

Wheldrake with Thorganby CE Primary School

Mathematics Policy

Working together to be the best we can be



Love your Neighbour as yourselves

Matthew 22:39

Let us encourage one another

Hebrews 10:25

Statement of intent

Wheldrake with Thorganby CE Primary School recognises that mathematics is both a key skill within school, and a life skill to be utilised through everyday experiences. A high-quality mathematics education provides a firm foundation for understanding how mathematics is used in everyday life and activities, developing pupils' ability to reason mathematically.

Through our mastery approach to the teaching of mathematics, we aim to develop:

- A positive attitude towards mathematics and an awareness of the relevance of mathematics in the real world.
- A process of enquiry and experiment.
- An ability to solve problems and think logically in order to work systematically and accurately.
- An ability to work both independently and in cooperation with others.
- Competence and confidence in pupils' mathematics knowledge, concepts and skills.
- An appreciation of the creative aspects of mathematics and an awareness of its aesthetic appeal.

Statement of implementation

Our intent is delivered through carefully planned mathematics lessons that are designed to gradually develop concepts and mathematical skills.

Curriculum maps are based on the White Rose yearly overviews which set the curriculum out in blocks enabling children to get to grips with different areas of mathematics through extended periods of time. Alongside the White Rose materials, we use other resources, where appropriate, to ensure that our offer is rich and varied. Teachers also implement the schools agreed calculation policies for progression in written and mental calculations.

We follow a Concrete, Pictorial and Abstract approach to guide children through their understanding of mathematical processes. Homework is set at an appropriate level to develop and review children's learning.

Correct mathematical vocabulary is used by all teachers and this is discussed with and explained to children who are then encouraged to use it independently when talking about mathematics. Vocabulary is displayed clearly on working walls and is referred to in lessons.

Discussion is essential to learning and children are encouraged to discuss their thoughts, ideas and methods with a partner, group or the teacher. Task types are varied and investigative tasks are designed to allow pupils to follow lines of enquiry and develop their own ideas, justifying and proving their answers. Children work both collaboratively and independently when solving problems which require them to persevere and develop resilience.

Work in mathematics is live marked where possible to enable misconceptions to be identified quickly. These misconceptions are then also used as a teaching point in the following lesson.

Statement of impact

As a result of our Maths teaching at Wheldrake with Thorganby CE School children are engaged and challenged. They confidently talk about their learning and the links between mathematical topics. Lessons use a variety of resources to support learning and different representations of mathematical concepts are used. Attainment is tracked and monitored to ensure all children make good progress.

Legal Requirements

This policy has due regard to statutory guidance including, but not limited to, the following:

- DfE (2013) 'National curriculum in England: Mathematics programmes of study'
- DfE (2021) 'Statutory framework for the early years foundation stage'

The national curriculum is followed and provides a full breakdown of the statutory content to be taught within each unit.

Roles and responsibilities

The **mathematics subject leader** is responsible for:

- Preparing policy documents, curriculum plans and schemes of work for the subject.
- Reviewing changes to the national curriculum and advising on their implementation.
- Monitoring the learning and teaching of mathematics, providing support for staff where necessary.
- Ensuring the continuity and progression from year group to year group.
- Encouraging staff to provide effective learning opportunities for pupils.
- Helping to develop colleagues' expertise in the subject.
- Organising the deployment of resources and carrying out an annual audit of all mathematics-related resources.
- Liaising with teachers across all phases.
- Communicating developments in the subject to all teaching staff.
- Leading staff meetings and providing staff members with the appropriate training.
- Organising, providing and monitoring CPD opportunities in the subject.
- Ensuring common standards are met for recording and assessing pupil performance.
- Advising on the contribution of mathematics to other curriculum areas, including cross-curricular and extra-curricular activities.
- Collating assessment data and setting new priorities for the development of mathematics in subsequent years.

Each **class teacher** is responsible for:

- Acting in accordance with this policy.
- Ensuring progression of pupils' mathematical skills, with due regard to the national curriculum.
- Planning lessons effectively, ensuring a range of teaching methods are used to cover the content of the national curriculum.
- Liaising with the subject leader about key topics, resources and support for individual pupils.
- Monitoring the progress of pupils in their class and reporting this on an annual basis to parents.
- Reporting any concerns regarding the teaching of the subject to the subject leader or a member of the senior leadership team (SLT).
- Undertaking any training that is necessary in order to effectively teach the subject.

The **special educational needs coordinator (SENDCO)** is responsible for:

- Liaising with the subject leader in order to implement and develop mathematics throughout the school.
- Organising and providing training for staff regarding the mathematics curriculum for pupils with special educational needs and disabilities (SEND).
- Advising staff how best to support pupils' needs.
- Advising staff on the inclusion of mathematical objectives in pupils' individual education plans.
- Advising staff on the use of teaching assistants in order to meet pupils' needs.

Early Years Foundation Stage provision

Activities and experiences for pupils will be based on the seven areas of learning and development, as outlined in the DfE's 'Statutory framework for the early years foundation stage'.

Three areas are particularly important for building a foundation for igniting children's curiosity and enthusiasm for learning, forming relationships and thriving. These are the prime areas:

- Communication and language
- Physical development
- Personal, social and emotional development.

Providers must also support children in four specific areas, through which the three prime areas are strengthened and applied.

- Literacy
- Maths
- Understanding the world

- Expressive arts and design

Activities will provide pupils with the opportunity to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems, and describing shapes, spaces and measurements.

All activities will adhere to the objectives set out in the framework.

Cross-curricular links

Wherever possible, the mathematics curriculum will provide opportunities to establish links with other curriculum areas.

In English, mathematical terminology is used, where appropriate. Maths-based texts are occasionally used in English lessons and in guided reading sessions.

In Science, pupils' data collection and analysis skills are further developed through the conduction of physical experiments, using units of measurement, calculating averages and interpreting results. Pupils record their findings using charts, tables and graphs.

In Humanities, data analysis, pattern seeking and problem-solving skills are developed through the teaching of geography. Pupils' understanding of time and measurements of time are developed through discussions of historical events.

In ICT, pupils are encouraged to use calculators and other electronic devices, gaining confidence throughout their school experience. ICT will be used to enhance pupils' mathematics skills through the use of online resources and the creation of spreadsheets. ICT will be used to record findings, using text, data and tables.

Teaching and learning

Pupils will be taught to describe key characteristics and associated processes in common language, as well as understand and use technical terminology and specialist vocabulary.

Pupils will undertake independent work, and have the opportunity to work in groups and discuss work with fellow classmates.

Lessons will allow for a wide range of mathematical, enquiry-based research activities, including the following:

- Questioning, predicting and interpreting
- Pattern seeking
- Collaborative work
- Problem-solving activities
- Classifying and grouping

Lessons will involve the use of a variety of sources, including data, statistics, graphs and charts.

The class teacher, in collaboration with the mathematics lead, will ensure that the needs of all pupils are met by:

- Setting tasks which can have a variety of responses.
- Providing resources of differing complexity, according to the ability of the pupils.
- Setting tasks of varying difficulty, depending on the ability group.
- Utilising teaching assistants to ensure that pupils are effectively supported.

A mathematics mastery approach is taken to the curriculum, in which fluency comes from deep knowledge and practice. This means that structured questioning is used to ensure that pupils develop fluent technical proficiency and think deeply about the underpinning mathematical concepts.

Focus is put on the development of deep structural knowledge and the ability to make connections, with the aim of ensuring that what is learnt is sustained over time.

At Wheldrake with Thorganby School, we do not prioritise between technical proficiency and conceptual understanding, and we aim to develop these in parallel.

Planning

All relevant staff members are briefed on the school's planning procedures as part of their staff training.

Throughout Wheldrake with Thorganby School, mathematics is taught as a discrete lesson and as part of cross-curricular themes when appropriate.

Teachers will use the key learning content in the DfE's statutory guidance 'National curriculum in England: mathematics programmes of study', published in 2014.

Lesson plans will demonstrate a balance of interactive and independent elements used in teaching, ensuring that all pupils engage with their learning.

There will be a clear focus on direct, instructional teaching and interactive oral work with the whole class and targeted groups.

Teachers will ensure that all mathematics lessons include a focus on mental calculation.

Long-term planning will follow White Rose Maths Scheme and will be used to outline the units to be taught within each year group.

Medium-term planning will follow White Rose Maths Scheme and will be used to outline the vocabulary and skills that will be taught in each unit of work, as well as highlight the opportunities for assessment.

Medium-term plans will identify learning objectives, main learning activities and differentiation.

Medium-term plans will be shared with the mathematics lead to ensure there is progression between years.

Short-term planning will be used flexibly to reflect the objectives of the lesson, the success criteria and the aims of the next lesson.

Short-term planning is the responsibility of the teacher. This is achieved by building on their medium-term planning, taking into account pupils' needs and identifying the method in which topics could be taught. White Rose Maths Scheme supplemented by NCETM spines will be used.

All lessons will have clear learning objectives, which are shared and reviewed with pupils.

Homework will be set in KS2 on a weekly basis and will build on the pupil's fluency of recall of number facts, primarily recall of times table facts.

Homework will take a variety of formats, including mental mathematics tasks, games and IT programmes.

Assessment and reporting

Pupils will be assessed and their progression recorded in line with the school's Assessment Policy.

An EYFS Profile will be completed for each pupil in the final term of the year in which they reach age five.

The progress and development of pupils within the EYFS is assessed against the early learning goals outlined in the 'Statutory framework for the early years foundation stage'.

Throughout the year, teachers will plan on-going creative assessment opportunities in order to gauge whether pupils have achieved the key learning objectives.

Assessment will be undertaken in various forms, including the following:

- Talking to pupils and asking questions
- Discussing pupils' work with them
- Marking work against the learning objectives
- Pupils' self-evaluation of their work

- Classroom tests and formal exams

Formative assessment, which is carried out informally throughout the year, enables teachers to identify pupils' understanding of subjects and inform their immediate lesson planning.

In terms of summative assessments, the results of end-of-year assessments will be passed to relevant members of staff, such as the pupil's future teacher, in order to demonstrate where pupils are at a given point in time.

Reception class complete a baseline on entry and progress is monitored against this. Standardised tests (Y2 / Y6 - Sats papers, Y3,4,5 - NFER) will be used three times a year, towards the end of each academic term, to measure each pupil's attainment in all areas of mathematics. These results will be compared with an 'average' for all pupils of that age. Year 4 complete a times table test in June.

End of unit assessments will be undertaken throughout the year in Y1 - 6 to inform the class teacher on the pupils' understanding and to inform future planning and if possible, any intervention which needs to take place.

Parents will be provided with a written report about their child's progress during the Summer term every year. These will include information on the pupil's knowledge levels they have achieved.

Verbal reports will be provided at parent-teacher interviews during the Autumn and Spring terms.

The progress of pupils with SEND will be monitored by the SENDCO.

Resources

The mathematics lead is responsible for the management and maintenance of mathematics resources, as well as for liaising with the school business manager in order to purchase further resources.

Maths resources will be stored in each classroom, including place value equipment, rulers and counters.

Resources which are not required regularly, and those in relation to key whole-school topics, will be stored in the mathematics cupboard.

Display walls will be utilised to include a working wall and updated regularly, in accordance with the area of mathematics being taught at the time.

Maths equipment and resources will be easily accessible to pupils during lessons.

The mathematics lead will undertake an audit of mathematics equipment and resources on an annual basis.

Equal opportunities

All pupils will have equal access to the mathematics curriculum.

Gender, learning ability, physical ability, ethnicity, linguistic ability and/or cultural circumstances will not impede pupils from accessing all mathematics lessons.

Where it is inappropriate for a pupil to participate in a lesson because of reasons related to any of the factors outlined above, the lessons will be adapted to meet the pupil's needs and alternative arrangements involving extra support will be provided where necessary.

All efforts will be made to ensure that cultural and gender differences will be positively reflected in all lessons and teaching materials used.

Wheldrake with Thorganby School aims to provide more academically-able pupils with the opportunity to extend their mathematical thinking through extension activities such as problem solving, investigative work and research of a mathematical nature.

Monitoring and review

This policy will be reviewed on an annual basis by the mathematics subject leader.

The mathematics lead will monitor teaching and learning in the subject at Wheldrake with Thorganby School, ensuring that the content of the national curriculum is covered across all phases of pupils' education.

A named member of the governing body is briefed to oversee the teaching of mathematics, and meets regularly with the mathematics lead to review progress.

Any changes made to this policy will be communicated to all teaching staff.

TC October 2022

Date of validation.....

Signed.....

Headteacher

Date of review.....

Signed.....

Chair of Governors