Mathematics
Progression Map

EYFS		
Preschool	Mathematics	▫ Count objects reliably. Count forwards to 10 ▫ Recognise numerals to 5. ▫ Recognise and count numbers to 5. ▫ Begin to count backwards from 10 using rhymes. ▫ Subitise numbers to 5. ▫ Begin to represent numbers to 5 in different ways. ▫ Number bonds to 5. Begin to count beyond 10. ▫
Reception	Mathematics	▫ Representing 1, 2 and 3. Comparing 1, 2 and 3. Composition of 1, 2 and 3. ▫ Circles and triangles. ▫ Exploring pattern. ▫ Representing numbers to 5. ▫ One more and less. ▫ Shapes with 4 sides. ▫ Time. ▫ Introducing zero. ▫ Comparing numbers to 5. ▫ Composition of 4 and 5. ▫ Compare mass. Compare capacity. ▫ Growing 6, 7, 8. Representing 6, 7, 8. Comparing 6, 7, 8.

		▫ Combining two amounts ▫ Length and Height ▫ Time ▫ Building 9 and 10. Counting to 9 and 10. Comparing numbers to 10 ▫ Bonds to 10 ▫ 3-D shapes ▫ Spatial Awareness ▫ Patterns ▫ Build numbers beyond 10 ▫ Count patterns beyond 10 ▫ Adding More ▫ Taking away ▫ Spatial reasoning Compose and decompose ▫ Doubling ▫ Sharing and grouping ▫ Even and odd ▫ Deepening understanding ▫ Patterns and relationships
ELG	Number	▫ Have a deep understanding of number to 10, including the composition of each number. ▫ Subitise (recognise quantities without counting) up to 5. ▫ Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. ▫ Verbally count beyond 20, recognising the pattern of the counting system.

	Numerical Patterns	▫ Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. ▫ Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

KS1 National Curriculum Expectations	KS2 National Curriculum Expectations
The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools]. At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money. By the end of year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency.	**LKS2 - Year 3 and 4** The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.	By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling. **UKS2 - Year 5 and 6** The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio. At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them. By the end of year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils should read, spell and pronounce mathematical vocabulary correctly.

Intent

As a school, and in accordance with the National Curriculum's expectations, we aim to ensure that all pupils:

- Become ***fluent*** in the fundamentals of maths, including through varied 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 lines 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

We also believe that all pupils should:

- Be given the requisite skills to be prepared for a future career within the field of mathematics, science, technology and engineering, for example software engineering, data science amongst many others.

- Engage in a wide range of experiences both within and outside of school, including visits from subject specific experts and trips to local places of interest.

Progression Map

Please refer to the below hyperlink:

National curriculum and 'Ready to Progress' mapping document

Long Term Overview

"We ASPIRE to be our best"

		TERM					
		Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Key stage 1	**Year 1**	*Place Value (within 10)* *5 weeks* *Addition and Subtraction (within 10)* *2 weeks*	*Addition and Subtraction (within 10)* *3 weeks* *Geometry – Shape* *1 week*	*Place Value (within 20)* *3 weeks* *Addition and Subtraction (within 20)* *3 weeks*	*Place Value (within 50)* *2 weeks* *Length and Height* *2 weeks* *Mass and Volume* *2 weeks*	*Multiplication and Division* *3 weeks* *Fractions* *2 weeks* *Position and Direction* *1 week*	*Place Value (within 100)* *2 weeks* *Money* *1 week* *Time* *2 weeks*
	Year 2	*Place Value* *4 weeks* *Addition and Subtraction* *3 weeks*	*Addition and Subtraction* *2 weeks* *Shape* *3 weeks*	*Money* *2 weeks* *Multiplication and Division* *3 weeks*	*Multiplication and Division* *2 weeks* *Length and Height* *2 weeks* *Mass, Capacity and Temperature* *3 weeks*	*Fractions* *3 weeks* *Time* *2 weeks*	*Time* *1 week* *Statistics* *2 weeks* *Position and Direction* *2 weeks*
Lower key stage 2	**Year 3**	*Place Value* *3 weeks* *Addition and Subtraction* *4 weeks*	*Addition and Subtraction* *1 week* *Multiplication and Division A* *4 weeks*	*Multiplication and Division B* *3 weeks* *Length and Perimeter* *3 weeks*	*Fractions A* *3 weeks* *Mass and Capacity* *3 weeks*	*Fractions B* *2 weeks* *Money* *2 weeks* *Time* *3 weeks*	*Shape* *2 weeks* *Statistics* *2 weeks* *Time to consolidate*

	Year 4	*Place Value* *4 weeks* *Addition and Subtraction* *3 weeks*	*Area* *1 week* *Multiplication and Division A* *3 weeks* *Time to consolidate*	*Multiplication and Division B* *3 weeks* *Length and Perimeter* *2 weeks*	*Fractions* *4 weeks* *Decimals A* *3 weeks*	*Decimals B* *2 weeks* *Money* *2 weeks* *Time* *2 weeks*	*Shape* *2 weeks* *Statistics* *1 week* *Position and Direction* *2 weeks* *Time to consolidate*
Upper key stage 2	**Year 5**	*Place Value* *3 weeks* *Addition and Subtraction* *2 weeks* *Multiplication and Division A* *1 week*	*Multiplication and Division A* *2 weeks* *Fractions A* *4 weeks*	*Multiplication and Division B* *3 weeks* *Fractions B* *2 weeks*	*Decimals and Percentages* *3 weeks* *Perimeter and Area* *2 weeks* *Statistics* *1 week*	*Shape* *3 weeks* *Position ad Direction* *2 weeks* *Decimals* *2 weeks*	*Decimals* *1 week* *Negative Numbers* *1 week* *Converting Units* *2 weeks* *Volume* *1 week*
	Year 6	*Place Value* *2 weeks* *Addition, Subtraction, Multiplication and Division* *5 weeks*	*Fractions A* *2 weeks* *Fractions B* *2 weeks* *Converting Units* *1 week*	*Ratio* *2 weeks* *Algebra* *2 weeks* *Decimals* *1 week*	*Decimals* *1 week* *Fractions, Decimals and Percentages* *2 weeks* *Area, Perimeter and Volume*	*Shape* *3 weeks* *Position and Direction* *1 week*	*Themed projects, consolidation and problem solving*

					2 weeks *Statistics* *1 week*		

Progression of Vocabulary to be Mastered

Please refer to the below hyperlink

Vocabulary Progression Document

Cultural Capital

NSPCC number day – children learning new game skills.

TTR battles and Trust competitions.

School Council cake sales throughout the year – handling money.

Pre-school	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Counting and measuring when cooking. Shape hunts.	Role play area – using a till with money. Shape walks.	Role play – class fruits. Pricing and exchanging items for money.	Visit local WH Smiths – compare prices. Spend £1. External visit from mathematical individual e.g. banker, engineer (science week?)	Plan a one hour school lesson for reception, focusing on timings. Bus trip – timetable.	Research costs for new class books. Compare different sites and choose best option – working within a budget. Plan a morning for themselves or another class in school – time focus.	Plan and cost a school trip, e.g. Jodrell Bank. Discuss with business manager. Compare prices. Plan the timings for a school trip. Measuring when cooking e.g. Greek mezes.	Enterprise Day/Week - Work with a budget to make a profit. North America cooking – research (Waitrose and Aldi) and buy ingredients from local shop. Y6 takeover day – planning and co-ordinating times.