

HINGUAR PRIMARY SCHOOL AND NURSERY



Together We Achieve

MATHEMATICS POLICY

Responsible members of Staff - Mrs. K. Sheern Our Governor with responsibility for Maths- Mr. Lord

This policy was approved by the governors October 2014 and will be reviewed on a bi-annual basis.

“Hinguar Primary School is committed to safeguarding and promoting the welfare of children and expects all staff, governors and volunteers to share this commitment.”

This policy should be read and implemented in line with school policies on the following:

- Teaching and Learning
- Curriculum
- SEN
- Mathematics Feedback policy

Policy for Mathematical Development for Hinguar Primary School

Introduction

This policy outlines our agreed approach to the planning, delivery and assessment of the Mathematics' curriculum. Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways.

Mathematics is important in everyday life. It 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 that will stay with them.

The National Curriculum order for Mathematics describes what must be taught in each Key Stage. Hinguar Primary School follows the National Numeracy Renewed Strategy Framework, which provides detailed guidance for the implementation of the National Curriculum for Mathematics. This ensures continuity and progression in the teaching of Mathematics. In early years the curriculum is guided by the Early Learning Goals and EYFS curriculum.

Rationale

In our school, we provide the statutory entitlement of all aspects of Mathematics within the programmes of study for Mathematics in the National Curriculum. The staff believe the development of knowledge, skills and concepts across the whole spectrum of Mathematics to be essential because of their:

- crucial importance in the child's social, emotional and intellectual development;
- unique position as the essential learning tools both in and out of school;
- status as skills for life;
- potential for personal enrichment through facilitating access to texts, providing pleasure or information.

Aims

Although relating specifically to Mathematics our aims for the subject are also in line with the school's general aims. We aim to provide the pupils with a Mathematics curriculum which will produce individuals who are literate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their mathematical skills to their full potential.

Mathematics helps children to make sense of the world around them through developing their ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of Mathematics.

We aim to:

1. Develop a positive attitude to maths as an interesting and attractive subject in which all children gain some success and pleasure.
2. Develop mathematical understanding through systematic direct teaching of appropriate learning objectives.

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3. Encourage the effective use of maths as a tool in a wide range of activities within school and, subsequently, adult life.
4. Develop an ability in the children to express themselves fluently, to talk about the subject with assurance, using correct mathematical language and vocabulary
5. Develop an appreciation of relationships within maths.
6. Develop ability to think clearly and logically with independence of thought and flexibility of mind.
7. Develop an appreciation of creative aspects of maths and awareness of its aesthetic appeal.
8. Develop mathematical skills and knowledge and quick recall of basic facts in line with the National Curriculum recommendations.

Our pupils will

- Have a sense of the size of a number and where it fits into the number system.
- Know by heart number facts such as number bonds, multiplication tables, doubles and halves.
- Use what they know by heart to figure out numbers mentally.
- Calculate accurately and efficiently, both mentally and in writing and paper, drawing on a range of calculation strategies.
- Recognise when it is appropriate to use a calculator and be able to do so effectively.
- Make sense of number problems, including non routine problems, and recognise the operations needed to solve them.
- Explain their methods and reasoning using correct mathematical terms.
- Judge whether their answers are reasonable and have strategies for checking them where necessary.
- Suggest suitable units for measuring and make sensible estimates of measurements.
- Explain and make predictions from the numbers in graphs, diagrams, charts and tables.
- Develop spatial awareness and an understanding of the properties of 2D and 3D shapes.

We are supported in this work through the National Curriculum. The Curriculum for teaching sets out teaching objectives for Reception to Year 6 to enable our pupils to become confident mathematicians. Mathematics unites the important skills of speaking and listening, numeracy, problem solving, data handling, shape and measure.

Aims for Speaking and Listening

We believe that speaking and listening is the springboard for mathematical language acquisition and therefore provides the foundation for all further mathematical development. Pupils also have an entitlement to gain knowledge, competence, confidence and pleasure in using mathematical vocabulary and to use these as appropriate to situation.

We therefore aim to provide pupils with opportunities to:

- describe and explain their work,

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- suggest and describe in some detail an alternative method,
- use mathematical language appropriate to their age with accuracy and understanding,
- reflect on the solution to a problem and structure a logical explanation to present to others,
- listen to mathematical instructions and show understanding by carrying them out,
- create a mental image and manipulate it in response to instructions,
- offer possible approaches or structures,
- consider other people's ideas, explanations or methods,
- be able to present and justify a possible approach to a problem or investigation, seeking feedback from others.

ICT

The staff believe that the use of information technology needs to be embedded to assist and enhance pupils mathematical skills and therefore provide opportunities for pupils to:

- develop/use databases to retrieve and collate various types of information,
- develop use of spreadsheets and graphing, for solving and presenting problems,
- graphic modelling,
- use of programmable toys
- use calculators effectively and efficiently to solve mathematical calculations

Provision

Pupils are provided with a variety of opportunities to develop and extend their mathematical skills in and across each phase of education. The Maths curriculum is delivered within a stimulating, attractive environment where a range of teaching styles are used to promote quality learning and children are motivated to achieve success.

Pupils engage in:

- the development of mental strategies
- written methods
- practical work
- investigational work
- problem solving
- mathematical discussion
- consolidation of basic skills and number facts

Mental Maths

At Hinguar Primary School we recognise the importance of establishing a secure foundation in mental calculation and recall of number facts before standard written methods are introduced. We use the agreed format of the schools progression in calculation document to support learning and understanding within maths. We endeavour at all times to set work that is challenging, motivating and encourages the pupils to talk about what they have been doing.

Mathematics curriculum planning

Mathematics is a core subject in the National Curriculum, and we use the new National Curriculum as the basis for implementing the statutory requirements of the programme of study for Mathematics.

We carry out the curriculum planning in Mathematics in three phases (long-term, medium-term and short-term). The new National Curriculum 'masters theme' gives a detailed outline of what we teach in the long term, while our yearly teaching programme identifies the objectives in Mathematics that we teach in each year. Due regard is given to the key objectives for each year group.

Our medium term Mathematics plans, which are adopted from the new National Curriculum, give details of the main teaching objectives for each term and define what the children need to learn. They ensure an appropriate balance and distribution of work across each term.

Our short term plans list the specific learning objectives for each lesson and gives details of how the lessons are to be delivered and assessed.

The class teacher takes into account the differing needs and abilities of pupils when preparing the weekly plan. Teachers plan in detail for the first two/three days of each week and provide a basic outline of intentions for the remaining days. This allows detailed planning for these days to be completed, taking into account pupils' response during work outlined for the first two/three days of each week.

In the Nursery and Foundation Stage we relate the Mathematical aspects of the children's work to the objectives set out in Development Matters. We give all the children ample opportunity to develop their understanding of number, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

The senior leadership team and the Mathematics co-ordinator are responsible for monitoring the Mathematics planning within our school.

Cross Curricular Links

The staff recognise that Mathematics holds a unique position as a medium for learning in all areas of the curriculum. Opportunities for children to explore and develop Mathematics across the wide variety of subjects, and any resourcing implications, will be identified by teachers at the planning stage. It is vital that all aspects of the Mathematics Programme of Study are covered: it may be essential to teach certain aspects as separate entities.

Classroom Organisation

The teachers will ensure that:

- the classroom layout and appearance is stimulating and flexible,
- the layout of the classroom, organisation of the outdoor learning environment and provision of resources support inclusive, interactive teaching approaches and collaborative learning,
- working wall displays reflect the whole curriculum, and maximise potential for language development, including statements and questions to highlight key learning points,
- children have opportunity to input into their environment,
- children are able to take risks within a safe environment,

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- Learning intentions are displayed in pupils books and next step marking (see marking policy) annotated regarding achievement when appropriate.
- Positive affirmations are displayed in the classroom and referred to regularly.

Assessment

Assessment is regarded as an integral part of teaching and learning and is a continuous process. In our school we are continually assessing our pupils and record their progress. We see assessment as an integral part of the teaching process and strive to make our assessment purposeful, allowing us to match the correct level of work to the needs of the pupils, thus benefiting the pupils and ensuring progress. We also encourage the children to self assess their understanding throughout the lesson and at the end using traffic lights, thumbs, hinge questions, success criteria/ WILF (see our assessment policy).

We make long-term assessments towards the end of the school year, and we use these to assess progress against school and national targets. We pass this information on to the next teacher at the end of the year, so that s/he can plan for the new school year. We make the long-term assessments with the help of the end-of-year tests and teacher assessments. We use national tests with children in Year 2 and Year 6. We also make annual assessments of children's progress measured against the end of year expectations of the National Curriculum. Teachers meet regularly in their Key Stage teams to review examples of pupils' work against the national end of year expectations materials.

Relevant assessment information is shared with staff from the secondary schools to which our Y6 pupils transfer.

Assessment is in line with the whole school policy (see assessment policy for processes and proformas) and will include:

- teacher observation;
- times table challenge assessment
- written tasks;
- AT1 tasks;
- FSP / SATs /Other published materials.

Continuity and Progression

Essential basic skills are revisited and practised in order to ensure a deep understanding, which will provide an excellent grounding for the more complex skills and knowledge. Continuity and progression will be achieved through careful planning, differentiation and assessment and structured liaison between and across key stages.

Developing and Monitoring of the Mathematics Curriculum

To ensure the coherence and progress of the development of Mathematics in our school the monitoring of the curriculum is recognised as an essential element. Monitoring of the standards of children's work and of quality of teaching in Mathematics is the responsibility of the headteacher and senior management team and link governor.

Time is allocated to allow the Mathematics coordinator to do this as well as assisting with planning, updating the school's policy, scheme of work and the

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maths action plan, reviewing samples of children's work and undertaking lesson observations of mathematical teaching across the school. The work of the Mathematics co-ordinator also involves supporting colleagues in the teaching of Mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.

The coordinator also assists teachers by leading staff meetings, planning and leading Inset activities, providing consultancy and advice, also by supporting them in the classroom.

In addition, as a result of monitoring, the coordinator will make appropriate arrangements for staff development. A named member of the school's governing body is briefed to overview the teaching of Mathematics. This governor meets regularly with the Mathematics co-ordinator to review progress.

Equal Opportunities

This school believes that every pupil is of equal value and has the right to equal education opportunities, irrespective of age, ability, race, creed and gender. All children have equal access to the curriculum regardless of their gender. This is monitored by analysing pupil performance throughout the school to ensure that there is no disparity between groups.

Cultural Recognition

The staff understand that the diversity of cultural contributions influences current planning and practise.

Inclusion

There is a procedure outlined to identify children who are deemed to be more able as well as those with special educational needs (see the Inclusion Policy). Parents and outside agencies are involved if and when appropriate. Planning of these children is supported in our medium and short term planning. Class teachers specify main activities, which incorporate planned work for less able pupils and those deemed to be more able.

We understand that children who are identified as having English as an Additional Language (EAL) should be targeted for support and planned for specifically in order to meet their individual needs.

Parental Involvement

The staff believe that it is reciprocally beneficial to promote links between the school and the wider community. We therefore encourage:

- parents to take an active partnership role in educational through e.g. the development of home school agreements, family learning and homework support,
- attendance at parent consultations throughout the year to discuss the progress of their child,
- appropriate parental assistance and sharing of expertise in classroom/on visits and in promoting extra-curricular activities,
- inviting parents to curriculum workshops focused on specific elements of the mathematics curriculum

Use of Local/Global Environment

The staff take opportunity to develop children's mathematical skills through the whole school curriculum and this is achieved through:

- visits;
- participation in local projects;
- recycling;
- safe access and use of the Internet

Spiritual, Place and Cultural Development

We aim to deliver the whole curriculum in a way which provides our children with opportunities for exploration, questioning and reflection. In particular, mathematics provides many opportunities to develop open ended and investigate situations to enable children to develop the skills of thinking beyond the literal, nurturing sound relations and principles. This we achieve through cross-curricular learning opportunities in new contexts, .e.g significant historical people- Pythagoras, Ancient civilisations-Islamic patterns, geographical enquiry skills analysing place statistics.

Governing Body

At Hinguar Primary School we have an identified governor for Mathematics, responsible for the monitoring and evaluation of Maths. The Mathematics governor liaises with the subject coordinator and when possible, is involved in the monitoring and work scrutiny of Maths. The Maths governor reports back to the according to the governors' annual monitoring schedule.