



Numeracy Policy

Background/Context

Numeracy is a proficiency, which is developed mainly in mathematics but also in other subjects. It is more than an ability to do basic arithmetic. It involves developing confidence and competence with numbers and measures. It requires understanding of the number system, a repertoire of mathematical techniques, and an inclination and ability to solve quantitative or spatial problems in a range of contexts. Numeracy also demands understanding of the ways in which data are gathered by counting and measuring, and presented in graphs, diagrams, charts and tables.

(Framework for Teaching Mathematics – yrs 7 to 9 DfES)

The national curriculum suggests that by Year 9 students 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, mentally and pencil and paper methods
- Use proportional reasoning to simplify and solve problems
- Use calculators and other ICT appropriately and effectively
- Use simple formulae and substitute numbers in them
- Measure and estimate, choosing suitable units, and reading numbers from meters, dials and scales
- Calculate simple perimeters, areas and volumes
- Understand and use measures of time and speed, and rates such as £ per hour
- Draw plane figures to given specs and appreciate concept of scale in drawing and maps
- Understand mean, median and mode and purposes of each
- Collect data, discrete and continuous, and draw, interpret and predict from graphs, diagrams, charts and tables
- Have understanding of measurement of probability and risk
- Explain methods and justify reasoning and conclusions, using correct mathematical terms
- Judge reasonableness of solutions and check where necessary and give results to an appropriate degree of accuracy

Principles

Prenton High School is committed to raising the standards of numeracy of all its students; we want our students to be confident and capable in the use of numeracy to support their learning in all areas of the curriculum and to acquire the skills necessary to help achieve success in further education, employment and adult life. The following examples illustrate the importance of numeracy to other subjects.

Art	Symmetry, Shape, and Spatial awareness
English	Understanding information presented in tables etc
Design Technology	Measurement, shape, area, volume, estimation, costing
Food Technology	Measurement, weight, estimation, ratio, costing
Geography	Scale factors, length, area, space, collection of data, displaying information

History	Time, sequencing, displaying information, graphs
ICT	Representing data, applying formulae to spreadsheets
Music	Counting, fractions, sequencing, pre-algebra (patterns)
PE	Measurement, timing, collecting data, displaying information
RE	Collecting data, interpreting sources (tables, graphs etc)
PSRE	Collecting data, displaying information, interpreting sources
Science	Measurement, reading scales on instruments, collecting data, formulae, numerical operations, displaying information

Expected Numeracy Capabilities

At Prenton High School, we intend that all of our students should:

- Have a sense of the size of a number and where it fits into the number system
- Be able to use strategies successfully to solve number related problems mentally
- Apply an appropriate method to help solve a problem, e.g. mental, oral and written methods
- Make sense of number problems and identify and use the required operations to solve them
- Restrict their reliance on using a calculator and use them only when it is appropriate to do so
- Develop their skills in estimation and approximation and have strategies for checking reasonableness of their answers
- Be able to explain their methods and reasoning using consistent language and mathematical terminology
- Be able to make and use sensible estimates of a range of measures in everyday situations
- Be able to interpret, explain and make predictions from information given in graphs, charts and tables
- Improve their general problem solving skills

Aims

The aims of the Prenton High School Numeracy Strategy are to:

Maintain and improve standards of Numeracy across the school.

Promote a shared responsibility so that all staff are familiar with correct mathematical language, notation, conventions and techniques relating to their own subject and encourage students to use these correctly and consistently

To improve transference of skills by breaking down barriers between subjects allowing students to make mathematical links and apply knowledge across the curriculum. This will include collaboration with other subjects wherever and whenever possible.

Practice

Numeracy is a responsibility of all subjects. It is therefore important that a high level of communication and sharing of information takes place between colleagues to take advantage of this opportunity.

Teachers of Mathematics should:

- Be aware of the curricular demands of other subjects, and the mathematical knowledge, skills and concepts that are most likely to be used in each subject
- Try to ensure students are equipped with appropriate numeracy skills by the time they are needed in other subjects
- Provide information to other teachers on appropriate expectations for students, including any areas of difficulty
- Use examples and contexts drawn from other subjects as exemplar and illustrative material for mathematical questions

Teachers of subjects other than Mathematics should:

- Promote a 'pro-Numeracy' culture and attitude in the classroom
- Ensure they are familiar with the language, notation, conventions and techniques of mathematics, as they relate to their subject, and encourage students to use these correctly
- Provide information to the numeracy co-ordinator on the stage at which specific numeracy skills will be required for particular groups
- Provide resources to mathematics teachers for them to build these curricular applications into mathematics lessons