Welcome to Homerswood

A pathway to grow, be curious and discover

Mathematics Policy

Homerswood Primary and Nursery School

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Mathematics Policy

The Nature of Mathematics

Mathematics is a tool for everyday life. It is a whole network of concepts and relationships which provide a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas and to tackle a range of practical tasks and real life problems. It also provides the materials and means for creating new imaginative worlds to explore.

Using the Programmes of Study from the National Curriculum it is our aim to develop:

- A positive attitude towards mathematics and an awareness of the fascination of mathematics.
- Increasing mathematical fluency, resulting in competence and confidence in mathematical knowledge, concepts and skills.
- An ability to investigate, solve problems, to reason, to justify, to think logically and to work systematically and accurately.
- To use initiative and develop an ability to work both independently and in cooperation with others.
- An ability to talk through ideas and communicate about the mathematics they are using.
- An ability to use and apply mathematics across the curriculum and in real life.
- An understanding of mathematics through a process of enquiry and experiment.

School Policy and the National Curriculum

Knowledge Skills and Understanding

In the foundation stage, teachers use the Herts for Learning 'Essential maths for counting' to guide their teaching. Throughout the school from (Reception to Year 6) teachers use the Herts for Learning Essentials Planning to ensure that all parts of the National Curriculum are taught. The Early Years Foundation stage leader supports the Nursery teacher to begin to use certain terminology and mathematical models in preparation for reception learning.

Breadth of Study

Through careful planning and preparation we aim to ensure that throughout the school children are given opportunities for:

- Practical activities and maths games.
- Activities to increase mathematical fluency
- Investigations and problem solving
- Individual, group and whole class discussion and activities
- Open and closed tasks
- A range of methods of calculating e.g: mental, informal jottings and formal written methods. (See attached calculations policy.)
- Working with computers as a mathematical tool

Planning and Sequences of learning

We use the Herts for Learning Essentials planning documents. It is a spiral curriculum where learning is built upon step by step, sequence by sequence and year on year. It is aspirational and ensures progression and coverage through the primary phase which takes into consideration the needs of our children by providing lessons that develop and encourage joined up mathematical thinking, enabling the children to make links in their mathematical understanding. This is a mastery approach where there are many opportunities to incorporate representation and structure, variation, fluency and mathematical thinking into each of our lessons. It is an Inclusive approach whereby all children are given the confidence to achieve through low threshold high ceiling tasks. A slower pace to learning is used resulting in greater progress which develops a deeper long term and adaptable understanding of mathematical concepts. This supports teachers to scaffold the children's learning through depth rather than acceleration.

Cross Curricular Learning

Throughout the whole National Curriculum opportunities exist to extend and promote mathematics through other subjects. Teachers seek to take advantage of all opportunities.

Teacher's Planning and Organisation

Each Class Teacher is responsible for the mathematics in their class in consultation with the essential planning and with guidance from the mathematics leader.

The approach to the teaching of mathematics within the school is based on four key principles:

- A mathematics lesson taught every day.
- A good balance between whole-class work, group teaching, paired and individual practice, with flexible groupings according to the learning.
- An emphasis on making links between representation and structure, variation, fluency and mathematical thinking, using open and closed questions to support and challenge pupils.
- To be taught using a variety of teaching styles, such as; games, discussion, reasoning, problem solving techniques, investigational work, as well as more formal methods.

Each class organises a daily lesson of between 45 and 60 minutes for mathematics.

Lessons are planned using the Essentials planning format which is annotated to ensure the needs of all children are met. These are monitored by the mathematics leader regularly.

Teachers of the Early Years classes ensure that they aim to draw the elements of a daily mathematics lesson together so that by the time the children move into Year 1 they are familiar with a daily session.

Classroom Displays

Each classroom has a designated area for Mathematics with a working wall. The wall will show the current Gold standard for that learning sequence. Platinum standard questions will always be visible on the wall to support deeper thinking and understanding of mathematical concepts. Work displayed will be of the current learning sequence alongside other relevant work which underpins mathematical learning. Speaking frames and Mathematical vocabulary will also be evident on the wall.

Daily Fluency

The purpose of daily maths fluency is to allow for rehearsal of core knowledge and skills, in short bursts to improve pupils' fluency. It is a whole class and is broadly pitched at age-related expectations. The sessions lasts for 10–15 minutes and is in addition to the maths lesson.The session comprises of five key areas (slides), based on skills previously taught (not new learning) which are repeated each session with a minor adaptation, to build fluency, and only changed once pupils are secure/fluent. This provides a great opportunity to develop maths talk.

Special Educational Needs

Children with SEND are taught within the daily mathematics lesson and are encouraged to take part when and where possible (please see the section on differentiation), however for pupils whose difficulties are severe or complex they will need to be supported with appropriate scaffolded activities and individualised programmes in the main part of the lesson. Domain progressions are used to assess where these children are and learning is planned around that to meet their needs.

Where applicable children's provision mapping incorporates suitable objectives from the National Mathematics Curriculum and teachers keep these objectives in mind when planning work.

The Class Teacher ensures that they, and support staff work flexibly with different children each day, ensuring all children are given the opportunity for independent study.

When additional support staff are available to support groups or individual children they work collaboratively with the Class Teacher.

Within the daily mathematics lesson teachers not only provide activities to support children who find mathematics difficult, but also activities that provide appropriate challenge for children who are ready for 'deeper thinking' opportunities in mathematics.

Equal Opportunities

We incorporate mathematics into a wide range of cross-curricular subjects and seek to take advantage of multi-cultural aspects of mathematics.

In the daily mathematics lesson we support children with English as an additional language in a variety of ways. Eg: Speaking frames, repeating instructions, speaking clearly, emphasising key words, using picture cues, playing mathematical games, encouraging children to join in counting, chanting, finger games, rhymes etc.

Pupils' Records of Their Work

There are occasions when it is both quick and convenient to carry out written calculations. It is also important to record aspects of mathematical investigations and reasoning. Children are taught a variety of methods for recording their work and they are encouraged and helped to use the most appropriate and convenient method of recording.

Children are encouraged to use mental strategies before resorting to formal methods.

All children are encouraged to work neatly when recording their work. When using squares, one square should be used for each digit. Children are always encouraged to show their jottings and working out, enabling them to show and explain their thought process.

Feedback

The Class Teacher is responsible for overseeing the feedback provided by the adults in the classroom to the children regularly.

Feedback should be both diagnostic and summative (See feedback guidance).

Assessment

In the classroom, assessment can look like:

- Questions e.g. why? How do you know? Show me a different way…. Prove it…Convince me…
- Destination questions - written questions where children have the opportunity to show their level of understanding and to decide whether they are ready to move on to the next bit of learning.
- Immediate/regular feedback/conferencing

- Gold Standard stickers are used to monitor whether the child has met the learning objective/age related expectation. This is stuck in the book at the end of a learning sequence and highlights green once the child has met it.
- An arithmetic and a reasoning multichoice diagnostic test are used termly to identify individual, whole class and group gaps. The gaps identified are then planned for in future intervention or fluency.

Reporting to Parents

Reports are completed before the end of the Summer term and parents are given the opportunity to discuss their child's progress on two separate occasions throughout the year through parent consultations.

Teachers use the information gathered from their ongoing assessments to help them comment on individual children's progress.

Parental Engagement

- Parents are invited into school to join in maths activities on GLAM and FUDGE days, as well as at any other appropriate opportunities; such as Maths Week.
- When significant changes have been made/are made to the mathematics curriculum, parents are invited to a meeting or sent information via the newsletter each term.
- Workshops are arranged in school to assist parents with current mathematical methods to ensure continuity for the children.

Scaffolding

This should always be incorporated into all mathematics lessons and can be done in various ways:

- High ceiling, low threshold tasks which are open ended activities / investigations where differentiation is by outcome.
- Resourcing which provides a variety of manipulatives/resources depending on abilities e.g: counters, cubes, 100 squares, number lines, bead strings, mirrors, Numicon.
- Stepped Activities which become more difficult and demanding, but cater for the less able in the early sections.
- Flexible groupings are used. This means that children work at their own pace which can differ from each learning sequence and therefore do not alway sit in the 'at age related' group etc.

Monitoring and Evaluation

The Mathematics Leader is released regularly from their classroom in order to work alongside teachers and children. This time is used to monitor and evaluate the quality and standards of mathematics throughout the school and enables the Maths Leader to support teachers in their own classrooms.

Homerswood Primary and Nursery School buy in to a Herts For Learning Mathematics advisor who supports the school on 4 half day opportunities. This is highly valued and supports the monitoring and assessment of mathematics throughout the school.

Opportunities for teachers to review the scheme, policy and published materials are given on a regular basis during staff meetings.

Staffing and resources

Practical Resources and Manipulatives

All teachers should organise an area within the classroom dedicated to mathematics resources. This area is easily accessible to all children and allows them to become familiar with all resources.

Resources which are not used or required regularly are stored centrally in the maths cupboard.

Staff Training and Development

Regular Maths staff meetings will be used for CPD of Mathematics. Additional mathematics courses will be made available to staff to improve the teaching of mathematics. The suitability of the courses will be monitored by the Maths Leader and SLT.

The Governing Body

Regular feedback is given to the Governors on the progress of mathematics in terms of pupil progress and teaching performance. The Maths plan also sits alongside the school development plan. The mathematics governor visits school through Governor monitoring mornings and reports back to the curriculum committee on a regular basis.

We have an identified mathematics 'link' governor, who meets with the maths leader on a termly basis to review and discuss the mathematics action plan.

Home Online Learning

It is our school policy to provide parents and carers with opportunities to work with their children at home. Activities are sent via Google Classroom which the children can access from home. This is an opportunity to embed skills already taught at school and to practise key instant recall facts e.g. times tables. Times Table Rockstars is a programme available for use both in and out of school to develop and secure times table understanding.

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