



Read St. John's C.E. Primary School

Maths Policy

This policy outlines the intent, implementation and impact of the teaching and learning of all aspects of the Maths curriculum. It has been written by the subject leaders Jade Gamble and Joanne Shaw and reviewed by the headteacher and governors. The subject is led by the subject leaders and the staff as a whole and each year, time is set aside to review standards and monitor curriculum provision and ensure training and resources are up to date.

Intent

The National Curriculum for Mathematics aims to ensure that all children become fluent, reason mathematically and can solve problems. We believe that a high- quality Mathematics education 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. At Read St. John's, we use White Rose Maths as we are committed to ensuring that every child develops an understanding and love of maths. We prioritise the mastery of conceptual Maths understanding through the use of real life/ everyday problems. Children explore and investigate. Communication is key as they work alongside peers to reason, explain and justify their thinking using Mathematical vocabulary. Teachers carefully plan open ended, challenging questions which enable our children to make connections, identify patterns and draw conclusions about Mathematical concepts and problem solving. Misconceptions are addressed as they arise and teachers actively engage children in proving their ideas. During each lesson children are encouraged to use apparatus as visual aids as required. As they make progress in the topics, they move towards using pictorial and abstract representations for Mathematical concepts.

We are confident that this mastery-based approach and spiral curriculum enthuses children about Maths. It ensures they can master Mathematical skills and concepts which enable them to continue learning as they progress through school.

Implementation

EYFS Curriculum

Maths is a specific area of learning in the EYFS Statutory Framework, At Read St. John's Maths is taught daily in Reception, using the White Rose Maths scheme. This allows for firm foundations for a deep understanding of number and provides clear links with Year 1 and the rest of the primary curriculum.

National Curriculum

Maths is taught daily in KS1 and KS2 using the White Rose Maths Scheme of Work for Year 1 to Year 6. We prioritise the development of basic skills and arithmetic alongside problem solving and reasoning. The children also have access to Times Table Rockstars, MyMaths for homework and IDL for intervention (if appropriate).

KS1

The principal focus of mathematics teaching in key stage 1 is to ensure that the children 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, the children 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, the children 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.

The children should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1

Lower KS2

The principal focus of mathematics teaching in lower key stage 2 is to ensure that children become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that the children develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, the children should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that the children 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.

By the end of year 4, the children should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.

The children should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

Upper KS2

The principal focus of mathematics teaching in upper key stage 2 is to ensure that the children extend their understanding of the number system and place value to include larger integers. This should develop the connections that the children make between multiplication and division with fractions, decimals, percentages and ratio.

At this stage, the children 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, the children 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 the children classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

By the end of year 6, the children should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages.

The children should read, spell and pronounce mathematical vocabulary correctly.

All children will have Quality First Teaching. Any children with identified SEND or in receipt of pupil premium funding may have work additional to and different from their peers in order to access the curriculum dependent upon their needs. As well as this, our school offers a demanding and varied

curriculum, providing children with a range of opportunities in order for them to reach their full potential and consistently achieve highly from their starting points.

Spiritual, moral, social and cultural development

Spiritual development: School helps to promote spiritual development by making connections between pupils' numeracy skills and real life. By using the outdoor environment to promote numeracy. By exploring how numbers exist in the natural world and the connection with the spiritual. By considering pattern, order, symmetry and scale both man-made and in the natural world. Deriving data from the world around us and using this in our work e.g. in science. Exploring number patterns in the natural world through outdoor learning e.g. in our forest school area thus the connection of maths to awe and wonder in the world.

Moral development: School helps to promote moral development by reflecting on data that has moral and ethical implications; for example, pupils might consider the difference in amounts of money spent on non-essentials compared with food aid/water aid, Harvest assembly. By giving pupils budgets e.g. to in maths problems. They relate effort and work with gain. Children help to raise money for various charities and help run various stalls for French Day, charity, school funds and so on.

Social development: School helps to promote social development by the sharing of resources within the classroom, group problem solving, collaborative learning and helping and listening to others.

Cultural development: School helps to promote cultural development by asking questions about the history of maths: for example, 'What did the Egyptians, Greeks discover that we still use in maths today?' In French, children participated in running stalls: managing money. In British Culture:

problem solving with number sequences and prime numbers – relate this to wartime code breaking for example.

Assessment, Monitoring and Moderation

Assessment of Maths is ongoing. It should continuously be used to inform teaching. Live marking and questioning during lessons enable teachers to make assessments. Rapid intervention takes place to address misconceptions, any gaps in children's knowledge and conceptual understanding. Teachers should assess children during and after every lesson and use this to inform their assessments regarding interventions and next steps for progress and mastery. Each day starts with a 'Flash Back 4' which allows children to recap previous learning and aid 'sticky learning' and fluency. Classes also use arithmetic tests to check on progress in arithmetic skills and access times table rockstars, and mymaths for homework. At the end of the year, all year groups sit PUMA Maths assessments. The teachers will assess whether children are working below, just below, on track or at greater depth for their age based on their understanding and application of the content of the National Curriculum 2014. Progress and attainment is reported to parents through parents' evenings and end of year reports.

Feedback is given to the children as soon as possible and marking work will be guided by the school's Marking Policy.

Monitoring and moderation takes place regularly through:

- Monitoring of planning
- Learning Walks
- Observations
- Scrutiny of Books/Work
- Moderation of work
- Discussions with Children/Pupil Voice Questionnaires
- Staff Meetings and Staff Audits

- Meetings/observations with the nominated governor.

Resources

- Each class has a variety of resources such as base 10 and Numicon. There is also an area in school with a huge range of resources organised by topic.
- In KS1 & KS2, each child has a maths jotter book and White Rose Maths work books.
- Software includes: White Rose Maths, Times table Rockstars, My Maths and IDL.
- Classrooms have working walls/areas in the classroom with resources to support the children.

Impact

The children will:

- demonstrate a quick recall of facts and procedures. This includes the recollection of the times table.
- be able to use mental and written calculation methods.
- be confident in using mathematical vocabulary.
- show confidence in believing that they will achieve and show perseverance and resilience in maths.
- each achieve objectives (expected standard) for year group (or POPs plan for SEND children if different) as shown in the National Curriculum and in the progression of skills in White Rose Maths.
- have the flexibility and fluidity to move between different contexts and representations of maths.
- have the chance to develop the ability to recognise relationships and make connections in maths lessons.
- have mastered Mathematical concepts or skills, demonstrating these in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.
- show a high level of pride in the presentation and understanding of the work.
- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that children 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
- be able to solve problems by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

This policy was written in September 2022 and will be reviewed in September 2023