

Mathematics Policy

1 Curriculum Intent

- 1.1 Mathematics is a tool for everyday life. It teaches us how to make sense of the world. Through developing a child's ability to calculate, reason and solve problems, it enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of Mathematics.

Article 28

You have the right to a good quality education. You should be encouraged to go to school to the highest level you can.

- 1.2 In teaching Mathematics, it is our intent:
- to promote a positive attitude towards mathematics and an awareness of the fascination of mathematics.
 - to promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion.
 - to promote confidence and competence with numbers and the number system, in mathematical knowledge, concepts and skills.
 - to develop an ability to solve problems, to reason, to think logically and to work systematically and accurately.
 - to develop a practical understanding of the ways in which information is gathered and presented.
 - to develop an ability to communicate mathematics.
 - to explore features of shape and space, and develop measuring skills in a range of contexts.
 - to develop an ability to use and apply mathematics across the curriculum and in real life.
 - to understand the importance of mathematics in everyday life.

2 Teaching and learning style

- 2.1 The school uses a variety of teaching and learning styles in mathematics lessons. Our principal aim is to develop children's knowledge, skills and understanding. We do this through a daily lesson that has a high proportion of whole class and group-direct teaching. During these lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. Children use Computing in mathematics lessons when appropriate. Wherever possible we encourage the children to use and apply their learning in everyday situations.
- 2.2 In all classes there are children of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies – in some lessons through differentiated group work and in other lessons by organising the children to work in pairs on open-ended problems or games. When available we use classroom assistants to support some children and to ensure that work is matched to the needs of individuals.

Mathematics curriculum planning

- 3.1** Mathematics is a core subject in the National Curriculum and we use the **White Rose Maths and Primary Stars Education for our core planning**, using the objectives taken from the National Curriculum **and the small step learning approach of White Rose Maths** for implementing the requirements of the programme of study for mathematics.
- 3.2** Through careful planning and preparation, we aim to ensure that throughout the school children are given opportunities for:
- Practical activities and mathematical games
 - Problem solving
 - Individual, group and whole class discussions and activities
 - Open and closed tasks
 - A range of methods of calculating e.g. mental, pencil and paper, **concrete and pictorial**.
 - Working with computers **and tablets**.

Article 13

You have the right to find out things and share what you think with others, by talking, drawing, writing or in any other way unless it harms or offends other people.

- 3.3** Our school scheme of work is a working document and as such is composed of on-going plans produced on a week by week basis. This is developed from the **Primary Stars Education** and **White Rose Planning for Mastery** and takes into consideration the needs of our children.
- 3.4** Our medium-term mathematics plans, which are adopted from the **Primary Stars Education** and **White Rose Planning for Mastery**, give details of the main teaching objectives for each term.
- 3.5** Each class teacher is responsible for the mathematics in their class in consultation with and with guidance from the mathematics subject leader.
The approach to the teaching of mathematics within the school is based on three key principles:
- Mathematics is taught at least 4 times a week.
 - A clear focus on direct, instructional teaching and interactive oral work with whole class and group
 - **A small step approach involving Concrete, Pictorial and Abstract (CPA)**
 - **An encouragement of oral explanation from children using stem sentences.**
 - **The use of correct terminology and vocabulary.**
 - An emphasis on mental calculation.

Lessons are planned using a common planning format and are monitored by the mathematics subject leader. These weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught.

4 The Foundation Stage

- 4.1** Teachers in the Foundation stage, base their teaching on objectives from the EYFS **and follow guidelines as laid out in White Rose Maths for CPA and a small step approach**; this ensures that they are working towards the Early Learning Goals for Mathematical development. We give all the children opportunity to develop their understanding of number, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

5 Contribution of mathematics to teaching in other curriculum areas

5.1 Literacy

Mathematics contributes significantly to the teaching of Literacy in our school by actively promoting the skills of reading, writing, speaking and listening. For example, we encourage children to read and interpret problems in order to identify the mathematics involved. The children explain and present their work to others during plenary sessions. Younger children enjoy stories and rhyme that rely on counting and sequencing. Older children encounter mathematical vocabulary, graphs and charts when using non-fiction texts.

5.2 Computing

Article 17

You have the right to get information that is important to your well-being, from radio, newspaper, books, computers and other sources. Adults should make sure that the information you are getting is not harmful, and help you find and understand the information you need.

Children use and apply mathematics in a variety of ways when solving problems using Computing. Younger children use Computing to communicate results with appropriate mathematical symbols. Older children use it to produce graphs and tables when explaining their results or when creating repeating patterns. When working on control, children use standard and non-standard measures for distance and angle. They use simulations to identify patterns and relationships.

6 Teaching mathematics to children with special needs.

Article 23

You have the right to special education and care if you have a disability, as well as all the rights in this Convention, so that you can live a full life.

6.1 We teach mathematics to all children whatever their ability. It is part of the school curriculum policy to provide a broad and balanced education to all children. Children with SEN are taught within the daily mathematics lesson and are encouraged to take part when and where possible. Where applicable children's IEPs incorporate suitable objectives and teachers keep these in mind when planning work. When additional support staff are available to support groups or individual children they work collaboratively with the class teacher. Trained Teaching Assistants run specific Maths Interventions daily to target under-achieving children.

7 Equal opportunities

7.1 In the daily mathematics lesson we support children with English as an additional language in a variety of ways. E.g. repeating instructions, speaking clearly, emphasising key words, using picture cues, playing mathematical games, encouraging children to join in counting, chanting, finger games and rhymes.

8 Assessment and recording

8.1 We assess children's work in mathematics from three aspects (long term, short term and medium term). We make short term assessments which we use to help us adjust our daily plans. These short term assessments are closely matched to the teaching objectives.

- 8.2** We make medium term assessments to measure progress against the key objectives, and to help us plan the next unit of work. We assess against key objectives taken from the National Curriculum, with a scrutiny of children's work, to review how well children have understood topics taught and identify any misconceptions. A record of each child's attainment is highlighted on a record sheet. We administer standardised mathematics tests to all children in KS1 at the end of each **mathematical learning block** and analyse the results. Children in year 2 complete a SATs style Maths test. Any children who are under-achieving are highlighted and possible intervention is considered.
- 8.3** We make long term assessments towards the end of the school year and we use these to assess progress against school and national targets. We set targets which are visible to the children and are displayed in classrooms. We pass this information on to the next teacher at the end of the year. We make the long term assessments with the help of end of year tests and teacher assessments. We use the national tests for children in Year 2.
- 8.4** The Mathematics subject leader monitors samples of children's work on a regular basis and reviews and analyses assessment data across the school.

9 Resources

- 9.1** There is a range of resources to support the teaching of mathematics across the school. All classrooms have a wide range of appropriate small apparatus and dedicated display areas for visual aids, e.g. hundred squares, number lines, shape posters and specific mathematical vocabulary. Additional resources to support with all areas of mathematical teaching are available from the Maths storage area. A range of software is available to support work with the computers.

10 Monitoring and evaluation

- 10.1** Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the mathematics subject leader. The work of the mathematics subject leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The mathematics subject leader gives the headteacher an annual summary in which s/he evaluates strengths and weaknesses in the subject and indicates areas for further improvement. The headteacher allocates regular management time to the mathematics subject leader so that s/he can review samples of children's work and undertake lesson observations of mathematics teaching across the school. A named member of the school's governing body is briefed to oversee the teaching of mathematics.

Signed: *Simon Christopher*

Lasts reviewed: September 2022

Date of the next review: Summer 2025