

HAZELDENE SCHOOL



NUMERACY POLICY REVISED MAY 2017

SIGNED DATE.....
HEADTEACHER

SIGNED DATE

CHAIR OF GOVERNORS

TO BE REVIEWED MAY 2019

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 perseverance and problem solving skills. Strong subject knowledge is expected from all teachers and the 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.

AIMS FOR THE TEACHING OF MATHEMATICS

- To develop a positive attitude towards and fascination with mathematics.
- 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.
- Become fluent in the fundamentals of mathematics through varied and frequent practice with complexity increasing over time.
- Develop an argument, justification and proof by using mathematical language.

We will achieve these aims by:

- Following the National 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
- daily opportunities for reasoning
- 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 the White Rose Maths scheme for their year group. Teachers should use their professional judgement to amend these blocks to suit the needs and abilities of their current class.

The EYFS Statutory Framework 2014 sets standards for the learning, development and care of children from birth to five years old and supports an integrated approach to early learning. This is supported by the

'Development matters' non statutory guidance.

The EYFS Framework in relation to mathematics aims for our pupils to:

- develop and improve their skills in counting
- understand and use numbers
- calculate simple addition and subtraction problems
- describe shapes, spaces, and measures

TEACHING AND LEARNING STRATEGIES

Lessons:

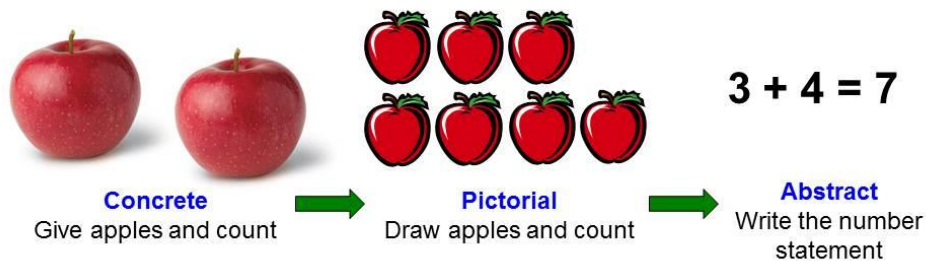
In all lessons, learning objectives and success criteria are clearly displayed and discussed. The emphasis in lessons is to make teaching interactive and lively, to engage all children encouraging them to talk about mathematics. Lessons involve elements of:

- Instruction – giving information and structuring it well;
- Demonstrating – showing, describing and modelling mathematics using appropriate resources and visual
- Explaining and illustrating – giving accurate and well paced explanations;
- Questioning and discussing;
- Consolidating;
- Reasoning
- Reflecting and evaluating responses – identifying mistakes and using them as positive teaching points;
- Summarising – reviewing mathematics that has been taught enabling children to focus on next steps

CPA Approach	
Stage	Characteristics
Concrete	Refers to the use of manipulatives, measuring tools or objects that the student handles.
Pictorial	Refers to the use of drawings, diagrams, charts or graphs that the student draws
Abstract	Refers to abstract representations such as numbers and letters that the student writes

Example:

Tom had 3 apples. His mother gave him 4 more apples. How many apples did he have altogether?



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 NCETM. 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 Head teacher 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 School.

ASSESSMENT

Assessment is an integral part of teaching and learning and is a continuous process.

Short Term

Teachers make assessments of children daily through;

- regular marking of work
- analysing errors and picking up on misconceptions
- asking questions and listening to answers
- facilitating and listening to discussions
- making observations

These ongoing assessments inform future planning and teaching. Lessons are adapted readily and short term planning evaluated in light of these assessments. Children should have daily opportunities to assess their own understanding of their learning by using the traffic light system.

Medium Term

Termly assessments are carried out across the school using the assessment materials for each year group provided by the White Rose Maths Hub in Key Stage 1. These materials used alongside judgements made from class work support teachers in making a steps (half termly) assessment for each child on Target Tracker.

I

In Key Stage 2 termly 'Rising star PUMA' tests are used to monitor standards against key objectives. These tests provide an age standardised score to ensure progress from KS1 through to KS2.

Long Term

At the end of Year 2 the children undertake SATs which are reported alongside the teacher assessments to the borough.

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 National Curriculum to support the planning. All classes have a well stocked and clearly labelled maths area. 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. The children also have whiteboards and pens, which are used as appropriate within the lesson. Across both Key stages 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 biannually

Date: May 2017