	Interpreting and
such as sharing	data and graphs, and	methods and answers		Identifying and	they know the	presenting data in
objects equally	explaining their			describing	pattern continues	tables, graphs, and
between friends or	reasoning for their			number patterns,	or changes	charts, and
finding one more or	interpretations			and explaining	Interpreting and	explaining their
one less than a given				how they know	presenting data in	reasoning for their
number				the pattern	tables, graphs, and	interpretations and
				continues or	charts, and	choices
				changes	explaining their	Solving problems
				Interpreting and	reasoning for their	that involve multiple
				presenting data in	interpretations and	steps and require the
				tables, graphs,	choices	application of
				and charts, and	Solving problems	aifferent
				explaining their	that involve	mathematical
				reasoning for	multiple steps and	concepts, and
				their	require the	explaining their

					interpretations	application of	reasoning for each
					and choices	different	step
					Solving problems	mathematical	
					that involve	concepts and	
					multiple steps	explaining their	
					and require the	reasoning for each	
					and require the	stop	
					different	step	
					amerent		
					mathematical		
					concepts, and		
					explaining their		
					reasoning for		
					each step		
Progression	Kindly click the link b	pelow to find the progre	ession of skills:				
of Skills							
	Progression: Numbe	r and place value					
	Progression: Addition and subtraction						
	Progression: Multiplication and Division						
	Progression: Fraction	nc					
	Dreamanian Commetry position and direction						
	Progression: Geometry: position and direction						
	Progression: Measurement						
	Progression: Statistics						
	<u>Year 6 – Ratio and p</u>	roportion and algebra					
Experiences	Through the primary n	naths curriculum, there ar	e many experiences that we	e could offer children to help th	em develop their mat	thematical skills and ur	derstanding, such as:
we could	1. Real-life problem	-solving: Provide children	with opportunities to solve	real-life problems that involve	, maths. such as measu	uring ingredients when	cooking. calculating
offer	change when shore	oping, or designing a gard	en with specific dimensions			0 0 0 0 0 0 0	0,
	2 Group work and c	collaboration: Encourage	children to work together in	groups to solve mathematical	problems and to disc	uss their reasoning and	strategies. This can
	2. <u>Group work and c</u>	oir communication and th	annaren to work togetiler ill	Broups to some mathematical		ass then reasoning and	Strategies. This can
	neip to develop th		zannwurk skins.			a a abildua da la aveira e	and states a take as at the
	3. Interactive techno	Diogy : Use interactive tecl	nnology such as tablets, lapi	tops or interactive whiteboards	to support and enhai	nce children's learning,	providing interactive
	resources and too	is to help them explore a	nd understand mathematica	al concepts.			

4.	Outdoor learning: Take children outside to explore and investigate mathematical concepts in the environment, such as measuring the perimeter of the playground or
	counting the number of trees in the school grounds.
5.	Cross-curricular links: Make connections between maths and other subjects, such as using data and statistics in science or measuring and comparing distances and sizes
	in geography.
6.	Practical resources: Provide children with practical resources such as number lines, counters, and cubes to help them develop their understanding of mathematical
	concepts and to support their reasoning.
7.	Enrichment activities: Offer enrichment activities such as maths games, puzzles, and challenges to help children develop their problem-solving and reasoning skills in a
	fun and engaging way.
Ву	providing a range of experiences, we can help children to develop a deep and broad understanding of mathematical concepts and to apply their skills and knowledge to
sol	ve problems in a range of contexts.