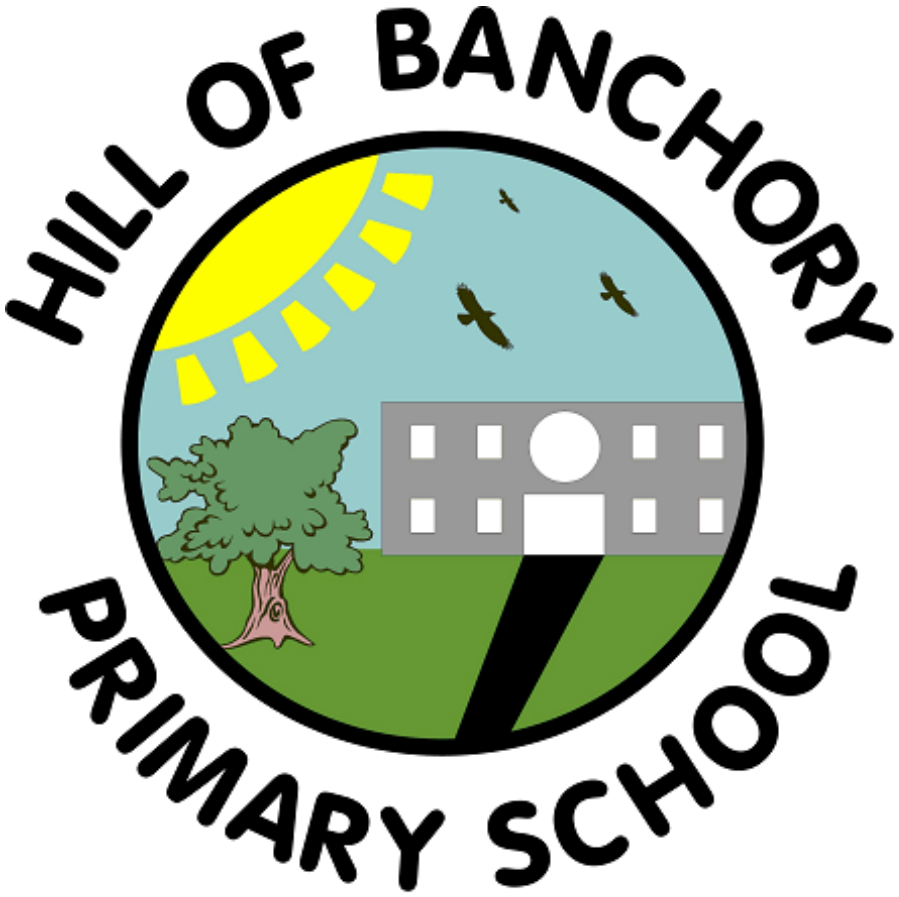

Numeracy

and

Mathematics Policy

MATHEMATICS POLICY

Date of Original Policy: May 2008

Revision No.	Details of Change	Date
1	Full review of procedures	June 2008
2	Policy update	November 2010
3	Policy Update	April 2014
	To be reviewed	*April 2017*

Staff have matched the following articles from the UN Convention on the Rights of the Child to the Maths Policy:
28 and 30

Rationale

Mathematics is important in everyday life, allowing us to make sense of the world around us. It gives us confidence in dealing with number and in understanding shape, position and movement and in handling information. It enables us to think abstractly, model real-life situations and make generalisations, and equips us with the skills we need to interpret and analyse information, assess risk and make informed decisions. Mathematics can enable us to contribute effectively in the workplace and gives us the capacity to be both creative and logical when enjoying the challenge of solving problems, tackling puzzles or playing games. It has the ability to fascinate and stimulate and is as important to adult learners as it is to children and young learners.
Numeracy, a subject of maths, is a lifeskill which permeates and supports areas of learning across the curriculum. Teachers have a responsibility for promoting the development of numeracy in order for pupils to become numerate and to be able to function in everyday life.

"To face the challenges of the 21st Century, each young person needs to have confidence in using mathematical skills, and Scotland needs both specialist mathematicians and a highly numerate population."

Building the Curriculum 1

Aims

We aim to deliver a mathematics programme which allows teachers scope to plan for a wide variety of experiences which will enable young people to develop mathematical understanding, allowing them to solve problems, transfer knowledge to other curricular areas and develop mathematical thinking.

Through our programme of work, we hope to develop:-

Developing Successful Learners

- ✓ Think innovatively
- ✓ Meet challenges positively
- ✓ Find imaginative solutions
- ✓ Strengthen ability to use technologies.

Developing Confident Individuals

- ✓ Develop self confidence through competence in mathematical and arithmetical processes
- ✓ Use Maths in a variety of real life situations

MATHEMATICS

Developing Responsible Citizens

- ✓ Apply Mathematics in other curriculum areas
- ✓ Develop knowledge of how Maths is applied in everyday life
- ✓ use Mathematics to enable children to make informed decisions
- ✓ Interpret numerical data to draw conclusions, assess risk and make reasoned evaluations

Developing Effective Contributors

- ✓ Apply skills and understanding to creatively and logically solve problems.
- ✓ Develop resilience by working on suitably challenging problems.
- ✓ Communicate solutions to a wider audience.

Being guided by the Curriculum for Excellence Experiences and Outcomes we aim to teach our numeracy and mathematics through the following areas:

Number, Money and Measure

- Basic number processes
- Measure
- Patterns and Relationships
- Expressions and Equations
- The impact of mathematics on the world past, present and future

Shape, Position and Movement

- Properties of 2D Shapes and 3D Objects
- Angle, Symmetry and Transformation

Information Handling

- Data and Analysis
- Ideas of Chance and Uncertainty

The mathematics programme is designed to stimulate children's interest and promote creativity and innovation. It will support teachers in meeting the needs of the pupils through using carefully planned, well-paced learning and teaching activities. Within a rich and supportive learning environment, best practice will draw upon a skilful mix of approaches, including:

- Planned active learning with opportunities to observe, explore, investigate, experiment and play.
- Development of problem-solving capabilities.
- Development of mathematical thinking skills and mental agility
- Use of relevant contexts, familiar to young people's experiences.
- Appropriate, effective use of technology.
- Building on the principles of Assessment is for Learning.
- Collaborative and independent learning.
- Making links across the curriculum.
- Increased opportunities for discussion, communication and explanation of thinking.

Planning

Planning is based on overviews for each level. These are kept in the Forward Planning folders
Short term planning is done on a weekly basis and outlines the learning intentions
and the activities the children will be engaged in.
Evaluations are completed at the end of every term and may be weekly as appropriate.
Evaluations focus on pupils' developing competence and confidence in applying mathematical concepts and skills in increasingly challenging contexts. They also inform next steps.

Implementation

Pupils will be engaged in regular numeracy and maths activities throughout the week which could be part of core lessons or interdisciplinary learning.
Lessons should be well structured from the early stages onwards, pupils should experience success in mathematics and develop the confidence to take risks, ask questions and explore alternative solutions without fear of being wrong. They should enjoy exploring and applying mathematical concepts to understand and solve problems, explaining their thinking and presenting their solutions to others in a variety of ways. At all stages, an emphasis on collaborative learning will encourage children to reason logically and creatively through discussion of mathematical ideas and concepts.

The format for a well planned and executed lesson should consist of:-

- A mental warm up at start of lesson.
- Learning intentions and success criteria displayed throughout lesson and made clear to all pupils. Pupils involved in the creation of learning intentions and success criteria.
- Interactive teaching with good use of ICT.
- Pupils actively engaged
- Paired/group work as part of daily lesson where appropriate, including co-operative learning
- Differentiation
- Plenary Session.
- Discussion of next steps.

The classroom organisation should be as follows:

- Well laid out to allow all pupils access to resources and visual stimuli.
- Have attractive, relevant wall displays which incorporate pupils' work and any strategies/mathematical terms which will enhance pupil's learning experience.

Communication within the classroom should include:-

- A positive classroom ethos.
- Clarity of instructions and explanations.
- Effective use of questioning.
- Promotion of positive behaviour

Assessment and Record Keeping

Assessment should be carried out in a variety of ways:-

- Monitoring of daily progress by linking back to targets – ongoing assessment will inform changes in daily plan to accommodate changes in pace of learning resulting from successes or difficulties in individual learning outcomes.
- Use of formative assessment strategies to give effective feedback and to monitor pupil understanding.
- Use of summative assessment, in the form of end of topic check ups and NARs are carried out to record evidence of individual pupil progress. These assessments should be entered into class teacher's assessment records and any concerns entered into evaluation in Forward Planning Folder.
- Standardised tests (NfeR Nelson) Primary 2 and 4 and 6.
- Use of peer/self assessment by pupils where appropriate.
- Use of Hill of Banchory 'Progressive steps in Mathematics' to track progress and inform handover.
- Annual INCas testing in P3, P5 and P7 and ePIPS in P1

Monitoring and Evaluation

The Senior Leadership Team will be responsible for ensuring resources are available.
and will monitor progress in maths and the delivery of the curriculum by:-

- Reviewing teacher's Forward Plans.
- Monitoring maths jotters on a regular basis.
- Comparing pupil progress in relation to targets set.
- Visiting each class during a numeracy/maths lesson.
- Discussing pupils work with them.
- Discussing individual pupil progress with the class teacher.
- Reviewing the school's performance on a regular basis with national standards and predicted results.
- Reviewing class performance in standardised tests (NfeR Nelson) Primary 2, 4 and 6.
- Analysis of INCAS and ePIPS results.

Staff development opportunities will be made available.

Resources

A variety of mathematics resources are available in school.

- Core Scheme (Scottish Heinemann Mathematics Active Maths) and SHM textbooks
- Big Maths
- Teacher made resources and photocopiable resources.
- Abacus Mental Maths warm-ups
- Practical maths equipment.

- Computer-based materials (Education City and Problem Solving Interactive Maths)
- Mathematics Challenge Cards
- Mathematical challenges for more able pupils