

Town Lane Infant School



Maths Policy

Reviewed Date: Autumn 2022

This policy reflects and promotes the following articles from the UN Convention on the Rights of the Child

Rights Respecting School

Article 28- Every child has the right to an education. Primary education must be free. Discipline in school must respect children's dignity. Richer countries must help poorer countries to do this.

Article 3- The best interest of the child must be a top priority in all things that affect children.

Article 4- Governments must do all they can to make sure all children can enjoy their rights.

Article 5- Governments must respect the rights and responsibilities of parents and carers to direct and guide their children as they grow up so that they can enjoy their rights properly.

Article 12- Every child has the right to have a say in all matters affecting them and to have their views taken seriously.

Article 13- Every child must be free to say what they think and to seek and receive all kinds of information, as long as within the law.

Article 15- Every child has the right to meet with other children and to join groups and organisations, as long as this does not stop other people enjoying their rights.

Article 23 – A child with a disability has the right to live a full and decent life with dignity and independence and to play an active part in the community. Governments must do all they can to provide support to disabled children.

Article 29- Education must develop every child's personality, talents and abilities to the full. It must encourage the child's respect for human rights, as well as respect for their parents, their own and other cultures and the environment.

Subject Leadership

We have developed a team approach to the leadership of Maths. The person currently responsible for the leadership of Maths is Jade Bithell who works closely alongside Sarah Price EYFS lead.

Audience:

This document is intended for use by all teaching staff, and for information to non-teaching staff, Governors, Inspectors and the LEA Advisory service. The Head teacher will retain a copy.

Purpose and Aims:

This policy reflects the school values and philosophy in relation to mathematics. It sets out a framework within which staff should operate. It should be read in conjunction with the National Curriculum and Foundation Stage Guidance Frameworks.

Intent

As Mathematicians at Town Lane Infant School, children will develop fluency, knowledge and understanding to use mathematics as a tool for everyday life. Practical experiences and a growth mindset will ensure a solid understanding is gained which will foster a life-long love of maths. A positive mindset for mathematics, throughout the school community, and strong subject knowledge demonstrated by all staff are key to children's success in mathematics. Using the expected outcomes from the National Curriculum and the Statutory Framework for the Early Years, it is our intent to develop:

- A positive attitude towards mathematics
- Fluency and a secure knowledge of number facts and a secure understanding of the four operations and how they are inter-related.
- An ability to solve problems, to reason, to think logically and to work systematically and accurately
- An ability to communicate mathematics using accurate mathematical vocabulary

Implementation

In the Foundation Stage, teachers use the Statutory Framework for the Early Years, alongside Development Matters and Birth to Five Matters, when planning to ensure all age related expectations are being met. Teachers in the Foundation Stage base their teaching on the principles in the Statutory Framework. Whole class number fluency sessions, following NCETM Mastering Number programme, take place four times per week with an additional session allocated for independent recording in Magic Maths books. In addition, the children learn through directed and self-initiated play. Planning is topic based and flexible, allowing work to be led by the children's own interests. Objectives for each area of the curriculum are included on the plans and work is adapted to suit the various needs of the children.

In Key Stage One, teachers use the National Curriculum year group expectations when planning to ensure all age related expectations are being met. In Key Stage One the mathematics curriculum is divided into key mathematical areas. The long term plan for each year group can be found on our school website. Using the small step sequences from NCETM Curriculum Prioritisation document, we are ensuring children gain an in-depth understanding of maths by teaching fluency, reasoning and problem solving on the children's journey to mastery of the curriculum. In Key Stage One teaching can be individual, small group or whole class depending on the area of study. Moderation and evaluation of teaching and learning is ongoing and takes place during planning meetings. Additional number fluency sessions take place in KS1 following the NCETM Mastering Number programme.

The features of a maths lesson at Town Lane Infant School are:

- **The use of concrete-pictorial-abstract**

All students, when introduced to a key new concept within Maths, will have the opportunity to build competency in this topic by taking the approach Concrete – Pictorial – Abstract, described below.

Concrete – children will have the opportunity to use concrete objects and manipulatives to help them understand what they are doing.

Pictorial – children will then build on this concrete approach by using pictorial representations. These representations can then be used to reason and solve problems.

Abstract – with the foundations firmly laid, children will be able to move to an abstract approach using numbers and key concepts with confidence.

- **Opportunities to develop fluency**

Fluency means more than just knowing key mathematical facts and recalling them efficiently, although this is an important element. Fluency in Maths works through intelligent practice (rather than just mechanical repetition). Once a child has grasped a concept, the idea is that they are exposed to varied fluency activities which develop their understanding. Fluency gives pupils the ability to delve deeper into Maths; to develop number sense and choose the most appropriate method for the task at hand; to be able to apply a skill to multiple contexts.

- **Reasoning opportunities.**

It is crucial that opportunities to develop mathematical reasoning skills are integrated fully into the curriculum. Such skills support deep and sustainable learning and enable pupils to make connections in mathematics. Opportunities are provided for children to reason verbally, with excellent modelling by the adults in the classroom, moving on to written when appropriate.

- **Adaptive teaching**

Teaching for mastery is about how all pupils can be helped to understand new concepts and techniques. Within a lesson, adaptive teaching may be evident through varied resources, allocation of support (adult or peer) and the careful use of questioning.

- **Links made to prior knowledge**

At Town Lane Infant School we focus on the development of deep structural knowledge and the ability to make connections. Making connections in mathematics deepens knowledge of concepts and procedures, and ensures what is learnt is sustained over time.

- **Consistent and accurate use of mathematical vocabulary**

Using correct mathematical language is crucial for thinking, learning and communicating mathematically. Children may build knowledge through remembering information that they hear, but it is only when they put these ideas into their own words that it becomes clear whether concepts have been learned effectively. Teachers at Town Lane Infant School plan the introduction of new words into lessons and provide opportunities for children to rehearse and use them on a regular basis so that they begin to remember both the words themselves and their meanings. Maths vocabulary will be displayed in each classroom

Cross-Curricular Links:

Throughout the curriculum opportunities exist to extend and promote mathematics. Teachers seek to take advantage of all opportunities during cross curricular topic work.

Inclusion and Participation

In order to ensure that all pupils can access the curriculum, adaptive teaching is used within lessons. Teachers and teaching assistants effectively support children who are working below the expected level of achievement at an individual level or within small groups

Lessons are organised in a variety of ways in order to take account of different learning styles and include visual, auditory and kinaesthetic activities. It is also recognised that children come from different social, moral, spiritual and cultural backgrounds and this is taken into account when planning units of work.

Pupils' Records of their work:

Pupils are encouraged and helped to use the most appropriate and convenient method of recording their work. This is started in F2 when children represent amounts in their Magic Maths books.

The children are encouraged to record their workings in a way that is meaningful to them but there are occasions when children carry out written calculations to practise different learning methods and teaching objectives being taught. It is also important to record aspects of mathematical investigations.

In Nursery and Reception our skilled practitioners are able to articulate a child's learning journey in terms of their mathematical knowledge and understanding. Additional evidence will be found in the child's Remarkable Moments books, Magic Maths book (F2 only) and on Tapestry.

Marking, Assessment and Record keeping:

Work in mathematics can generate a great deal of marking and it is recognised that it is not always desirable to annotate every piece of work. All work however must be marked and dated in accordance with the Maths Marking and Feedback policy. In summary, marking in books to use pink and green to be in line with the whole school marking policy only when marked during the lesson and children are present to act upon the marking (with the exception of number formation). Following each mathematics lesson, teachers will acknowledge the work produced by using a small colour coded dot at the bottom of the page linked to whether the intended

learning outcome for the lesson has been met or not. Achieved-pink, Needs to consolidate – amber, Needs to revisit with adult support-green. Errors are to be carefully considered to inform future planning.

Teachers are expected to make regular assessments of each child's progress and to record these systematically. Reference should be made to the school's assessment policy. The school uses the program Insight Tracking to record and track children's progress.

The following assessments strategies are used in mathematics:

- Short term-made daily/weekly and may be recorded in children's books, post its, observations, photos or on daily evaluations of teaching and learning. This will inform the following daily/weekly lesson planning and gives instant feedback for teachers.
- Medium term- based on the objectives taught during the medium term. Some formal testing may take place eg White Rose end of term assessments or mental maths tests in Key Stage One,
- Termly- using classroom monitor and the Teacher Assessment Frameworks to level performance and monitor progress
- Long term- based on end of year tests e.g. SATs, Teacher Assessment Frameworks

Parental/Carer and Community involvement:

Town Lane prides itself on its strong relations with parents and carers

- A topic letter is sent home by each year group half termly stating learning objectives to be covered
- Parents are welcomed into the school to work in classrooms or to support with the running of the school's maths library
- Foundation and Key Stage 1 maths workshops are held for parents
- A presentation for parents is given on maths learning during both the Curriculum presentation evening and the Foundation Stage evening.
- Help sheets are provided for parents
- The school website has links for parents to share resources with their children
- Homework is sent home (see homework section)
- Children take home a maths game weekly from our library (see homework section)
- All new parents and pupils receive a maths pack when entering our school which included games and resources

Homework:

It is our school policy to provide parents and carers with the opportunities to work with their children at home. These activities may only be brief, but are valuable in promoting children's learning in mathematics. In F2, years 1 and 2, engagement with an online learning platform

focusing on subitising, addition and subtraction, Numbots, is encouraged and monitored. Children also have the opportunity to take home a maths game weekly from the school's maths' library. In addition, challenges with a Maths focus may be set in 'Learning Logs' for children in KS1. Children on the SEN register have homework activities based on their individual targets which are regularly sent home

Resources

Resources are regularly audited and updated by the Maths team. The budget is allocated based on need. Allocation takes into account the requirements of all year groups, across all aspects of the Maths curriculum as well as any particular aspect of Maths detailed in the School Strategic Development Plan.

Monitoring and Evaluation:

The co-ordinator and members of the senior management team and governing body take part in the regular monitoring of standards and quality in mathematics through

- Team teaching
- Observations, coaching opportunities
- Work sample monitoring
- Monitoring of planning
- Pupil voice
- Staff feedback
- Data analysis
- Supporting moderation of work within year groups, transition
- Co-ordinators annual action plan
- School Development plan

External inspection advice from OFSTED or LA will also provide evaluation of maths

Inset:

Professional Development is seen as crucial to the continuing high standards and results of the school. The Math's leader and the Head Teacher will review, evaluate and work with colleagues to develop a programme of staff development that will

- keep all staff up-to-date with new developments locally and nationally
- provide opportunities to share good practice
- provide opportunities of moderation to ensure that staff have a shared understanding of achievement in maths within school
- provide appropriate training and support including delivering the necessary Inset material, and to strengthen the teacher's knowledge of numeracy and mathematical topics.

The Governing Body:

The school has identified a numeracy governor. The governor receives relevant training and visits the school to meet with teachers. The numeracy governor is responsible for reporting back to the curriculum committee along with the co-ordinator.

Other points of reference:

Statutory Framework for the Early Years
National Curriculum Framework
Marking and Feedback Policy
Homework Policy
Calculation Policy
Assessment Policy
Planning files
Inclusion Policy

Review and Evaluation

This policy will be reviewed annually by the Maths Subject Leadership Team and amended where necessary after consultation with staff and governors.