Mathematics Policy

The National Curriculum states:

"Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore 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."

Aims and Objectives:

The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent 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 a line 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.

At Tonacliffe Primary School the teaching of maths is geared towards enabling each child to develop their learning and achieve their full potential. We endeavour to not only develop the mathematics skills and understanding required for later life, but also to foster an enthusiasm about mathematics itself. We aim to increase pupil confidence in maths so they are able to express themselves and their ideas using the language of mathematics with assurance. We want the children to see mathematics as being relevant to their world and applicable to everyday life as well as being something that they will need as they move on through their school life and ultimately to the world of employment.

Our aim is to ensure that all children develop:

- a positive attitude towards mathematics and an awareness of the fascination of mathematics

- competence and confidence in mathematical knowledge, concepts and skills
- an ability to solve problems, to reason, to think logically and to work systematically and accurately
- initiative and an ability to work both independently and in cooperation with others
- an ability to communicate mathematics
- the ability to use and apply mathematics across the curriculum and in real life

KNOWLEDGE, SKILLS AND UNDERSTANDING

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
- mathematical reasoning
- individual, group and whole class discussions and activities
- open and closed tasks
- a range of methods of calculating e.g. mental, pencil and paper
- working with computers as a mathematical tool

SCHEME OF WORK

Our school scheme of work is a working document and as such is composed of ongoing plans produced on a week by week basis. This is developed from the National Curriculum and takes into consideration the needs of our children.

TEACHERS' PLANNING AND ORGANISATION

Each class teacher is responsible for the mathematics in their class in consultation with and with guidance from the mathematics coordinator.

We aim to develop children's:

- arithmetic skills
- fluency

- reasoning
- problem solving

Each class organises a daily lesson of between 50 and 60 minutes for mathematics.

Teachers of the Reception class base their teaching on objectives for Reception; this ensures that they are working towards the early learning goals for mathematical development.

TEACHING STYLES AND STRATEGIES

A range of styles of teaching are necessary for the teaching of Mathematics. Approaches need to be related to the topic itself and to the abilities and experience of both teachers and pupils.
Our teaching at all levels shall include opportunities for:

- teacher exposition;
- mathematical thinking - discussion techniques (pupil/pupil and pupil/teacher) – if taught ideas are to be understood, they must not merely be passively received but must be worked on by the pupil: thought about, reasoned with and discussed with others;
- appropriate practical work;
- consolidation and practice of fundamental skills and routines;
- variation;
- problem solving;
- fluency: the committing to memory and recall of a range of mathematical facts and procedures and the flexibility to move between different contexts and representations of maths;
- investigation work;
- classwork, group work, individual work.

ADAPTATION

Pupils are likely to learn at different rates and to require different levels and types of support from teachers to succeed. Seeking to understand pupils' differences, including their levels of prior knowledge and potential barriers to learning, is an essential part of teaching. Adapting teaching in a responsive way, including targeted support to pupils who are struggling, is likely to increase pupil success.

Teachers provide a measurable and challenging learning outcome and use progression steps to 'chunk' progress towards that outcome in mathematics.

This can be done by **anticipating barriers**, such as: different levels of prior knowledge, vocabulary, common misconceptions. Teachers **plan to address barriers** by, for example, teaching vocabulary, using stepped activities via scaffolding and modelling techniques, using resourcing which provides a variety of resources depending on abilities e.g. counters, cubes, 100 squares, number lines, mirrors. Teachers then **use assessment to elicit evidence of learning** by questioning, talk, written answers etc. **Assessment information informs subsequent planning and in the moment adaptations**. Examples of in the moment adaptations are adjusting the level of challenge, highlighting essential content, taught methods and strategies.

SPECIAL EDUCATIONAL NEEDS

Children with Special Educational Needs are taught within the daily mathematics lesson and are encouraged to take part when and where possible (please see the section on differentiation).

Where applicable children's pupil passports incorporate suitable objectives from the 2014 National Curriculum and teachers keep these objectives in mind when planning work.

When additional support staff are available to support groups or individual children they work collaboratively with the class teacher.

Within the daily mathematics lesson teachers not only provide activities to support children who find mathematics difficult but also activities that provide appropriate challenges for children who are high achievers in mathematics.

ASSESSMENT

We assess children's work in mathematics from three aspects (long-term, short-term and medium-term).

We make short-term assessments (Assessment for Learning) which we use to help us adjust and adapt our daily plans. These short-term assessments are closely matched to the teaching objectives and will usually not be formally recorded.

We assess children's understanding at the end of units and also assess children at the end of each term in order to closely monitor progress and how well they have retained new learning.

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 use the national tests for children in Year 2 and Year 6.

REPORTING TO PARENTS

Reports are completed before the end of the summer term and parents are given opportunity to discuss their child's progress in Parents' Evenings during the year.

Teachers use the information gathered from their assessments to help them comment on individual children's progress.

MONITORING AND EVALUATION

The mathematics coordinator monitors and evaluates the quality and standards of mathematics throughout the school through:

- Lesson observations.
- Analysis of SATs results and teacher assessment.
- Monitoring of planning and children's work.

EYFS

Mathematics is continually developed within early years: children are given time to explore mathematical concepts, test ideas, develop their understanding and practice skills through play. Maths can be found in all areas of our continuous provision and children experience it in a purposeful and meaningful context within their play and daily routines. Children are encouraged to use their mathematical understanding and skills to solve real-life problems and practitioners are trained to identify and extend opportunities to foster this.

The EYFS Framework in relation to mathematics aims for our pupils to achieve the following Early Learning Goals:

ELG: Number

• develop a deep understanding of number to 10, including the composition of each number.

• Subitise up to 5.

• Automatically recall number bonds up to 5 and some number bonds up to 10, including double facts.

ELG: Numerical Patterns

• Verbally count beyond 20, recognising the pattern of the counting system.

• 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.

In addition, the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures.

THE ROLE OF THE MATHEMATICS CO-ORDINATOR

- Prioritise improvements for the teaching and learning of mathematics across the school and contribute to the school improvement plan, in consultation with the Headteacher and Governing Body, driving forward the improvement of mathematics teaching and progress and achievement of learners.
- Evaluate on a regular basis the policy and scheme of work to ensure they form the basis of practice of mathematics within the school.
- Support teachers in their teaching of mathematics.
- To encourage and assist in-service training.
- To keep up-to-date by attending courses and feedback sessions organised by LEA, cluster groups or other colleagues.
- To purchase, organize and maintain teaching resources.
- Track the progress of identified groups of children and be involved in a thorough evaluation of Mathematics looking at trends over time, value added from baseline predictions to end of Key Stage Assessment results and report findings to the headteacher and governors.
- To offer specialist advice and knowledge for special needs and gifted pupils.
- To co-ordinate recording and presentation throughout the school.
- Audit provision for mathematics across the school in terms of teaching and learning, resources, and standards on a regular basis.
- To encourage ways of involving parents in their children's learning.

The over-riding focus must be to provide the best mathematical experiences for the children in Tonacliffe Primary School by supporting everybody who teaches mathematics and so improve the quality and continuity of mathematics teaching and learning throughout the school.

THE GOVERNING BODY

The numeracy governor visits the school to talk with teachers and when possible, observes some daily mathematics lessons.

The numeracy governor reports back to the curriculum committee on a regular basis

EQUAL OPPORTUNITIES

This policy has been written according to the guidelines laid down in the school's Equal Opportunities Policy. As with all teaching at the school, mathematics is taught in such a way as to include all children irrespective of their ability, gender, race or ethnicity.

Policy reviewed August 2025 by Joanne Heap

Policy to be reviewed September 2026