

Newdale Primary School and Nursery



Policy for Maths

Reviewed: November 2021
Next Review: November 2022

As a school we endorse the view expressed in the National Curriculum document:

Mathematics is a creative and highly interconnected 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.

National curriculum in England: mathematics programmes of study, National Curriculum 2014, DFE

School Vision

Doers, Believers, Achievers

*"To go further than I thought
To run faster than I hoped
To reach higher than I dreamed
To become the person I need to be"*

Rationale

At Newdale we aim to inspire all children to reach their full potential. In mathematics this means ensuring a curriculum that is fully inclusive of all children which:

- Develops children's knowledge and understanding of Mathematical concepts whilst enabling them to practice and hone skills and methods;
- Enables them to think critically and communicate their understanding;
- Gives them opportunities to apply learnt mathematical skills in different contexts across the curriculum.
- Provides opportunities to develop problem solving skills useful for maths and across the curriculum.

This policy is set within the context of the school's vision, aims and policy on teaching and learning. As a result of their learning in mathematics and problem solving across the curriculum children will:

- Be prepared for applying their skills effectively in everyday life situations, in their future learning and in the work place.
- Have the building blocks in place and to provide a solid foundation to lead onto secondary, further and higher education.

Through teaching, children will learn to understand, distil and clarify information; consider what they know that will help them to solve problems, realizing what they need to know next; create systems and strategies, organizing information in a way that helps find patterns and ultimately solutions and to communicate and present their findings effectively.

Principles

Planning For Maths:

In Early Years, we believe that developing children's understanding of numbers to 10 is critical. In September 2021, the New EYFS Framework was released. We have chosen objectives from Birth to Five Matters and Development Matters to ensure our children are given the best opportunity to reach the ELG at the end of Reception. In Nursery, children follow a regular Numbers and Patterns scheme which is adapted to meet the needs of our pupils. The scheme helps children to become familiar with smaller numbers and begin to learn how to subitise numbers to 5. To help children with Problem Solving and Reasoning, EYFS has implemented a number of strategies to help support mathematical development: regular Messy Maths, Maths Storytime and Snack Time Maths opportunities.

Teachers use the National Curriculum 2014 alongside local authority guidance and resources from organisations such as the Maths hubs, White Rose and NCETM to help them to plan their maths lessons. Pre and Post assessments in maths are used to aid the teacher in planning appropriately and specifically for the area of maths being covered. Where possible, maths is linked to other areas of the curriculum and into real life contexts to help the children further understand how these skills will aid them in the future. At the teachers' own discretion, they feed in problem solving and investigation lessons related to the current area of learning. Teachers use a wide range of resources to plan exciting and motivating lessons, which address the three aims of the curriculum; Fluency, Reasoning and Problem Solving.

This year, KSI and Reception will also be following the Master Number Programme where the children will have a daily teacher-led session of 10 to 15 minutes in addition to their daily maths lesson to develop solid number sense.

Teaching and Learning

Emphasis is on direct teaching, mental strategies and differentiated work. A maths lesson will be taught every day and may include all or some of the following elements:

- A mental/oral starter;
- A main activity, meeting the main objectives;
- A plenary which draws together learning, discusses misconceptions, or extends the learning further.

During daily maths lessons, teachers and teaching assistants will teach maths through the following approaches:

Teacher Demonstration/Modelling: Where the teacher is an expert in the calculation or mathematical approach.

Teacher Scaffolding: Where the teacher may give some form of support including models and images.

Teacher as Scribe: Where the teacher acts as scribe for the children's ideas.

Independent Maths: Children will have regular practise at independent maths for a variety of different skills and purposes. This will encourage them to develop a love for maths and a confidence in the skills needed. They will also have independent maths opportunities when completing Pre and Post assessments (see assessment section).

As well as this, we follow the new structure of Mastery, providing all children with the same opportunities to succeed.

The learning is structured according to the year group that the pupils are in. No scheme is followed as teachers plan and develop lessons in line with their themes and topics. This allows staff to personalise the learning to address the needs of their classes.

Please see the Marking Policy and assessment section for further information on how marking informs teaching and learning.

Covid19

From September 2020, the sequence of learning in KS1 and 2 will be based on a spiral curriculum approach which involves regularly re-visiting the same mathematical topic over the course of each year; each time the content is re-visited, the students gain deeper knowledge of the topic. However, due to Covid19, some units of learning were missed from Spring/Summer 2020 and throughout 2021. Teachers are now using the pre-assessments completed at the beginning of each topic to identify any gaps in learning and ensure that they revisit missed learning through starters and relevant units. Children will receive the missed coverage as well as learn new objectives for their current year group; however, as a result, the documented sequence for each year group, may not be followed as detailed during this academic year (2021-22).

Assessment in Maths:

Following the guidelines set out in the school assessment policy, continuous feedback is given to children orally within class. We operate a system of Close the Gap/ Convince me marking to develop children's work. This can be used to mark children's work who are working alongside the class teacher or independently. This marking will be a focus group mark and will not be present in every child's book every day!

Children's Maths attainment and progress is monitored through Pre and Post assessments, written by teachers and tailored to the particular area of maths being covered at that time. These assessments are then used to aid the teacher in planning appropriately for the area of maths being covered. These pre and post assessments will also highlight whether mathematical knowledge has been retained from previous teaching.

It is also monitored on a termly basis through assessment weeks. These tasks assess children's ability in relation to National Curriculum levels for mathematics. Their progress is then assessed in relation to the National Curriculum objectives. The outcomes are used to set the children's next termly target/s and to inform planning. This assessment week feeds into pupil progress meetings and is used to target children for specific teaching input from teaching assistants and/ or class teachers. In addition to end of Key Stage testing, children will also undertake formal testing in Years 1, 3, 4 and 5 (NFER tests are used).

We frequently hold moderation meetings to ensure the consistency of levels between year groups, in phases and across the whole school. This ensures that all staff have a good understanding of our assessment system and children's progress throughout the school.

Inclusion

We aim to promote equality of opportunity for every child and ALL children have equal access to the Mathematic curriculum regardless of race, gender, background, disability or religion. Mathematical skills are incorporated within the EYFS timetable and children work towards the readiness to cover the National Curriculum Mathematics programmes of study during their time in Reception.

KS1 and KS2 children all have daily Mathematics lessons. Through our Mathematics teaching, we provide learning opportunities that enable all pupils to make at least good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those identified as gifted and talented and those learning English as an additional language, and we take all reasonable steps to achieve this.

Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels. This ensures that our teaching is matched to the child's needs *(Please see assessment section for further information on this)*.

Special Educational Needs

The school is committed to the early identification of Special Educational Needs and we operate using the Code of Practice (2014) to address those needs (*Please see the Special Educational Needs Policy for further information on this*).

The mathematics curriculum is always differentiated in a variety of ways to cater for children's abilities and we aim to mark work and give individual support wherever possible to encourage all of our pupils.

In addition, those with learning difficulties may:

- Receive support from a Learning Support Assistant, outside agencies or specialist support staff;
- Use specific resources or specialist equipment that may be required to enable the child to take part in practical work;
- Have parallel lessons planned to support individual needs, as appropriate.
- Receive interventions linked directly to their need (*See the intervention section for further information on this*)

Provision for the Able and Talented

For those children who are deemed to be high achievers and/or 'Able and Talented' certain action may be taken:

- Undertaking activities appropriate to ability;
- Receiving support from outside agencies;
- Parallel lessons or challenges planned for, sometimes through interventions;
- Investigations that use and apply their skills and develop deeper thinking and strategies.

Please see the Able and Talented Policy for further information.

Tracking and Intervention:

At Newdale we aim to provide children who are not making good progress, with extra support through interventions. Interventions in maths should be based on developing key number skills that are appropriate for the children involved. These are provided to boost children's progression in maths should be tightly planned with assessments made frequently to ensure progress is being made.

Interventions are carried out by Teaching Assistants or Teachers and take place at a variety of times where necessary.

We identify from tracking any issues that exist and plan initiatives that would address these as part of teacher performance review meetings where children's performance is evaluated on an individual basis with class teachers.

We also examine the progress of ability groups and those with English as an additional language, those entitled to the Pupil Premium and those with a Special Educational Need. Where data indicates a whole school issue, it will form part of the School Action plan which runs alongside the School Development Plan.

Homework:

It is expected and set out by teachers that on a nightly basis, children are practising their times tables, number bonds or any other key skill being learnt at this time. We have invested in Timestable Rockstars/ Numbots to support pupils learning at home.

The Environment

We recognise the important role displays have in the teaching and learning of mathematics by having mathematics work displayed in classrooms and around school. Every class has a mathematics display, or an area to support maths learning which has number lines, number grids, vocabulary and other materials that

provide visual support, promote mathematical thinking and discussion and to prepare them for their future learning.

Resources

Pupils should engage in activities from a variety of sources. Through regular access to computers and iPads, they will experience the fascination of mathematical exploration and investigation. They should also have the power to solve real and challenging problems.

Each classroom has a variety of teaching aids to support mathematics (*Please see The Environment section*).

All classes have access to a wide variety of equipment and pupils are encouraged to choose resources which are relevant to their work. In the Early Years, mathematical concepts are introduced using the Numicon resources.

On entry to Year 1, this model and image is phased out. (*Please see the Calculation policy for more information*).

Community Links

Children are actively encouraged by teachers to use their mathematical skills outside of school. On occasion trips are made to places such as Supermarkets or restaurants where the children can use their maths in real life contexts.

The Role of Parents:

Parents are actively encouraged to help in school and support their children at home. In line with Ofsted recommendations, all staff are investigating ways to best support parents at home.

Management

The Maths Co-ordinator works in conjunction with Telford and Wrekin Central Cluster which provides regular moderating opportunities. In addition, the Maths Coordinator liaises with outside maths consultants as appropriate.

The role of the Maths Co-ordinator:

- Ensure a core of material is available
- Review and monitor planning
- Monitor maths teaching and evaluate pupils work
- Arrange liaison with outside consultants
- Work alongside staff to support if required
- Attend relevant courses to be aware of new ideas and disseminate these to all staff and to arrange appropriate inset for colleagues
- Be responsible for ordering all maths resources
- Carry out a curriculum review and relay findings to the Governors and staff
- Update the policy document as necessary

Review and renew a Raising Attainment Plan each term with staff

Induction of staff

New members of staff will be introduced to the policy, planning requirements, specific targets and resources by the co-ordinator. NQTs receive additional LA training as part of their induction. *Please see the Induction Policy for further information.*

Policy Review:

The Maths policy will be reviewed on an annual basis. The date for the next policy review is Autumn Term of 2022.

Agreed by staff: March 2019
Agreed by Governors: March 2019