Head of School: Mr P. Coiffait

School Policy

Numeracy

Co-ordinator: J. Sarno

To be reviewed on:

Governors adopted this policy on:

Signed by the Chair:

Learning Together Learning for All Learning for Life

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SCHOOL STATEMENT

At Hawthorns Special School, we believe that every child is entitled to a broad, balanced, enriched and personalised curriculum, through which their mathematical skills will be developed. Pupils will have the opportunity to experience mathematical learning which is appropriate to their individual developmental needs.

The skills developed in Mathematics provide pupils with the tools for exploring, investigating and understanding the world-enabling them to lead a life after school which is as independent as possible.

Mathematics in Context

Mathematics is a core subject within the new National curriculum

Its programme of study outlines Mathematics as an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The programme of study outlines skills progression throughout the key stages in:

NUMBER:

- Number and place value
- Addition and subtraction
- Multiplication and division
- Fractions

MEASUREMENT

GEOMETRY:

- Properties of shapes
- Position and direction

STATISICS (introduced in year 2)

RATIO AND PROPORTION AND ALGEBRA (year 6)

Decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged, through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

In agreement with these principles, this policy outlines the purposes, nature and management of Mathematics throughout Hawthorns school.

The range and balance of mathematical activities offered to children at Hawthorns will, wherever appropriate, accord with the guidance of the new National Curriculum.

Mathematics within the School Curriculum

Our aims

- To promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion
- To promote confidence and competence with numbers and the number system
- To develop the ability to solve problems through decision-making and reasoning in a range of contexts
- 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.
- To provide a stimulating and exciting environment which reflects and supports the importance of mathematics
- To teach mathematics using a variety of approaches, visual stimuli and resources that meet our pupils' individual needs.

Equal Opportunities and Entitlement

We believe that all pupils at Hawthorns, irrespective of race, gender or ability should develop positive attitudes towards Mathematics and learn its uses with confidence, understanding and pleasure

We recognise the importance of every pupil accessing a broad, balanced and appropriate mathematical curriculum. The school strives to enable all pupils to realise their potential in Mathematics.

All pupils have an entitlement, where necessary, to individualised programmes of work in Mathematics.

Planning, Assessment, Monitoring and Recording

- Staff use the White Rose Planning template to plan discrete learning on a termly basis, ensuring they cover all topics throughout the course of the year.
- Where there are authentic learning links, Maths can be incorporated into the class topic
- Each child's Mathematical progress is assessed on a termly basis using Dashboard
- Children are baselined and assessed in the areas of number/geometry/statistics
- Each term a Personal Learning Plan is set which includes IEP targets and will usually include one or more personal targets in Mathematics linked to the pupil's EHCP outcomes
- Children are given regular oral and written feedback for their maths learning in accordance with the school's AfL policy.
- Teachers carry out day to day informal assessments of Mathematical ability including annotations which include next learning steps.
- Children should be encouraged to self-assess through discussion and talking about their learning
- Mathematics is also assessed through the Standard Assessment Tasks at the end of Key Stage 1 and 2, where appropriate.

Monitoring

Mathematics will enable the mathematics coordinator to gain an overview of mathematics teaching and learning throughout the school. This will assist the school in the self- evaluation process, identifying areas of strength as well as those for development. In the monitoring of the quality of mathematics teaching and learning, the mathematics coordinator will:

- Scrutinise plans to ensure full coverage of the mathematics curriculum requirements
- Carry out regular work scrutiny's
- Assist in the moderation processes of children's work within school and across schools
- Observe mathematics teaching and learning in each classroom
- Hold regular planning meetings with teachers
- Analyse assessment data
- Regularly review the mathematics policy and scheme of work alongside teachers

ICT

Pupils will be given opportunities to develop and apply their ICT skills in their study of Mathematics
The respective co-ordinators will work together to ensure that pupils have access to appropriate software to assist:

- The development of logical thinking
- Practice of targeted mathematical concepts
- Presentation and manipulation of data
- Every class has an interactive whiteboard to enable groups and individuals to practice and develop mathematical thinking in a stimulating and exciting way.
- iPads and APPs are used to motivate and develop pupil's mathematical skills.
- Calculators and programmable toys are available for those children who are able to use them meaningfully to further their understanding

Cross Curricular Maths

Mathematics is a subject that has links with a wide range of subjects. By adopting a cross curricular approach mathematics can have a real relevance to everyday life. Approaches to cross curricular work include: -

- ICT involves many mathematical concepts
- Use of mathematical concepts in Science lessons
- Topic work e.g. Food involves sorting and classifying
- Cookery and D&T e.g. measuring and counting
- Art work involves shape and pattern
- Dance and PE develops spatial awareness, sequences and pattern
- Music involves counting, patterns and rhythms
- Measuring is often linked to Geography and Science outdoor work
- Many mathematical concepts are developed in the Foundation Stage outdoor classroom such as counting, measuring when working with structures, shapes and space when building and constructing materials
- Many mathematical concepts are developed during outdoor learning opportunities such as Forest School, gardening and Loose Parts play

Maths Lessons at Hawthorns

It is understood that a variety of resources are necessary for the development of mathematical skills and concepts to cater for the particular learning needs of our children and to meet the requirements of the National Curriculum
At Hawthorns, staff use:

- The White Rose Scheme of Work: These provide term by term overviews for the new National Curriculum. The Maths Hub aims to support primary schools by providing more detailed Schemes of Learning, which help teachers plan lessons on a day to day basis.
- The schemes provide exemplification for each of the objectives in the new term by term overviews, which are linked to the new National Curriculum. The schemes are broken down into fluency, reasoning and problem solving, which are the key aims of the curriculum. Each objective has with it examples of key questions, activities and resources for use in the classroom. These can be used in tandem with the mastery assessment materials that the NCETM have recently produced.

Staff use the Scheme of work flexibly to meet the needs of individual learners

At Hawthorns, there are groups of learners that benefit from a sensory approach to learning Mathematics and these are incorporated into the daily timetable.

At Hawthorns, we believe that it is vital to develop children's ability to master concepts rather than learn by rote. We do this by:
The use of 3 key features to develop a deeper understanding:

1) Objects and pictures:
    - Object (concrete)
    - Pictures (pictorial)
    - Numbers and signs (abstract)
2) Language development
    - The use of carefully sequenced lessons using a structured approach to introduce and reinforce maths vocabulary. Opportunities should be provided for children to explain and justify their mathematical reasoning.
3) Problem solving
    - Is about how and why children learn maths. Focussing heavily on solving problems to deepen and reinforce their understanding.

At Hawthorns, we recognise that mental work should also be an integral part of all learning in mathematics. The skills involved will be encouraged from the Early Years onwards. We strongly believe that children should be:

- Given opportunities to recall number facts
- Taught to develop a range of mental strategies to assist calculation

EYFS

A number of children come to us at the beginning of their statutory school years. Pupils in the EYFS will be given opportunities to learn mathematics through the Early Years Curriculum. Children learn about maths through play and their daily experiences. We provide and facilitate the children's learning so that they will begin to:

- know and understand early maths language of measurement, shapes, spaces, positions, early numbers, order and patterns
- know the sequence of numbers
- begin to understand positional words, e.g. in, on, outside
- show an awareness of time
- be aware of shapes in their environment
- be aware of 1-to-1 correspondence
- acquire new vocabulary
- learn number rhymes and songs, e.g. one, two, buckle my shoe etc.
- be aware of conservation.

Resources to support Learning:

The purchase of resources is subject to liaison between class teachers and the co-ordinator, with identified cost centre allocation
Resources are organised on 2 levels:

- In each classroom
- Centrally for whole school use

Teachers are made aware of new resources before these are centrally stored

Parental involvement

Hawthorns recognises the importance of, and actively encourages, parents and carers involvement in a child's mathematical development. This is done through

- Half termly or Termly Personal Learning Plan meetings
- The Annual Pupil Centred Review Process.

Homework

Staff are aware that, unless handled sensitively, giving homework can be
Difficult for some children. Therefore, at Hawthorns homework is given as and when appropriate or at the request of the parent.

Homework is usually based on mathematics topic work or practice of number skills.

It serves to consolidate work done in class and raising parents and carers awareness of the child's ability in Mathematics.