

Pol13 – Mathematics Policy



Principles

The aims of our policy are:

- To raise standards of numeracy and mathematics for all pupils throughout the school;
- To ensure that pupils do not experience any discontinuity from subject to subject either in the way certain mathematical methods and strategies are taught or in relation to the level of difficulty of mathematics expected of them;
- To promote a positive attitude towards mathematics amongst all pupils;
- To promote a positive attitude towards mathematics amongst all staff to actively promote its development across the curriculum;
- To ensure that all staff are aware of what numeracy is and what the national numeracy strategy's approach to calculation is;
- To ensure that all staff are aware of the range of mathematical skills that pupils bring to their lesson;
- To ensure that staff are aware of the mathematical demands of their own subject in order that this is reflected in schemes of work;
- To ensure that staff provide opportunities for pupils to develop and apply their mathematical skills in their own subjects;
- To promote a common approach to the teaching of key mathematical ideas and processes in all subjects which require them.

Management of Numeracy

- Implementation of the Numeracy Policy.
- Progress will be monitored by all staff and feedback to the Numeracy Lead.
- Initial numeracy developments will be co-ordinated and documented by the Numeracy Lead.

The Aims of the Numeracy Working Group

The working group will meet once each term with an agenda set by the numeracy lead. The following outlines the key aims of the working group:

- The head to produce a numeracy policy which will be discussed and reviewed with the working group;
- To support the implementation of the numeracy policy in each faculty;
- To develop displays of numerical themes and ideas to be included in all appropriate classrooms which recognize correct notation and vocabulary;

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- To develop common methods to be used in all curriculum areas as appropriate, but to remember that there may be more than one suitable approach to a problem;
- To heighten awareness of the application of numeracy
- To identify where Numeracy is being applied in lessons.

Cross-curricular Provision

In support of the Key Stage 3 Strategy in Mathematics, all subjects have a role in the provision of numeracy as follows:

- Students attainment in numeracy is a contributory factor to their ability to learn in subjects across the curriculum;
- Each subject should identify the numeracy demands of that subject and address these in their schemes of work.

The Numerate Student

Numeracy is a proficiency that is developed mainly in mathematics lessons **but also through** other subjects. Poor numeracy skills hold back students' progress and can lower their self-esteem. The following skills are targets, which all students should be aiming to meet by the end of Key Stage 3. They should:

- Have a sense of the size of a number and where it fits into the number system;
- Recall mathematical facts confidently;
- Calculate accurately and efficiently, both mentally and with pencil and paper, drawing on a range of calculation strategies;
- Use proportional reasoning to simplify and solve problems;
- Use calculators and other ICT resources appropriately and effectively to solve mathematical problems, and select from the display the number of figures appropriate to the context of a calculation;
- Use simple formulae and substitute numbers in them;
- Measure and estimate measurements, choosing suitable units, and reading numbers correctly from a range of meters, dials, and scales;
- Calculate simple perimeters, areas and volumes, recognising the degree of accuracy that can be achieved;
- Understand and use measures of time and speed, and rates such as £ per hour or miles per litre;
- Draw plane figures to given specifications and appreciate the concept of scaling geometrical drawings and maps;

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- ✓ Understand the difference between the mean, median and mode and the purpose for which each is used;
- ✓ Collect data (discrete and continuous) and draw, interpret and predict from graphs, diagrams, charts and tables;
- ✓ Have some understanding of the measurement of probability and risk;
- ✓ Explain methods and justify reasoning and conclusions, using correct mathematical terms;
- ✓ Judge the reasonableness of solutions and check them when necessary;
- ✓ Give results to a degree of accuracy appropriate to the context.

Our Approach to Teaching

As teachers we strive to:

- ✓ Be aware of the range of mathematical attainment that pupils bring to our lessons.
- ✓ Build pupils' confidence when they are struggling with a calculation.
- ✓ Encourage pupils to develop a better understanding of the methods that they are using in solving problems.
- ✓ Use mathematical language accurately and consistently within the School.
- ✓ Value pupils' different methods for calculation and regularly ask, "How did you do that?" and, "Did anybody do that a different way?"

We encourage pupils to:

- ✓ See mental calculation as the first resort when faced with any calculation.
- ✓ Explain any calculation they have done by showing all their working out.
- ✓ Estimate before a calculation is done whenever possible.
- ✓ Consider the reasonableness of their answers after a calculation has been done.
- ✓ Know how to use all the relevant buttons on their calculation efficiently and effectively know when it is appropriate and to be able to interpret the display sensibly.
- ✓ Use appropriate mathematical language confidently.

Monitoring and Review

The Head teacher will:

- ✓ Ensure that schemes of work indicate numeracy targets and that this can be seen in their students work when undertaking monitoring exercises;

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- Provide staff with the appropriate data on students
- Ensure that numeracy across the curriculum is included as an agenda item for whole school and middle management meetings as necessary.
- Sample students work and identify aspects of numeracy in this work;
- Include numeracy as a focus in lesson observations;
- Interview students about the numerical content of their lessons.

The numeracy lead will:

- Establish effective procedures for auditing numeracy within the school;
- Monitor and evaluate numeracy provision throughout the school in terms of coverage, continuity and progression;
- Communicate effectively the progress and impact of numeracy provision to all partners, e.g. staff, parents, primary schools.
- Encourage the dissemination of good practice;
- Lead the numeracy working group.