



Mathematics Policy

2022-2025

This policy is reviewed every three years and was agreed by the Governing Body of Thornton Primary School in Autumn 2022 and **will be reviewed again in Autumn 2025**

Signed: _____ Chair of Governors

Date: _____

Non-Statutory Policy

Aims and Vision



Thornton Primary School Curriculum Intent

Mathematics teaches children how to make sense of the world around them through developing their ability to use number, calculate, reason and solve problems. It helps children to understand relationships and patterns in both number and space in their everyday lives. The Mathematics curriculum should be bold, provide breadth and balance and be relevant and differentiated to suit the needs of all children in the modern world. It should be flexible, motivating all pupils, thus encouraging success at all levels.

Implementation

1. FS organisation

- Our Foundation Stage teachers use the Early Years Foundation Stage Curriculum and White Rose to support their teaching of Mathematics in the Foundation Stage.
- The children have the opportunity to talk and communicate in a widening range of situations and to practise and extend their range of vocabulary and mathematical skills.
- The children explore, enjoy, learn about and use Mathematics in a range of personalised situations.
- Mathematics is planned on a weekly basis and assessed using the criteria from the Early Learning Goals.

- Mathematics is taught both as a discrete subject and within the whole Early Years Curriculum to give children opportunities to use their mathematical skills in real life situations.

2. The National Curriculum for Mathematics (Programmes of Study)

- Our KS1 and KS2 teachers use the National Curriculum, White Rose and Symphony-On Track, to support their planning of Mathematics teaching.
- Securing progression for all children and ensuring mastery of the curriculum is considered crucial. Prerequisites for learning are built into planning, mathematical building blocks which may be impeding understanding are identified and opportunities to ensure full mastery of concepts are provided before moving on to new concepts.
- The short term planning is done weekly, listing the specific learning objectives that are to be covered in each year group class or set for each lesson that week.
- Teaching and learning is differentiated to best match the needs of the class or set and the individuals within it.
- If the needs of the children are best met following an alternative plan, which deviates from the National Curriculum, then the class teacher and the Subject Leader discuss this and decide on a way forward.

3. KS1 and KS2 organisation

- Children in KS1 and KS2 are taught Mathematics for approximately 1 hour daily in mixed ability class groups.
- Regular (at least three times a week) Lemon Curd and Strawberry Jam sessions take place to improve pupils' mental arithmetic and pace. During KS2, children are introduced to Chocolate Spread as well, which supports children in rapid calculation of fractions, decimals and percentages. From Y2-Y6 children also have a Times Tables Rockstars account.
- In Y2-Y6 children complete two arithmetic sessions a week and in Y1-Y6 children complete active arithmetic sessions.

4. Planning formats

- The school uses its consistent formats for long and medium term planning and this informs our teachers' weekly short term planning.
- Short term planning is based on each year group's expectations set within National Curriculum 2014.
- All year groups follow the Mathematics medium term plan from White Rose. In all year groups, teachers supplement their planning with appropriate resources from a range of sources and ensure that regular opportunities are built in to all year groups for children to develop their fluency, reasoning and problem solving skills.
- Short mental calculation and written method sessions are also built into the daily timetable, outside of the main lesson slot. This provides further opportunities to learn key skills.

5. Calculation Policy

- Our teachers are asked to follow the White Rose Calculation Policy when teaching calculation.
- The Calculation Policy explains the key written methods that need to be taught in each year group, to support the planning, delivery and assessment of learning and teaching in Mathematics and to ensure consistency and progression across the School.

6. Cross curricular

- Opportunities are used to draw mathematical experiences out of a range of activities in other subjects, such as in PE, Science and other subjects studied, to enable children to apply and use Mathematics in both real life and academic contexts. During registration time, children are also engaged in a short challenge and this is sometimes Mathematics based.

7. Provision for More Able students

- Our differentiated and personalised teaching in Mathematics, targets the needs of individual students. In each year group, More Able students are identified.
- The Symphony-On Track and White Rose reasoning allows for provision beyond the specific year group when children have a deep understanding of their year group objectives.

8. Resources

- The use of Mathematics resources is planned into our learning and teaching as much as possible.
- We have a wide variety of good quality equipment and resources, both tangible and ICT based, to support our learning and teaching.
- These resources are used by our teachers and children in a number of ways including:
 - a) Demonstrating or modeling an idea, an operation or method of calculation, e.g.: a number line; place value cards; money or coins; measuring equipment for capacity, mass and length; bead strings; the interactive whiteboards and related software; 3D shapes and/or nets; Numicon, base ten and related resources and software; multilink cubes; clocks; protractors; calculators; dice; number and fractions' fans; individual whiteboards and pens; and 2D shapes and pattern blocks, amongst other things;
 - b) Enabling children to use a calculation strategy or method that they couldn't do without help, by using any of the above or other resources as required; and
 - c) Providing a context, for the application and practise of calculation strategies and number skills.
- Standard resources, such as number lines, multi-link cubes, hundred squares, shapes, etc. are located within individual classrooms.
- Resources within individual classes are accessible to all pupils who should be encouraged to be responsible for their use.

- Teachers are encouraged to use the school playgrounds as an outdoor classroom when possible, for example, when teaching length, area or perimeter.

10. Homework (please refer to the School's Homework Policy)

- Mathematics homework (optional) is set for children in Years R-6 every week.
- Homework provides opportunities for children to: practise and consolidate their skills and knowledge; develop and extend their techniques and strategies; and prepare for their future learning through out of class activities and homework.
- Homework activities are varied, interesting and fun so that the children are motivated; the tasks often compliment the area of Mathematics being taught that week.

11. Parents/Carers

- The School aims to involve parents/carers in their children's learning as much as possible and to inform them regularly of their child's progress in Mathematics.
- Parents/carers have the opportunity to meet with child's class/set teachers at least twice a year at parent meetings and receive written reports during the year.
- Parents/carers are encouraged to speak to their child's teacher at any point during the year, either informally or by making a specific appointment.
- Information about their child's standards, achievements and future targets in Mathematics is shared with parents/carers at these times and also ways that parents/carers may be able to assist with their child's learning.
- Parents/carers are encouraged to support their children with homework and to attend parent meetings.

12. Subject Leader

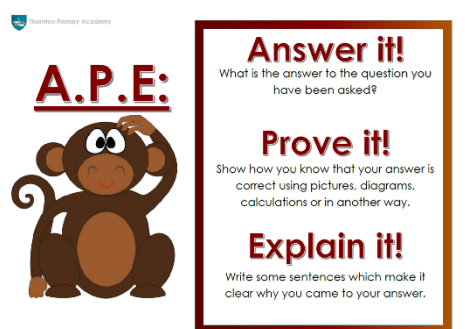
- The role of the Subject Leader is to provide professional leadership and management in Mathematics in order to secure high quality teaching, effective use of resources and high standards of learning and achievement for all pupils.
- They will achieve this by affecting the following key areas: strategic direction and development; learning and teaching (including planning and marking and presentation); leading and managing staff; and efficient and effective deployment of staff and resources.
- The role of the Subject Leader is detailed further in the Subject Leader Job Profile.

The Mathematics Lesson: Good Practice

- The Learning and Teaching Policy identifies the aims, principles and strategies for promoting effective learning and teaching at Thornton

Primary School. These apply to learning and teaching in Mathematics as well as every other curriculum subject area.

- Opportunities for reasoning about Mathematics are built in to each lesson. Children across the school are given opportunities to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language. To support children in structuring their reasoning responses, we use A.P.E (Answer it, Prove it, Explain it).



Assessment, Record Keeping and Reporting (please refer to the School's Assessment and Teaching and Learning Policies)

- Children's standards and achievements in Mathematics are assessed in line with the School's Assessment Policy. Assessment in Mathematics for Years 1-6 includes:
 1. On-going Assessment for Learning (AfL) practices within class and group sessions, including the sharing of and reference being made to pupils' next steps and self and peer assessments of understanding, outcomes and progress.
 2. Marking of children's work; against the shared Learning Objective and for accuracy of answer (for all written work) and diagnostically (regularly in line with school expectations) including clear next steps to consolidate or progress the child's Mathematical understanding;
 3. Opportunities for children to follow up on marking and extend their learning.
 4. Daily and weekly retrieval activities.
 5. End of unit assessments.
 6. Formal assessments, are made for Mathematics each half term (WTS, EXS, GDS). These are recorded within the school's electronic assessment system.
 7. Teachers' class records for number facts (lemon curd); multiplication tables (Strawberry Jam) and fractions, decimals and percentages in KS2 (Chocolate Spread)
 8. Summative assessments of each child's performance using Progress in Maths tests in all year groups and SATS tests in Years 2 and 6

- Children's standards and achievements in Mathematics in the Foundation Stage are assessed in line with the school's Foundation Stage Policy. Assessment in Foundation Stage includes both on-going assessment and marking of children's work as noted above but at an age appropriate level. The Development Matters is used to assess children throughout and at the end of the academic year.
- Assessments are used diagnostically by teachers to evaluate learning and inform teaching and by teachers and senior leaders to evaluate individuals and groups of children's standards and achievements - and to inform future provision and school development.
- Pira tests are used each term in from Y2-Y5, providing children with a standardised score.

Assessment information for Mathematics, both standards and achievements, are shared with parents/carers at parent meetings. Mathematics is reported on in detail in each child's School Report; which includes information about the next steps for learning in the subject.

School Staff

- To promote a confident, positive attitude towards the learning and use of Mathematics making it an enjoyable experience;
- To promote confidence and competence with numbers and the number system;
- To promote the ability to solve problems through connecting ideas, decision-making and applying their mathematical skills in a range of contexts, including other subjects such as Science;
- To promote mathematical reasoning by following a line of enquiry, developing an argument and making justifications using mathematical language;
- To promote a practical understanding of the ways in which information is gathered, presented and used;
- To promote the exploration of features of shape and space and develop measuring skills in a range of contexts;
- To understand the importance of Mathematics in everyday use, especially in relation to essential life skills, such as telling the time and understanding money.

Children

- To develop an enjoyment of learning through practical activity, investigation, exploration; mental exertion and discussion;
- To develop confidence and competence with numbers and the number system;

- To develop the ability to solve problems through connecting ideas, decision-making and applying their mathematical skills in a range of contexts, including other subjects such as Science;
- To develop the ability to reason mathematically by following a line of enquiry, developing an argument and making justifications using mathematical language;
- To develop a practical understanding of the ways in which information is gathered and presented;
- To explore features of shape and space, and develop measuring skills in a range of contexts;
- To understand the importance of Mathematics in everyday life, especially in relation to essential life skills such as telling the time and handling money; and
- To foster positive attitudes towards Mathematics by developing pupils' confidence, independence, persistence and co-operation skills.

Parents and Carers

- To be understanding and supportive of our aims in learning and teaching Mathematics.
- To attend and contribute to parent meetings.
- To support their children with Mathematics homework activities including the importance of learning their number facts and times tables off by heart.
- To praise their children for the good things that they do in Mathematics.
- To communicate and work with school whenever further support is needed to develop their children's mathematical skills and understanding.

Governors

- To appoint a designated link governor who will:
 - a) Meet with the Mathematics Subject Leader at least twice a year to find out about:
 - ❖ the school's systems for planning work, supporting staff and monitoring progress;
 - ❖ the allocation, use and adequacy of resources; and
 - ❖ how the standards of achievement are changing over time.
 - b) Visit school and talk to pupils about their experiences of Mathematics;
 - c) Promote and support the positive involvement of parents in Mathematics;
 - d) Attend training and other events relating to the Mathematics curriculum;
 - e) Report jointly with the Subject Leader, to the governing body with recommendations, if appropriate, twice a year.
- To be understanding and supportive of our aims in the learning and teaching of Mathematics and to review this policy annually.

Monitoring and Review

- The Head teacher and Mathematics Subject Leader will monitor the effectiveness of this policy on a regular basis. The Head teacher and Mathematics Subject Leader will report to the governing body on the effectiveness of the policy at least annually and, if necessary, makes recommendations for further improvements.

Equality Statement

At Thornton Primary School, we actively seek to encourage equity and equality through our teaching. As such, we seek to advance the equality of opportunity between people who share any of the following characteristic:

- gender;
- ethnicity;
- disability;
- religion or belief;
- sexual orientation;
- gender reassignment;
- age;
- civil partnerships;
- pregnancy or maternity.

The use of stereotypes under any of the above headings will always be challenged.

Inclusion

Our school is an inclusive school. We aim to make all pupils feel included in all our activities. We try to make all our teaching fully inclusive. We recognise the entitlement of all pupils to a balanced, broadly-based curriculum. We have systems in place for early identification of barriers to their learning and participation so that they can engage in school activities with all other pupils. We acknowledge the need for high expectations and suitable targets for all children.

Impact

The impact of our curriculum is measured in terms of the extent to which pupils have developed new knowledge, understanding and skills and that they can use and recall this with fluency.

This will be measured by:

- Outcomes in KS1 and KS2 tests
- In school attainment tracking of both core and foundation subjects.
- Attendance data
- Behaviour Logs
- Engagement in enrichment activities
- Route to Resilience activities
- Pupil voice – questionnaires, pupil book and learning reviews
- Subject Leader monitoring – Lesson visits, scrutiny of books, assessment, pupil interviews and questionnaires
- Governor monitoring