

HAZELDENE LOWER SCHOOL



NUMERACY POLICY REVISED FEB 2015

SIGNED DATE.....
HEADTEACHER

SIGNED DATE
CHAIR OF GOVERNORS

TO BE REVIEWED FEBRUARY 2017

HAZELDENE

MATHEMATICS POLICY

RATIONALE

Mathematics is essential for everyday life and understanding our world. It is also essential to science, technology and engineering, and the advances in these fields on which our economic future depends. It is therefore fundamentally important to ensure that all pupils have the best possible mathematics education. They need to understand the mathematics they learn so that they can be creative in solving problems, as well as being confident and fluent in developing and using the mathematical skills so valued by the world of industry and higher education.

Sir Michael Wilshaw
Her Majesty's Chief Inspector

May 2012

At Hazeldene we believe Mathematics should be a joyful and awe inspiring experience for all the children. Through high quality connectionist teaching and learning, we aim to make sense of the Mathematical world. We believe that children bring innate powers and experiences to the classroom, which should be nurtured and built upon. Further, through connecting ideas like a “mighty tree, with its roots, trunk, branches and twigs...that grows over time” the children will develop greater perservance and problem solving skills. Skills, which will support them across the curriculum and throughout their lives. Strong subject knowledge is expected from all teachers and Mathematics Lead will provide ongoing professional development. A range of pedagogical skills are also required to facilitate substantial progress in Mathematics and will be used daily to develop Mathematical skills.

Mathematics the 5 big ideas

Generality

Mathematical Thinking

Representation

Proportionality

Pattern

Pedagogy

Promoting thinking:

What do you notice?

What's the same? What's different?

Enabling learning through:

Drawing attention to

Reasoning and making connections

Providing opportunities to:

Manipulate, experience see

Engage in talk

Developing thinking through:

Investigation

Scaffolding

Mathematical Powers

Imagining and expressing

Specialising and generalising

Conjecturing and convincing

Organising and classifying

AIMS FOR THE TEACHING OF MATHEMATICS

- To develop a positive attitude towards and fascination with mathematics.
- To provide opportunities to develop the 5 big ideas throughout the whole Mathematics curriculum
- To encourage mathematics as a means of communication, using the correct terminology and explaining reasoning.
- To increase motivation, confidence and competence in communicating using mathematical ideas, language and information.
- To develop problem solving.
- To acquire and understanding of the relevance of mathematics to everyday life.
- To acquire confidence and proficiency with mental calculation strategies
- including estimating, predicting and evaluating skills.
- To encourage the ability to work both co-operatively and independently, with commitment, enjoyment and imagination.
- To develop proficiency in the way in which information is gathered and presented.

We will achieve these aims by:

- Following the New Curriculum Sept 14, carefully planning to the new expectations for each year group
- There will be a dedicated mathematics lesson everyday:
 - direct teaching and interactive oral work with the whole class and groups:
 - ongoing development of mental calculation skills.
 - access to a full range of manipulatives
 - controlled differentiation, with all pupils engaged in mathematics

- To provide high-quality teaching that is interactive, engaging and contextual
- To ensure there is a marking policy which is consistent throughout the school
- To ensure that there is adequate time for developing mathematical skills. The daily mathematics lesson will last at least 45 minutes in Key Stage 1 and 60 minutes at Key Stage 2.
- To encourage the children to explain their mathematical thinking orally and display their mathematical thinking in a variety of written methods.
- To encourage children to develop and apply their mathematical skills in real contexts through the study of other curriculum areas.
- To ensure that children are able to use and apply mathematics in a variety of ways.
- To ensure ICT is used when appropriate to best support learning.

TEACHING AND LEARNING

Curriculum Planning

From September 2014 the new curriculum for Mathematics became compulsory. The curriculum as the previous framework, is broken down into objectives to be covered in each year group. The expectations have increased for each year group, and the most able children are encouraged to show mastery in all the objectives rather than moving onto higher year group objectives too quickly.

To ensure coverage of the objectives for each year group, teachers will use CCJ maths long term planning to block the objectives into 2/3 week units. Teachers should use their professional judgement to amend these blocks to suit the needs and abilities of their current class. Assessment against the objectives will be recorded on target tracker after each block.

In Early years, the teachers will use the mathematical development strand of the early years profile to plan practical mathematical lessons. The children will be given regular opportunities to extend their mathematical understanding through

practical child initiated activities. Teachers will record assessments in mathematical development using the Ipad and 2 simple 'Build a profile'. These assessments will influence the overall age band recorded on Target Tracker.

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TEACHING AND LEARNING STRATEGIES

The structure of lessons will vary dependent upon the learning objectives. It is imperative that there are daily oral/mental activities to develop children's mental calculation work.

Teachers may decide to provide a short opening and allow the children to work in groups, pairs or individually for up to 40 minutes. During this time the teacher should work with groups of children to guide their work.

Other lessons may take place over two days to ensure time for reflection.

Some lessons may be structured more traditionally as a three part lesson.

What is important is that teachers make most use of the learning time available and structure their lessons to meet the learning needs of the children in their class.

All lessons should end with a plenary/review - this may be a whole class activity to sort out misconceptions, identify progress, summarise key facts, discuss next steps and set work to do at home, if appropriate, or to peer assess the work from the lesson.

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Links with other subjects

Mathematics can be linked to all subjects across the curriculum and suitable opportunities to do so should be exploited. Guidance on this can be found via Nrich or NCTM. The children will receive opportunities to use ICT as a learning tool, via the pc and available software or using programmable robots, for example. All year groups will have access to an interactive white board to help develop the key ICT skills they require.

Differentiation

During each part of the maths lesson provision will be made for differentiation by selecting the appropriate learning experiences and matching them to the child's understanding and skill level. The whole class oral / mental starter the questions posed will be at several different levels, therefore including all children. 'Wait time' will be built in to allow all children to think before answering. Some questions may be 'open questions' where children work in pairs to come to the answer with the answer being written on a white board. We feel that it is vitally important that all children take part in this discussion. If a pupil has severe or complex difficulties an individualised programme will be used in the main part of the lesson and a teaching assistant will be available for support, if appropriate. In the main part of the lesson the children will be grouped into ability groups. This grouping runs throughout the school. Planning for the main part of the lesson takes into account these groups and the unit of work is adapted to suit the needs of all children. The appropriate resources will be available for the children, if and when they require it. Other opportunities will also be made for the children to work in mixed ability pairs or groups.

OUTDOOR LEARNING

Where appropriate teachers are encouraged to plan opportunities for outdoor learning. Photographic evidence of outdoor learning will be put onto the school website.

MONITORING AND EVALUATION

Staff will be continually evaluating the mathematics content and activities against the learning outcomes of the medium term and daily plans. The teachers' will evaluate the previous week's plans, in year group meetings, before they plan the work for the following week. Each year group should save their plans fortnightly onto the school server, this is the teachers' responsibility. The Maths leader will evaluate it against the content of the Curriculum and discuss the outcome with the year group leader and with individual class teachers as the need arises. The leader will also visit individual classes regularly to observe the daily mathematics

lesson in progress. She will also continue to conduct regular scrutinises. Mathematics will be reviewed as a curriculum audit, and will take into account pupil progress against National standards, teacher effectiveness and the effective use of resources to support the daily mathematics lesson. The mathematics leader will work with the Headteacher and SLT to analyse and use the comparative results from the Foundation Profile, and teacher assessments in each year group to make judgements as to the effectiveness of the curriculum and teaching in both Key Stages. The analysis of results in this way will enable the mathematics leader along with the Senior Leadership Team to set mathematical targets to encourage the raising of standards in mathematics at Hazeldene Lower School.

ASSESSMENT

Assessment, recording and reporting are important elements of our teaching.

Through our assessment of pupil's progress we can:

Establish what each child knows and understands.

Inform the planning for future learning

Enable the school to review the effectiveness of the curriculum and the teaching.

Assessments will be at three levels: short term, medium term and long term.

These assessments will inform our teaching plans at each level, in a continuous cycle of planning, teaching and assessment.

Short term – these assessments are an informal part of every lesson and will be matched to the learning objectives.

The purpose of short-term assessment is to check the pupils have grasped the main teaching points in a particular lesson or unit of work, whether they have any misunderstandings that need to be put right or whether they are ready to move on to the next activity. It is also used to check the children are remembering and using number facts and mental calculation strategies. These assessments will not be recorded as they are for individual teacher's action and attention.

Children should have daily opportunities to assess their own understanding of their learning by using the traffic light system.

Medium term – these assessments are to review and record the progress the pupils are making over time in relation to the key objectives. These help identify children's strengths and weaknesses and help identify children's progress against specific individual targets, this will enable staff to inform parents and set new targets. Medium term assessments will help inform the planning over the next half term and help give information for end of year reports. The medium term assessments will help give information in relation to the year group expectation. Children will have the opportunity to self assess their own understanding of each block of work and will be provided with the opportunity to explain what they have learnt and what they would like to learn next.

Long term – these assessments help then assessing and reviewing pupil's progress against school and national targets. They help to assess pupils' work

against the key objectives for the year. They give supplementary information about pupil's progress to pass on to the next teacher. They help the school to set targets in future years and to allow the school to set targets to raise standards. A judgement will be made at the end of the school year as to whether a child is emerging, expected or exceeding the expectation for that year. Assessment will be recorded on Target Tracker at the end of each block and at the end of each term an overall judgement will be made on Target Tracker.

INSET

The Mathematics leader will ensure that the staff are well informed and will provide school-based INSET when needed. Mathematics is a main part of the School Development Plan this year and it will indicate where any INSET may be necessary. Individual staff may indicate their own needs through the Performance Appraisal Cycle.

RESOURCES

Throughout the school, teachers will use the numeracy framework to support the planning. All classes have a well stocked and clearly labelled maths area, with extra resources kept in a central store. All children have access to a wide range of manipulatives to use during both the oral / mental starter and the main part of the lesson. Teachers have a larger version of these cards. The children also have whiteboards and pens, which are used as appropriate within the lesson. Across both Keystages all the teachers' use the interactive white board with good affect to improve the teaching and learning.

REVIEWING THE POLICY

This policy is related to the teaching of Mathematics although other areas of the curriculum are also involved. This is a reference document which defines real approaches to our school and which underpins practice. We will use this policy in conjunction with National guidance to ensure continuity and progression and the raising of standards in our school. It will be reviewed annually.

This policy will be reviewed annually

Date: February 2015