



Numeracy & Mathematics Policy

Rationale

Mathematical skills and concepts are important in everyday life and allow people to be confident in fully and effectively involving themselves in society. Numeracy has an essential role across the curriculum so it necessary to develop good skills in this area for successful learning to take place. Through applying mathematics in other areas of the curriculum, children and young people build their knowledge and understanding of real life issues. Mathematics learning is valuable in supporting pupils make informed decisions; interpret and evaluate information; assess risk; and solve problems.

Mathematics is fundamental to engineering, science, technology and business and, as these subject areas advance, new uses for mathematics are found. As we are part of a competitive global economy, Scotland needs people who have proficient numerical skills and are mathematically competent to work in specialist contexts such as research and developmental fields.

“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, p18

“All teachers have responsibility for promoting the development of numeracy. With an increased emphasis upon numeracy for all young people, teachers will need to plan to revisit and consolidate numeracy skills throughout schooling.”

Building the Curriculum 1, p.20

Learning in mathematics enables learners to:

- develop a secure understanding of the concepts, principles and processes of mathematics and apply these in different contexts, including the world of work
- engage with more abstract mathematical concepts and develop important new kinds of thinking
- understand the application of mathematics, its impact on our society past and present, and its potential for the future
- develop essential numeracy skills which will allow me to participate fully in society
- establish firm foundations for further specialist learning
- understand that successful independent living requires financial awareness, effective money management, using schedules and other related skills
- interpret numerical information appropriately and use it to draw conclusions, assess risk, and make reasoned evaluations and informed decisions
- apply skills and understanding creatively and logically to solve problems, within a variety of contexts
- appreciate how the imaginative and effective use of technologies can enhance the development of skills and concepts.

Aims

Numeracy and Mathematics skills can be developed through careful planning of learning activities, questions and a range of assessments. These should encourage learners to think about the concepts, going beyond the recall of knowledge and encouraging them to explain their thinking. As learners progress through Curriculum for Excellence levels, they should demonstrate increasing sophistication and independence in their ability to demonstrate, link, transfer and apply the following skills in a range of increasingly more challenging contexts:

- interpret questions;
- select and communicate processes and solutions;
- justify choice of strategy used;
- link mathematical concepts;
- use mathematical vocabulary and notation;
- use mental agility;
- reason algebraically; and
- determine the reasonableness of a solution.

The Core Programme

The principal resource used within the school from P2-7 is Heinemann Active Maths. This is an activity-led maths programme, created specifically for Scottish schools, with the Curriculum for Excellence and Active Learning at its heart.

Each Heinemann Active Maths outcome is represented by a Teacher Activity Card, and supported by an exciting range of learning, teaching and professional development resources.

Heinemann Active Maths covers First and Second Level and is divided into Exploring Number and Beyond Number concepts.

Within **Exploring Number** concepts pupils will focus on:

Early Level – Number Processes

Addition and Subtraction
Multiplication and Division
Fractions

First Level – Number Processes

Addition and Subtraction
Multiplication and Division
Fractions

Second Level – Whole Number

Fractions, Decimals and Percentages
Algebraic Thinking

Within **Beyond Number** concepts pupils will focus on:

First/Second Level – Time

Money and Finance
Measure
Shape, Position and Movement
Information Handling

Other resources may also be used to ensure depth of learning is achieved.

Learning and Teaching Approaches

All children develop at an individual rate, therefore needs must be met by providing a variety kinds of learning and delivering them using a range of teaching approaches.

There will be occasions when whole class, group and individual teaching will occur.

Teaching exhibits the following key features:

- Activities are well-structured
- There is good pace of work during lessons
- Teachers provide thorough explanation of concepts and utilise effective questioning techniques to support assessment of learning
- Teachers set high standards and make use of the correct Mathematical terminology
- Lessons include challenging word problems, which require pupils apply skills within different contexts
- Lessons end with a plenary sessions
- Current Numeracy and Mathematics activities should be included in the homework programme

Mental Maths (Big Maths)

Mental mathematics strategies will be taught on a daily basis through the Big Maths programme and teachers will adopt interactive, participative methods, which engage pupils actively in learning. Weekly 'Beat That' assessments will be used also.

Assessment

Evidence of progress and achievement will come from a variety of sources including:

- observing day-to-day learning within the classroom or working area;
- observation and feedback from learning activities that takes place in other environments, for example, outdoors, on work placements;
- coursework, including tests;
- learning conversations;
- planned periodic holistic assessment; and
- information from standardised assessment.

Benchmarks have been developed to provide clarity on the national standards expected within each curriculum area at each level. They set out clear lines of progression in numeracy and mathematics, and across all other curriculum areas from Early to Fourth Levels. Their purpose is to make clear what learners need to know and be able to do to progress through the levels, and to support consistency in teachers' and other practitioners' professional judgements.

In Numeracy and Mathematics, pupils' progress is tracked and monitored through formative and summative assessment to allow for teachers to plan appropriately for the pupils.

The assessments carried out include:

- Heinemann Active Maths Question Banks
- TeeJay End of Level Diagnostic Assessment
- Big Maths Beat That!
- Mathematics Assessment for Learning and Teaching (MALT)
- SNSA (Primary 1, Primary 4 and Primary 7)
- High Quality Contextualised Assessments

Support for Learning

Pupils who are consistently experiencing difficulties within Numeracy and Mathematics should begin the Staged Intervention Process in consultation with the management team. If appropriate, pupils will be placed on a programme of study tailored to the requirements. This may include the use of interventions such as The 5 Minute Box or Catch Up Numeracy.

Reporting

We operate the following reporting systems:

- The progress of pupils is reported twice a year during Parents' Meetings
- A written report is issued once per year
- Homework diaries are used to inform communicate concepts covered each term as well as weekly target
- Pupils discuss their ongoing learning with their Class Teacher

Mathematics Across the Curriculum

Staff plan to provide pupils with the opportunity to develop their mathematical skills across other areas of the curriculum. Applying learning in a variety of contexts allows pupils to improve their critical thinking and problem solving skills.

Parental Engagement

Pupils receive weekly Numeracy and Mathematics homework to support their learning. Information for parents about homework is provided through homework diaries. There is space in homework diaries for parents/carers to write comments. Parents/carers have the opportunity to look at their child's work at the two Parents' Meeting evenings held throughout the year and during open afternoons.

Moderation of Numeracy and Mathematics

Numeracy and Mathematics teaching and learning is monitored through the following methods:

- Forward planning and written evaluations
- Learning conversations between class teacher and management team
- Learning conversations between pupils and management team
- Learning Walks
- Sampling of children's work by Management Team
- Tracking and monitoring of summative assessment results
- Moderation events within Learning Community Trio groups
- Tracking and monitoring of levels achieved
- Teacher critical reflections

Transition

Nursery pupils participate in Numeracy Visits to Primary 1 class prior to starting school as part of a programme of events.

Parent/carers are invited to attend a transition morning which includes collaborating with their child on similar types of Numeracy and Mathematics activities they will experience in Primary 1.