

# Numeracy Policy

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#### Headlands School

# **Headlands School Numeracy Policy**

#### Policy aims

- To raise the profile of Numeracy across the school.
- To ensure a collaborative and consistent approach to the delivery of Numeracy across the curriculum in order to support student progress and promote successful outcomes.

#### Numeracy

Numeracy is a proficiency that involves confidence and competence with numbers and measures. It requires an understanding of the number system, a repertoire of computational skills and an inclination and ability to solve number problems in a variety of contexts. Numeracy also demands a practical understanding of the ways in which information is gathered by counting and measuring, and is presented in graphs, diagrams, charts and tables.

#### Why Numeracy is important

We use maths in every aspect of our lives at work and in practical everyday activities at home and beyond. We use maths when we go shopping or plan a holiday, decide on a mortgage or decorate a room. Decisions in life are so often based on numerical information; to make the best choices, we need to be numerate. (Why is Numeracy important? - Nationalnumeracy.org.uk)

Being numerate is, clearly, an essential life skill that will enable our students to maximise their opportunities for success in life beyond their secondary school education. The initiatives driving Numeracy across the curriculum at Headlands School echo the wider Mission Statement of the Maths department whereby:

The ambition of the Maths department is, quite simply, for students at Headlands School to develop a love for our subject! This ambition is at the heart of our curriculum offer and, in aiming to achieve it, we enable our students to leave Headlands as confident and numerate "can do" problem solvers.

## Numeracy across the curriculum

Numeracy across the curriculum refers to curriculum content whereby the application of specific Maths skills is an explicit requirement for success within a given subject.

#### Why Numeracy across the curriculum is important

Curriculum leaders and teachers of mathematics should work together to understand how and when knowledge taught in their respective subjects is similar and different. Where there are good reasons for differences, it is important that these are made clear to students, including any rationale for this. Students will then be clear on what knowledge to use and when.

There are a number of subject areas across the curriculum, for example Design & Technology, Science and Geography, that have a reliance on students' confidence and competence with key Maths skills. It is essential, therefore, that we consider the implications of Maths across the curriculum as part of our ongoing curriculum development.

#### Numeracy Intervention

#### Identification

- Communication with feeder schools during transition to identify students receiving intervention
- Analysis from SATs question level analysis
- Identified KS3 groups have extra times tables as part of their homework
- Staff are invited on a half termly basis to identify students who they think are facing significant challenges with foundational Maths.
- Through fluency assessments in school, cohorts of students can be identified and put forward for the intervention offer.

#### Intervention offer

- Through the Sparx Maths program there is a bespoke foundational Maths scheme which a small cohort of students follow twice a week with support from a member of staff.
- Support is over an 8-week period
- Times tables, addition, subtraction, multiplication and division are the main areas covered as this helps students develop their proficiency and fluency

## Impact and monitoring

- Through Sparx Maths we are able to see if students are improving and becoming more fluent in foundational Maths
- Monitoring students rank difference in maths to show the extent in which students have improved.

#### **Roles and Responsibilities**

# **Numeracy Co-ordinator**

- To drive Numeracy as a whole school priority and to ensure a high profile for Numeracy across the curriculum within lessons and through 'Numeracy Days' such as National Numeracy, Pi Day and Numeracy Confidence Day etc.
- To ensure suitable tutor time activities are resourced based on the British Value of the week and using the QLA information from primary schools to target student weaknesses. (Appendix 4)
- To monitor and review the effectiveness of strategies for improving Numeracy across the curriculum.
- To provide bespoke numeracy CPD to teaching staff.

#### All staff

- To promote and celebrate Numeracy within their subject areas.
- To model confidence and interest in Maths, irrespective of subject specialism or level of responsibility.
- Consistent use of correct mathematical language by all staff (see Appendix 2).
- Encourage students to read and write numbers (see Appendix 3).

# Appendix 1

Department	Examples of Numeracy opportunities and specific mathematical content
Art	Symmetry; transformations; paint mixtures as a ratio.
Geography	Representing data; finding averages; statistical analysis.
History	Timelines; sequencing events.
MFL	Dates; counting in other languages.
PE	Collecting real data; timing; measuring.
Science	Use of formulae, including rearranging; calculating means and percentages; calculating with positive, negative and decimal numbers; substitution; collecting and representing data.
D&T	Measurement; properties of shape; scaling and ratio.
English	Identifying important information in a text to improve students interpretation of "worded" problem solving questions.
Performing Arts	Sequencing in performance.
IT/ CS/ BS	Number bases (binary); collecting data; percentages.
RS	Timelines.
PD	Calculations in context e.g. finance, budgets, nutrition.

# Appendix 2

Consistent use of correct mathematical language by all staff. Examples include:

- When referring to decimals say "three point one four" rather than "three point fourteen".
- Read numbers out in full e.g. 3400 reads as "three thousand, four hundred" rather than "three, four, zero, zero".
- It is important to use the correct mathematical term for the types of average being used, i.e. mean, mode or median.
- Highlight word sources e.g. quad meaning "four" in order to support students' etymological understanding of Mathematical language.
- Highlight and discuss words that have different meanings in Maths to their everyday meaning e.g. take away, product, similar.

## Appendix 3

Encourage students to read and write numbers simply and clearly.

Most students are able to read, write and say numbers up to a thousand, but often have difficulty with larger numbers. It is now common practice to use spaces rather than commas between each group of three digits. For example, 34 000 instead of 34,000. The use of commas will still be found in many textbooks, however, and is not to be considered incorrect.

When reading large numbers, students should know that the final three digits are read as they are written i.e. as hundreds, tens and units. The next group of three digits are thousands and the next group of three digits are millions.

For example, 3 027 251 is to be read as "three million, twenty seven thousand, two hundred and fifty one".

# Appendix 4

(i) British Value Tutor Activity

# British Values in Numeracy - Week 1

Task: (2 mins)

Question: Which do you prefer Pizza or Burger?

- Raise hands to count votes!
- How many votes are there in total?
- Who won the vote?
- Did they win by a majority (over 50%)?

# British Values in Numeracy - Week 1

Democracy means everyone has a voice. In our country, that usually happens through voting. Maths makes sure votes are counted fairly so the decision reflects the majority.

Think about: (1 min)

- Have you ever voted for something in school?
- Why is it fairer to vote rather than just let one person decide?