



Fir Tree Junior School Maths Policy

At Fir Tree we aim for all our children to develop an enthusiasm for mathematics.

1. Our aims are:

- To have a positive attitude towards mathematics and an awareness of the fascination of mathematics
- To be able to carry out practical activities involving measurement, estimation and calculation.
- To be able to explain mathematical thinking
- To understand the importance of maths
- To be able to use ICT to enhance learning
- To be able to read and record mathematical statements using correct terminology and symbols.
- To be able to use and interpret diagrams, charts, graphs and tables
- To have an ability to solve problems, to reason, to think logically and to work systematically and accurately
- To have developed an ability to use and apply mathematics across the curriculum and in real life
- To have developed an understanding of mathematics through a process of enquiry and experiment

2. Curriculum Development and Organisation

At Fir Tree we follow a medium term plan which ensures continuity and progression in the teaching of mathematics. This is based on the New National Curriculum expectations for each year group.

In the lower KS2, children build on the concrete and conceptual understandings they have gained in KS1 to develop a real mathematical understanding of the four operations, in particular developing arithmetical competence in relation to larger numbers. In addition and subtraction, they are taught to use place value and number facts to add and subtract numbers mentally and will develop a range of strategies to enable them to do this in the most efficient way. In particular, they will learn to add and subtract multiples and near multiples of 10, 100 and 1000, and will become fluent in complementary addition as an accurate means of achieving fast and accurate answers to 3-digit subtractions. Standard written methods for adding larger numbers are taught, learned and consolidated, and written column subtraction is also introduced. This key stage is also the period during which all the multiplication and division facts up to the 12 x 12 tables are thoroughly memorised. Efficient written methods for multiplying or dividing a 2-digit or 3-digit number by a single-digit number are taught, as are mental strategies for multiplication or division with large but friendly numbers, e.g. when dividing by 5 or multiplying by 20. Children will develop their understanding of fractions, learning to reduce a fraction to its simplest form as well as finding non-unit fractions of amounts and quantities. The concept of a decimal number is introduced and children consolidate a firm understanding of one-place decimals, multiplying and dividing whole numbers by 10 and 100.

In upper KS2 children move on from dealing mainly with whole numbers to performing arithmetic operations with both decimals and fractions. They will consolidate their use of written procedures in adding and subtracting whole numbers with up to 6 digits and also decimal numbers with up to two decimal places. Mental strategies for adding and subtracting increasingly large numbers will also be taught including negative numbers. These will draw upon children's robust understanding of place value and knowledge of number facts. Efficient and flexible strategies for mental multiplication and division are taught and practised, so that children can perform appropriate calculations even when the numbers

are large. In addition, it is in Y5 and Y6 that children extend their knowledge and confidence in using written algorithms for multiplication and division. Fractions and decimals are also added, subtracted, divided and multiplied. They will also calculate simple percentages and ratios.

3. Teaching and Learning

Teachers will:

- Have a clear understanding of the objectives being taught and share this with the children
- Plan and deliver well-paced lessons which drive learning forward, following the medium term plan to ensure progression and coverage
- Children are given the opportunity to show the application of math's skills by given regular problem solving activities.
- Agree with the children the Steps to Success

Use a range of teaching strategies as appropriate, including:

- Demonstration
- Modelling
- Scaffolding
- Explanation
- Targeted questioning
- Guided teaching
- Consider the opportunities for developing mathematical skills across the curriculum.
- Be mindful of the mathematical needs of the child in all subject areas, and differentiate questions and activities as appropriate to allow all children access.
- Mark work against the objectives using positive comments and next step(s) for improvement, in accordance with our marking policy. Instant feedback being the preferred method.
- Allow the children to record or verbalise what they have learnt, individually, in pairs or as a group.
- Have working walls in their classroom as a mathematical resource for the children.
- Ensure all children have access to resources should they need them.

4. Assessment and Recording

Formative assessment, carried out by the class teacher, is an integral part of teaching and is used on a daily/weekly basis to inform future planning. It involves identifying children's progress against teaching objectives, determining what a child has already achieved and moving them on to the next stage of learning.

Each class teacher keeps records of ongoing assessments in Mathematics which are used to inform targeted teaching on a daily basis. These are working documents used in day to day teaching and learning. Teachers keep a record on Target Tracker by highlighting statements that apply to each child. Children also generate their own targets in years 5 and 6 which are written at the front of their books. Targets are also given in years 3 and 4 which are generated by the teacher and pupil.

Time tables (multiplication) are monitored through weekly testing and are part of the children's homework in years 3-6. In accordance with the new national curriculum, the children are expected to know all times tables by the end of year 4.

5. Monitoring and review

Monitoring the standards of the children's work and the quality of teaching in Maths is the responsibility of the Head teacher and Maths subject leader through a range of the following: learning walks, pupil interviews, planning reviews, book scrutiny. The work of the subject leader also involves supporting colleagues in the teaching of Maths, keeping informed about current developments in the subject, and providing a strategic lead and direction for the subject across the school. The subject leader gives the Head teacher an annual action plan which evaluates the strengths and actions for development in the subject, and indicates areas for future improvement. The leader has regular management time allocated in order to review and develop Maths teaching across the school. Governors are invited for an annual monitoring visit to observe the teaching and learning of Maths across the school, to conduct learning conversations with pupils and to interview the Maths subject leader. Governors produce a subsequent report which is shared with staff to identify successes and next steps.

6. Roles and Responsibilities

Leader for Maths

The subject leader is responsible for providing professional leadership and management of Maths within the school. Standards will be monitored to ensure high quality teaching, effective use of resources and improved standards of learning and achievement. This includes observation of lessons and scrutiny of the pupils' work, which is collected, analysed, evaluated and actions agreed for further development where relevant.

Class Teachers

It is the responsibility of each class teacher to ensure that their class is taught all areas of the Maths curriculum as set out in the national curriculum programme of study.

All staff

It is the responsibility of all staff to make themselves aware of legislation relating to Maths including copyright and data protection issues.

Governors

Governors monitor and evaluate the development of Maths to promote high quality teaching and learning in the school. This is in line with their responsibility to ensure the curriculum is meeting the requirements as set out in the national curriculum programmes of study.

Professional development

- Liaising with other Maths Subject Leaders within the partnership to share methods of good practice.
- Providing professional leadership and management for Maths. This includes feedback from courses attended.
- Organising a cross-curricular Maths day in order for children to appreciate the importance of maths across all areas of our everyday life.
- Managing and maintaining the Maths resources by ensuring that they meet the needs of the curriculum; are available for use and are in working order.