



HIGHDOWN SCHOOL AND SIXTH FORM CENTRE

# NUMERACY ACROSS THE CURRICULUM POLICY

**Aspiration – Respect – Excellence**

## **Monitoring, Evaluation and Review**

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## Introduction

Numeracy is a proficiency which involves confidence and competency with numbers and measures. It is more than the ability to do basic arithmetic. It requires an understanding of the number system, a repertoire of computational skills and an inclination and ability to solve mathematical problems in a variety of contexts.

The national curriculum for mathematics aims to ensure that all students:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Mathematics and numeracy are an important part of learning in all subjects across the curriculum at Highdown School and Sixth Form Centre. Students leaving school numerate will be able to cope confidently with the mathematical needs of adult life. These include skills in measurement, calculation, estimation, data handling, graphical work, use of graphs and diagrams, reasoning and problem-solving. These are life-long skills and essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment<sup>1</sup>. At Highdown School we are committed to ensuring students see the relevance of these for life outside of the classroom.

The aim is to ensure that teaching routinely encourages students to identify independently how they use numeracy skills within and beyond school.

## Purpose of this policy

The purpose of this policy is to:

- raise awareness of the importance of numeracy and mathematics in all subjects
- promote and embed the development of numeracy through all subjects
- raise standards and achievement in numeracy and mathematics
- secure a consistent approach to numeracy teaching in all subjects, including consistent use of mathematical vocabulary, notation and formal written methods which are being introduced in the primary curriculum
- monitor and evaluate our effectiveness

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<sup>1</sup> Mathematics programme of study: key stage 3 National curriculum in England (DfE, 2013)

## Promoting and developing numeracy

Numeracy will be developed through a variety of means, including:

- numeracy challenge published each week in the staff bulletin, parent newsletter and used by mentors
- display
- cross-curricular projects, e.g. symbolism and through STEAM lessons
- professional learning, e.g. JPL
- explicit planned reference in teaching of all subjects [also see Learning and Teaching Policy]
- 'stretch and challenge' events, e.g. Junior/Senior Maths challenge, puzzle days
- extra- and super-curricular events, e.g. ICT clubs, HAPPY Maths, Clue Quest
- primary-secondary mathematics link
- parental engagement events
- promotion of financial literacy through PSHCE

Examples of where and how numeracy is developed across the curriculum, other than in Mathematics lessons, are outlined below:

Curriculum Area	Example(s) of numeracy and mathematical development
Art	Scaling, measuring, ratios, perspective, transforming, pattern and shapes
Business Studies	Financial literacy, data handling, interpretation and presentation
Computing/ICT	Spreadsheets and data handling, formulae and logic in programming
Drama	Sequencing, timing and measurement
English	Patterns in text, sequencing, timelines in stories, metre in poetry, reasoning
Ethics	Islamic art patterns, symmetry, sequencing, logic and reasoning
Geography	Problem-solving, data handling, data presentation, proportions and scaling
History	Sequencing, reasoning, chronology and data handling (e.g. census data)
MFL	Financial literacy, sequencing, chronology, patterns and logic (e.g. grammar)
Music	Musical notation, chronology, timing, sequencing and speed
PE	Distance, time, speed, proportions, measure and data handling
PSHCE	Financial literacy, reasoning, logic and problem solving
Science	Statistics, investigations, data handling and presentation, measures
STEAM	Measurements, time, speed, spatial reasoning and patterns
Technology	Symmetry, representing data, proportions, ratios and angles

Where Maths is not studied at A level, Highdown School continues to promote mathematics and numeracy post-16, e.g. through L3 Mathematical Studies qualification, for students studying sciences and Geography.

## Securing a consistent approach

Teachers of mathematics must:

- be aware of the mathematical techniques used in other subjects and provide assistance and advice to other departments, so that a correct and consistent approach is used in all subjects.
- provide information to other subject teachers on appropriate expectations of students and difficulties likely to be experienced in various age and ability groups.
- through liaison with other teachers, attempt to ensure that students have appropriate numeracy skills by the time they are needed for work in other subject areas.
- seek opportunities to use topics and examination questions from other subjects in mathematics lessons.

Teachers of subjects other than mathematics must:

- identify numeracy opportunities within their schemes of learning.
- ensure that they are familiar with correct mathematical language, notation, conventions and techniques, relating to their own subject, and encourage students to use these correctly.
- be aware of appropriate expectations of students and difficulties that might be experienced with numeracy skills.
- provide information for mathematics teachers on the stage at which specific numeracy skills will be required for particular groups.
- provide resources for mathematics teachers to enable them to use examples of applications of numeracy relating to other subjects in mathematics lessons.

The profile and importance of developing students' numeracy and mathematical skills across the curriculum is explicit in Highdown School's scheme of learning proforma and Highdown School's lean lesson planning proforma.

## Managing and evaluating the policy

School leaders will evaluate the impact of the policy of numeracy development through lesson observations, learning walks, discussion with students and work sampling.

It is the responsibility of the curriculum leader to ensure that all members of their department understand and follow the numeracy across the curriculum policy and that numeracy opportunities are embedded in schemes of learning.

It is the responsibility of class teachers to ensure they plan, promote and develop numeracy explicitly through their lessons so that standards of student numeracy improve.

The policy is reviewed and overseen by the Governors' Teaching and Learning Committee who will assure themselves of the implementation, promotion and development of numeracy across the curriculum.