Purpose of study –Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

Aims

The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

	Intent We want our children to become **confident and articulate communicators** by enriching their mathematical vocabulary. We aim to enrich our pupils learning with a deep and confident understanding in fluency and reasoning. We aspire for our children to appreciate the power of mathematics and build a **life-long passion for maths** by exploring their curiosity through **memorable learning experiences**. As the children progress we aim to build confidence, **widen their horizons** and attain a positive growth mind set. Through our enterprise scheme we will provide children with an opportunity to develop their **global identity** through working with the local community. We want them to know that mathematics is essential to succeed in life and necessary for financial responsibilities and most forms of employment. Geometry: Position and Direction							
Area of Study	N	Rec	1	2	3	4	5	6
POSITION, DIRECTION AND MOVEMENT	Respond to a range of position and direction words/gestures to find objects or landmarks in their environment, recognising if they are near or far away	Use relative position to find or describe objects or landmarks in their environment, where it depends on your viewpoint (such as behind or in front of).	Describe position, direction and movement, including half, quarter and three-quarter turns.	Use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in		Describe positions on a 2-D grid as coordinates in the first quadrant	Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	Describe positions on the full coordinate grid (all four quadrants)

				terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)				
	Move and turn objects, judging how they will fit.	Follow and give directions. Move, turn and flip objects, judging how they will fit in.				Describe movements between positions as translations of a given unit to the left/right and up/down		Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
	Recognise and predict items or landmarks along familiar routes (indoors and out)	Mentally keep track of where they are along a route. Use a simple map of a familiar area to find a hidden object.				plot specified points and draw sides to complete a given polygon		
Area of Study	N	Rec	1	2	3		5	6

PATTERN	Join in with action patterns in dance, stories, games, etc. Arrange objects in spatial patterns with some organisation or regularity (such as spacing around the middle or in the corners).	Copy, create, correct and continue repeating patterns with three elements.		Order and arrange combinations of mathematical objects in patterns and sequences				
	Copy, create, correct and continue repeating patterns of two repeating elements (A B).	Make the same pattern using different objects (or perhaps body actions or sounds).						
		Make simple repeating patterns that join up as one						

		continuous pattern (circular or border pattern).						
	Key Vocabulary							
Areas	EYFS		Y1	Y2	Y3	Y4	Y5	Y6
GEOMETRY: POSITION AND DIRECTION		position over, under above, below top, bottom, side on, in outside, inside around in front, behind front, back beside, next to opposite apart between middle, edge	Turn Quarter Half Three-quarter Full Left Right Forwards Backwards Above Below Top In between Bottom	Forwards Backwards Up Down Clockwise Anti-clockwise	Turn Angle Clockwise Anti-clockwise Right angle Acute Obtuse Horizontal Vertical Parallel Perpendicular Prism Polygon	Coordinates x-axis y-axis Translate	Reflection Reflect Mirror line Translation	Quadrant First quadrant Four quadrants

		corner direction left, right up, down forwards, backwards, sideways across next to, close, near, far along through to, from, towards, away from movement slide roll turn stretch, bend whole turn half turn