ST PAUL'S CE PRIMARY SCHOOL

Mathematics Overview

Our intent is to:

At St. Paul's, our intent is to develop active and resilient life-long mathematicians with fluent skills of calculation, reasoning and problem solving to equip them for life beyond school. We are committed to teaching the importance and purpose of Maths in the wider world as well as develop children's appreciation for the beauty and power of Mathematics.

Our Mathematics curriculum aims to ensure all pupils:

- become ***fluent*** in the fundamentals of mathematics through varied and frequent practice
- can ***reason*** mathematically by following a line of enquiry or developing an argument using mathematical language
- can ***solve problems*** by applying their mathematics to a range of problems with increasing sophistication
- can apply their mathematical knowledge to science and other subjects through cross-curricular links

It is essential that the fundamental skills in Mathematics are secure and embedded and that all children, regardless of their starting point, maximise their academic achievement leaving St. Paul's CE Primary School with an appreciation and enthusiasm for Mathematics.

We will:

At St Paul's Primary School, we adopt a mastery approach to the teaching and learning of Mathematics. The rationale behind this approach lies within the NCETM Maths Hub Programme as well as the 2014 National Curriculum, which states:

• The expectation is that most pupils will move through the programmes of study at broadly the same pace.
•Pupils who grasp concepts rapidly are challenged by 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.

Curriculum design and planning

As a starting point, each year group has a sequence of learning which outlines the learning progressions for the year. To support this, staff use Red Rose Mastery Maths that uses a coherent and comprehensive conceptual pathway through the Mathematics. The focus is on the whole class progressing together, using provided guided and deeper learning activities.
Learning is broken down into small, connected steps, building on what pupils already know. These are outlined in the LAPs (Learning and Progression steps)
Potential misconceptions are identified in advance and strategies to address them are planned.
Key questions are planned, to challenge thinking and develop learning for all pupils.
Contexts and representations are carefully chosen to develop reasoning skills and to help pupils link concrete ideas to abstract mathematical concepts.
The use of high-quality materials and tasks to support learning and provide access to the Mathematics, which is integrated into lessons. These resources may include Red Rose Mastery Maths and Assessment Materials, NCETM Mastery Assessment materials, NRICH, Testbase, visual images and concrete resources.

Our pupils will:

As a result of our Mathematics teaching at St. Paul's CE Primary School, you will see:

• Well planned, engaging lessons that support all children to make excellent progress.
• Use of concrete, pictorial and abstract representations developing varied fluency, reasoning, problem solving and logical thinking.
• Children mastering mathematical concepts and skills, using mathematical language to explain their ideas, showing their calculations in different ways and independently applying concepts to various situations.
• Children talking enthusiastically about Mathematics, celebrating achievements and mistakes.
• Enthusiastic, engaged, and challenged children, on task, working both independently and collaboratively in a supportive, positive learning environment.

In addition to the formative assessment undertaken in lessons using KLIPS (Key Learning Indicators of Performance), teachers will use termly summative assessments to reinforce their judgements and provide further opportunities to identify gaps in pupil learning and tailor future lessons. Teacher judgements are then entered onto our school trackers at the end of each term. Children in years 2 and 6 take the end of key stage assessments and children in year 4 the Multiplication Tables Check. See our school Assessment Policy for further details.

	Autumn	Spring	Summer
Red Rose Mastery Maths is the basis for our curriculum progression in EYFS, detailing the knowledge, skills and understanding children should acquire in order to satisfy the requirements of the Statutory Framework for the Eary Years Foundation Stage 2021, and the guidance within Development Matters and to support their preparation for the National Curriculum in Year 1. The Learning and Progression Steps (LAPs) identify the progress towards the end of stage Key Learning statements. These can be used to support the design of a progressive curriculum which will support children in preparing for learning in Year 1 whilst enabling teachers to make effective statutory assessments. Children in EYFS explore mathematical concepts through active exploration and their everyday play-based learning. Children are taught key concepts and develop number sense using a hands-on practical approach. EYFS practitioners provide opportunities for children to manipulate a variety of objects, which supports their understanding of quantity and number with a focus on conceptual variation. Pupils explore the 'story' of numbers to twenty and the development of models and images for numbers as a solid foundation for further progress. Teachers allow children time for exploration and the use of concrete objects helps to support children's mathematical understanding. Mathematics in the early years provides children with a solid foundation that will enable them to develop skills as they progress through their schooling and ensures children are ready for the National Curriculum.			
EYFS Acorns/Ashes	Numbers 1-10	Counting & Comparing Partitioning Understanding 'teens' numbers Measurement Shape and sorting Addition & subtraction Halving & doubling Number sense	Counting, comparing & ordering Fractions Measurement Capacity & Volume Money Time Space Shape and sorting Addition & subtraction
In Key Stage 1 and 2, we follow the Red Rose Mastery Maths over a one year cycle. The firm grounding in number gives children confidence and helps them to access the rest of the maths curriculum. We use a concrete-pictorial-abstract approach to support children to understand the maths they are learning and to be able to use it elsewhere. The "small step" approach ensures that all curriculum objectives are broken down into accessible parts that build on each other so the learning journey is complete. The mastery learning approach aims to ensure that all pupils have mastered key concepts before moving on to the next topic. Consequently, the duration of units may vary from the following long-term plans. The following provides an overview of coverage in each term for each class			
Ashes Year 1	Number: Place Value Length and Mass Addition & Subtraction 2D and 3D shape Sequencing & sorting Fractions Capacity & Volume Money Time	Number: Place Value Mass 2D and 3D shape Counting & Money Multiplication Division Length & mass Addition & Subtraction Fractions Position & Direction Time	Number: Place Value Addition & Subtraction Capacity & Volume Fractions Position, Direction & Time 2D and 3D shape Time Multiplication & Division Statistics & Calculation Measurement Sorting & Sequencing
Sycamores Year 1/2	Number: Place Value (Y1: Numbers to 30) (Y2: Numbers to 100) Length and Mass Number: Addition and Subtraction 2D and 3D shape Counting, Sequencing & sorting Fractions Capacity & Volume	Number: Place Value Mass & Capacity 2D and 3D shape Counting & Money Multiplication & Division Length & mass Addition & Subtraction Fractions Position & Direction	Number: Place Value (Y2 Statistics) Addition & Subtraction Capacity & Volume Fractions Position, Direction & Time 2D and 3D shape Time Multiplication & Division Calculation

	Money Time	Time	Measurement Sorting & Sequencing
Alders Year 2	Number: Place Value Length and Mass Addition & Subtraction 2D and 3D shape Counting, Multiplication & Sorting Statistics Fractions Capacity & Volume Money Time	Number: Place Value Mass, Volume & Capacity Addition & Subtraction Money Multiplication and Division Length Addition & Subtraction 2D and 3D shape Fractions, Position & Direction Time	Place Value & Statistics Addition & Subtraction Capcaity & Volume Temperature Fractions Position, Direction & Time 2D and 3D shape Addition & Subtraction Multiplication and Division Statistics & Calculation Measurement
Elms Year 3	Place Value, Addition & Subtraction Length & Perimeter Statistics Addition & Subtraction Multiplication tables (3x, 4x) Multiplication Division Time 3D shape	Place Value, Addition & Subtraction Multiplication Fractions Division Volume, Capacity & Mass 2D shape Addition, subtraction & Statistics Fractions Position & Direction Time	Addition & Subtraction Multiplication and Division 2D shape Decimal place value 3D shape Place value Calculation Fractions Statistics Time
Maples Year 3/4	Place Value, Addition & Subtraction Length & Perimeter Statistics Addition & Subtraction Multiplication tables (3x, 4x) – Y3 Multiplication Division Time 3D shape	Place Value Multiplication Division Addition & Subtraction Fractions Addition, subtraction & Money 2D shape - Y3 & Sorting -Y4 Position & Direction Area – Y4 Statistics – Y4 Measures Volume, Capacity & Mass – Y3	Decimal Place Value – Y3 Place Value Addition & Subtraction Multiplication and Division Fractions 2D shape & 3D shape Statistics Place Value Time – Y3
Elders Year 4/5	Place Value Place Value, Decimals & Fractions – Y4 Addition & Subtration Time 2D shape Multiplication Division Length & Perimeter Statistics	Place Value & negative numbers Position & Direction Fractions Division Area & Multiplication Addition, Subtraction & Measures Place Value Multiplication & Division Geometry Statistics	Geometry Fractions & Decimals – Measures Fractions & Division - Percentages Measures – Volume, Capacity & Mass Shape and Area Multiplication facts Time Place Value Statistics Addition & Subtraction Multiplication & Division Geometry & Measures

Willows Year 5/6	Number: Place Value Number and Place Value and Decimals -Y6 Addition & Subtraction Algebra Geometry - Y5 Angles Geometry & Measures Multiplication & Division Fractions Multiplication & Area Time	Place value & Negative numbers Place value, Negative numbers & Number sequences - Y6 Addition & Subtraction Multiplication Measures (Length, Mass & Capacity) Geometry Fractions Geometry (Shape) Measurement – Volume Y5; Perimeter, Area & Volume – Y6 Statistics Problem solving (Bar modelling – Y5) Ratio & Proportion – Y6	Place value Fractions, Decimals, Percentages Measurement & Statistics Geometry (Position, 2D & 3D shapes) Addition & Subtraction Mass, Volume & Capacity Multiplication & Division Ratio & Proportion – Y6
Oaks Year 6	Number and Place value and Decimals Algebra & Sequences Addition & Subtraction Multiplication Division Fractions, Decimals, Percentages Geometry & Area Statistics	Place value, Negative numbers & Number sequences Coordinates & Geometry Calculation Fractions Ratio & Proportion Statistics Geometry (2D & 3D Shape) Perimeter, Area & Volume Algebra	Place Value Fractions Ratio & Proportion Statistics Geometry (Position, 2D & 3D shapes) Mass, Volume & Capacity Addition & Subtraction Multiplication & Division Fractions, Decimals, Percentages