

Ormiston Forge Academy

Numeracy Policy

May 2017



Approved by the SLT on behalf of Governors Curriculum and Standards Committee under powers delegated by the Governing Body: **15th May 2017**

Review period: **May 2019**

Rationale

The Numeracy Policy is important for the following reasons:

- Numeracy skills enable students to understand and interpret numerical and graphical information. This facilitates improvement in students' abilities to make their own judgments and to draw sensible conclusions from data.
- All subjects depend on students having competence in basic numeracy skills as part of the current reforms to better prepare students for life and continuing education beyond school.
- Without basic numeracy skills, students can lack both personal and social adequacy impacting their self-esteem.

Students with well-developed numeracy skills will:

- Have a sense of the size of number.
- Know by heart basic number facts such as number bonds, times-tables, doubles and halves, and recall them rapidly.
- Use what they know by heart to figure out an answer mentally.
- Calculate accurately, both mentally and with pencil and paper, and be able to draw on a range of strategies.
- Use a calculator judiciously.
- Make sense of number problems and recognise the operations needed to solve them.
- Know for themselves that their answers are reasonable and have strategies for checking.
- Explain their methods and reasoning, using correct terminology.
- Suggest suitable units for measurement and make sensible estimates of measurements.
- Explain and make sensible predictions from numerical data in a graph, chart or table, as well as recognising possible sources of bias.

At a classroom level, better numeracy standards are associated with:

- Careful attention to the development of mathematical vocabulary and the use of correct terminology and notation.
- Using a range of computation methods and ways of recording them – including mental, written and calculator methods, asking students to explain their methods and discussing with them which methods are best suited for particular purposes.
- Identifying opportunities to reinforce and extend mathematical skills.

Mathematical Methods

- A consistent approach to methods of calculation (see appendix 1) and drawing graphs, approved by the mathematics department are provided for all staff (see appendix 2).
- It is important that data should not be presented without discussion. Some interpretation of data should always take place.
- The mathematics department will have overall responsibility for teaching methods of calculation in the 4 rules (+, -, \times , \div), decimals, fractions, percentages, efficient use of calculator, approximations, and use of mathematical equipment.

Students in all lessons should:

- Make correct use of mathematical vocabulary when providing oral and written answers or asking questions.
- Interpret, describe and explain their work and not simply reproduce graphs, tables and charts or statements concerning percentages and other numerical data.
- Set their work out systematically and with care. Where there are calculations these should always be set out so that the method used is clear. Where there are graphs these should always show a suitable scale, be correctly labelled and have a title.

Teachers of all subjects should:

- Have regard for the whole school numeracy policy in their planning of lessons.
- Use and explain mathematical vocabulary whenever it will enhance students' knowledge, skills and understanding of the topic. The use of such vocabulary by students should be strongly encouraged.
- Give emphasis to mental calculation when it is sensible to do so.
- Choose and use appropriate units of measure correctly.
- Correctly select, label and interpret a graph or chart and make appropriate comparisons where more than one graph illustrates the data.
- Follow the guidelines for E.R.N.I.E.
- Provide a positive learning environment to develop a love of numeracy.

Departmental documentation and schemes of work should identify topics/areas requiring numeracy skills and opportunities.

Appendices

Appendix 1 provides guidance for staff on the **calculation methods** met by students in Key stage 2 & 3 that are promoted in the mathematics department.

This section also includes additional guidance on *calculating with fractions, decimals and percentages*.

Appendix 2 provides guidance for staff on the **handling data**. It supports the concept of a data handling cycle and promotes the importance of interpreting data as a key skill that students need to develop for all subjects.

Appendix 3 This section includes some information on *basic algebra*.

Appendix 4 This section includes some information on the use of numeracy across the curriculum.