Thorn Primary School

Mathematics Policy

INTENT

By the age of 11, a typical child from Thorn should have the reasoning skills to choose and use an appropriate strategy efficiently to solve a calculation based upon the numbers involved. They should have a secure understanding of the number system and should show fluency when recalling number facts. They should be resilient when faced with mathematical problems and should be confident in explaining their ideas using the correct mathematical vocabulary. Mathematics is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a healthy and enthusiastic attitude towards mathematics.

SUBJECT AIMS

Our pupils should:

- Have the confidence to share their mathematical ideas and have a go
- Have a positive attitude towards maths
- Understand the size of a number and where it fits into the number system.
- Have a quick mental recall of number facts.
- Use known facts fluently to support mental calculations.
- Be able to choose an efficient method based upon the numbers involved.
- Know how to tackle number problems, including real life contexts.
- Use reasoning skills and mathematical vocabulary to help explain their methods.
- Judge whether their answers are reasonable and have strategies to check their working out.
- Suggest suitable units for measuring and estimating.
- Interpret a range of data in a range of contexts.
- Develop spatial awareness and an understanding of the properties of shapes.
- Be resilient when faced with mathematic problems in different contexts.

IMPLEMENTATION

The National Curriculum for mathematics describes what must be taught in each key stage. Thorn School utilises and adapts the Lancashire Red Rose Mastery Maths planning support documents (2021), which provide detailed and progressive lesson plans and teaching tools, as a resource help staff to deliver an in-depth coverage of the National Curriculum objectives. The Lancashire Red Rose Mastery Maths planning support documents (2021) supports continuity in developing fluency, reasoning and problem-solving skills throughout each year group. In Early Years, the curriculum is guided by the Early Years Foundation Stage curriculum. At Thorn, we use the White Rose EYFS unit planning documents, alongside our EYFS progress in learning grids to ensure that learning is progressive. EYFS and KS1 also access daily NCETM Mastering Number Sessions to develop strong understanding in early maths concepts. In all year groups, number concepts are taught through a CPA (concrete>pictorial>abstract) approach to ensure children master a secure understanding of. All

maths lessons involve rich discussion, allowing children to make mistakes safely and learn from them, whilst building resilience and reasoning skills.

The Curriculum

Early Years

In Early Years, the curriculum is guided by the Early Years Foundation Stage Curriculum. At Thorn, we use the White Rose EYFS unit planning documents, alongside our EYFS progress in learning grids to ensure planning and learning experiences are progressive. Maths lessons in EYFS utilise 'maths stories' to encourage early, rich discussion, helping children to grasp a good understanding of early maths through rich discussions. Children continue their whole class 'maths story learning' in small group adult led activities as well as purposefully planned child-led activities in the maths continuous provision area. Daily NCETM Mastering Number sessions are delivered daily outside of the maths lesson to secure early fluency and manipulation of number. We monitor children's learning with their individual EYFS target books and make judgements based on continuous daily observation of children's maths talk, recorded tasks and provision play. Our EYFS End Points document outlines the mathematical knowledge needed to enable children to be ready to access the KS1 curriculum.

Key Stage 1 and 2

Thorn School utilises and adapts the Lancashire Red Rose Mastery Maths planning support documents (2021) which provides our team with detailed and progressive lesson plans and effective modelling teaching tools to help staff to deliver an in-depth coverage of the National Curriculum objectives. The Red Rose Mastery documents are used flexibly alongside each year groups progress in learning grid. KS1 classes have additional daily NCETM Mastering Number sessions outside of the maths lesson to promote early number fluency and manipulation. Our end of KS1 and KS2 End Point documents outline the key mathematical knowledge needed to enable children to be ready to access the next key stage curriculum. Children in KS2 are organised carefully into streamed maths classes, which enables us to ensure children in mixed year groups access the appropriate maths content for their age, meaning learning is pitched appropriately with the right level of challenge.

IMPACT

At Thorn, we are continually assessing our pupils and monitoring their progress. We see assessment as an integral part of the teaching process and strive to make our assessment purposeful, allowing us to continually support the progress of our children.

Information for assessment is gathered in various ways: first and foremost, by speaking to children through rich mathematical whole-class discussions. This helps us to continually assess children's understanding of concepts, reasons for chosen methods, number fact recall ability and efficiency levels. Other formative methods of assessment include observing children's work and carrying out on spot marking - giving on spot feedback to have instant impact.

Children are assessed initially through Baseline and then later through SATS assessments. Termly progress is assessed formally using the Lancashire Red Rose Mathematics Assessments to help make an informed judgement of their stage of learning. At the end of each year, they are assessed using Test Base end of year papers to assess their achievement of the years curriculum. In year 6, children are assessed termly on past SATs assessments in preparation for end of KS2 SATs. Teachers use these assessments to inform future planning and record children's attainment on whole school

performance trackers. Assessments are also used to inform pupil progress action plans. At Thorn our Progression in Learning grids (PIL) are used to support assessments of each child's mathematical understanding in triangulation with each individual child's target books, tests and workbooks.

ROLE OF SUBJECT LEADER

The mathematics subject leader is responsible for co-ordinating mathematics through the school. This includes:

- Keeping up to date with current maths practises by working with Maths Hub England and Lancashire Maths Consultants.
- ensuring continuity and progression through each year group
- providing all members of staff with clear guidelines and a scheme of work to show how aims are to be achieved and how the variety of all aspects of mathematics is to be taught.
- advising and supporting colleagues in the implementation of planning, teaching and assessing mathematics throughout the school. This may include supportive 1:1 'coaching' sessions.
- assisting with resources required for the teaching of mathematics. This will be within the confines of the school budget.
- To monitor the teaching and learning of mathematics across the school and evaluate through classroom observations, planning and work scrutiny

PERFORMANCE INDICATORS

Performance Indicators, which are the criteria for success of the school's mathematics policy at Thorn Primary School are:

- At EYFS, KS1 and KS2 (children are meeting end of year age related expectations, or are making at least expected progress)
- Children in each key stage are meeting their end points and are ready to access the next key stage curriculum
- children enjoy mathematics
- children talk confidently about what they are doing in mathematics
- children are developing resilience and are willing to have a go
- pupil progress meetings show good progress over time for targeted pupils
- internal tracking shows expected or accelerate progress over time.

RAISING STANDARDS

Each child has their own individual target book showing their progression needs for their level of learning. These target books are used to inform teachers planning to provide adapted learning opportunities where necessary. Children's target books are also used to inform on going formative assessments as well as to support summative assessments made on tests and PIL grid documents. Objectives on PIL grids and Target books match so that assessments are clear and effective. The use of target books, tests and PIL grids are moderated termly to assess their triangulation. Target books are stuck in the front of children's workbooks so that they are accessible at all times. The children know that these are their own personal targets.

EQUAL OPPORTUNITIES

All children have equal access to the curriculum regardless of their ability, gender, race, cultural background or any physical or sensory disability. This is monitored by analysing pupil performance throughout the school to ensure that there is no disparity between groups.

SPECIAL EDUCATIONAL NEEDS

The activities that we use are designed to be accessible to all pupils and in planning teachers take account of extending and supporting pupil's learning. Pupils on the SEN Register have IPP's and where appropriate they contain mathematics targets. Some children identified by data analysis and teacher assessment may receive individual or group intervention programmes e.g. IDL for mathematics, 'Catch up Maths' and 'On track maths', depending on which will meet their needs most effectively. Those who have more significant needs may be provided with alternative provision in the 'Lighthouse' unit where PIVATS are used to monitor smaller steps of progress. This helps us to recognise the successes of all children.

ABLE, GIFTED AND TALENTED

Teaching and learning is planned to enable each child to reach the highest level of personal achievement. A range of strategies should be adopted to include adaptive teaching and learning styles and extension activities. The Red Rose Mastery Maths planning support documents (2021) aid this by providing 'Deeper Learning' tasks to provide further application opportunities involving problem solving and reasoning.

SUCCESS INDICATORS

- Teachers are confident in the teaching of mathematics and feel competent with regard to their subject knowledge.
- Children have a positive attitude towards mathematics and are able to apply their knowledge and skills when maths is displayed in different representations.
- Children are able to choose efficient strategies and can recall known facts to support calculations
- Children can describe, illustrate, interpret, predict and reason using mathematical language.

DISPLAY

Mathematics should be displayed in all classrooms as part of a rich and stimulating learning environment. Working walls should be built over the year, adding content which will support the learning within maths lessons, e.g. key vocabulary or examples of calculation strategies. The working walls should support and develop independence and fluency in mathematics.

PARENTAL/CARER INVOLVEMENT

At Thorn School we encourage parents and carers to be involved by:

- inviting them into school twice yearly to discuss the progress of their child
- inviting them to curriculum evenings or circulating information via half termly newsletters
- holding workshops for parents/carers focusing on areas of mathematics
- support and encourage their children with homework

GOVERNING BODY

At Thorn Primary School we have an identified governor for mathematics and s/he has reviewed the whole school maths policy and is invited to attend relevant school INSET and governor's meetings.