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## HOE VALLEY SCHOOL NUMERACY POLICY

Person Responsible	Head of Maths
Date Adopted	October 2016
Date of last review	Autumn 2022
Date of next review	Autumn 2024

### 1. NUMERACY VISION

We take the view that numeracy is a fundamental life skill that is needed in many aspects of everyday existence - personal, leisure, social and work - in order for pupils to lead a confident and fulfilling life in school and beyond.

We are dedicated to changing the stigma attached to Numeracy and Maths, specifically by preventing the use of phrases by students, parents and staff such as “I was never good at maths”, “I can’t do maths” and “I’m not a maths person”. These phrases allow for poor numeracy to be socially acceptable and cause unneeded barriers for the HVS community.

### 2. WHY IS NUMERACY DEVELOPMENT IMPORTANT?

Poor numeracy is a major, long-standing problem in education, business and indeed society. Many commentators, as well as those affected, have argued that it has been neglected as a national issue for far too long.

According to a 2011 Skills for Life survey, almost 17 million adults in the UK have numeracy skills below those needed for the lowest grade at GCSE. The results from this survey are based on a sample of 7,000 adults aged between 16 and 65 normally resident in England. The low levels of numeracy were just as evident in the 16-25 year old cohort as in any other subgroup – and these are the learners who have gone through secondary school during the last ten years.

### 3. THE IMPORTANCE OF NUMERACY ACROSS THE CURRICULUM

Strengthening numeracy across the curriculum will benefit students. They will develop confidence and proficiency in numerical skills as well as the wider use and application of mathematics. It will strengthen the school’s attainment at GCSE in Maths, Science and other subjects.

### 3.1. The aims

- To develop and improve standards in numeracy across the school for all our students.
- To establish and maintain consistency of practice including notation, vocabulary and methods, where appropriate.
- To identify and support areas for collaboration between subjects.
- To assist the transfer of students' knowledge, skills and understanding between subjects.

### 3.2. Roles and Responsibilities

- **Senior Leaders:** Lead and give a high profile to Numeracy.
- **Head of Maths:** Monitor the impact of Numeracy across the curriculum.
- **Deputy Head of Maths:** Lead on Numeracy across the curriculum including internal training and moderation.
- **Maths Department:** Provide students with the knowledge, skills and understanding they need to problem solve and comprehend mathematical concepts.
- **Teachers across the curriculum:** Contribute to students' development of Numeracy with consistent approaches to problem solving and communicating Numeracy.
- **Parents:** Encourage their children to use the range of strategies they have learnt to improve their levels of Numeracy. (Eg Bills, Shopping etc)
- **Students:** Take increasing responsibility for recognising their own Numeracy needs and making improvements.
- **Governors:** Provide a link governor for whole school Numeracy.

## 4. NUMERACY STRATEGY

### 4.1 Teachers of Mathematics:

- 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, as much is allowed by exam boards.
- 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 the appropriate Numeracy skills by the time they are needed to be applied in other subject areas.
- Seek opportunities to use topics and examination questions from other subjects in mathematical lessons.
- To liaise with the Head of Maths and Deputy Head of Maths regarding any students who may require additional Numeracy support e.g. Functional Skills lessons.

### 4.2 Teachers of Other Subjects:

- 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.
- Encourage those who lack confidence in Maths to either ask for support, or at a minimum, not to use phrases which normalised the acceptability of poor Numeracy.

#### 4.3 Possible links with other departments could include:

In...	Learners could...
<b>Art</b>	Apply number skills such as measurement, estimates, scale, proportion, pattern and shapes to develop, inform and resource their creative activities.
<b>Design Technology</b>	Use mathematical information and data, presented numerically and graphically, to research and develop their ideas. They use number to measure and calculate sizes, fits and materials.
<b>English</b>	Develop skills in the application of number through activities which include number rhymes, ordering events in time, gathering information in a variety of ways, including questionnaires; accessing, selecting, recording and presenting data in a variety of formats.
<b>Geography</b>	Apply number skills in the classroom and in fieldwork to measure, gather and analyse data. They use mathematical information to understand direction, distances and scale and to determine locations when using plans, maps and globes.
<b>History</b>	Develop their number skills through developing chronological awareness, using conventions relating to time, and making use of data, <i>e.g. census returns and statistics</i> .
<b>Computer Science</b>	Use mathematical information and data presented numerically and graphically in data-handling software. They use number to collect and enter data for interpretation in spreadsheets and simulations and present their findings as graphs and charts, checking accuracy before processing.
<b>MFL</b>	Develop number skills through a range of activities in the target language. These can include number rhymes; ordering numbers; ordering events in time; using number in relevant contexts such as currency exchange; gathering information in a variety of ways, including questionnaires and recording and presenting results in a variety of formats.
<b>PSHE</b>	Select data from given information presented in a range of numerical and graphical ways. Gather information in a variety of ways, including simple questionnaires or databases to support understanding of PSE-related issues [and in KS3 access and select data from relevant information presented in a variety of ways and from different sources], [and in KS4 select from and interpret a variety of methods of presenting data, including pie charts, scatter graphs and line graphs] to support understanding of PSE-related issues.
<b>Physical Education</b>	Develop their number skills by using mathematical information and data. They use the language of position (including co-ordinates and compass points) and movement, as well as data handling and measures in athletic and adventurous activities. They use scale in plans and maps.

	They measure and record performances, <i>e.g. time, distance and height</i> , and use the data to set targets and improve their performance.
<b>Religious Education</b>	Develop skills in the application of number by using information such as ordering events in time, by measuring time through the calendars of various religions, by calculating percentages of tithing, and by considering the significance of number within religions. They interpret results/data and present findings from questionnaires, graphs and other forms of data in order to draw conclusions and ask further questions about issues relating to religion and the world.
<b>Science</b>	Work quantitatively to estimate and measure using non-standard and then standard measures, recording the latter with appropriate S.I. units. They use tables, charts and graphs to record and present information. With increasing maturity they draw lines of best fit on line graphs, use some quantitative definitions and perform scientific calculations.

#### 4.4 Transfer of Skills

The Mathematics Department will deliver the National Curriculum knowledge, skills and understanding through the Numeracy Framework using direct interactive teaching, predominantly in lessons consisting of several “episodes”. They will make references to the applications of Mathematics in other subject areas and give contexts to many topics. The transfer of skills is something that many pupils find difficult – especially if the approaches in other subjects differ significantly from those in the Mathematics Department.

### 5. METHODS

To be consistent throughout the school, HVS will adopt the following methods for the four operations.

Addition	Column Method (lining up by place value)
Subtraction	Column Method (lining up the place value and borrowing)
Multiplication	Long multiplication or Chinese Method ( Diagonal Method)
Division	Short Division (Bus stop Method)

These are in-line with the primary school methods to help transition from Year 6.

#### 5.1. Numeracy Delivered Across the School

Numeracy activities will be delivered in tutor-time once a week but will be set by the Maths Department. All of these activities will be set on Dr Frost so they can be monitored by the students Maths teacher. KS3 may move to Numeracy Ninjas as Deputy Head of Maths settles into the role.

## 5.2. Maths Equipment

All pupils must have the correct equipment every lessons not only for maths but for all subjects.

Pupils should have:

- A pencil, green pen, black/blue pen, rubber, ruler, pencil sharpener
- Geometry Set (Compass, Protractor)
- Scientific Calculator

The School will have individual items and sets available for students to buy via the maths department.

## 6. MONITORING

This strategy is quality assured through:

- available and up-to-date data;
- sample work - both students' work and departmental Programmes of Study;
- lesson observations and learning walks;
- pupil interviews and surveys;
- staff surveys;
- SLT line management meetings with HoFs;
- encouraging departments to share best practice by exhibiting or exemplifying student's work and cross-curricular observation;
- Numeracy link Governor visits;
- annual review.

2022/23

Aims	Actions	Outcomes
School awareness of Numeracy	<p>Continue with Junior Maths Challenge and enter Intermediate and team challenges.</p> <p>Additional School events such as Number Day and Pi Day</p> <p>Use the screens around the school to promote numeracy with key dates and riddles.</p>	
Numeracy Support for KS3	<p>Functional Skills Level 2 delivered as an intervention lesson once a week by Maths teachers or TA's. This leads to a formal qualification and is designed to improve key skills.</p>	
Personalisation	<p>Ensure all TA's are confident in the maths classes they are supporting in. This may require some CPD training for them</p>	