



Ysgol Acrefair Numeracy Policy

Reviewed April 2017



Ysgol Acrefair NUMERACY POLICY 2017

'Every child matters, every day counts'

Ysgol Acrefair is committed to raising the standards of numeracy of all its students, so that they develop the ability to use numeracy skills effectively in all areas of the curriculum and the skills necessary to cope confidently with the demands of education, employment and adult life. This policy has been developed with reference to the Literacy and Numeracy Framework (LNF) 2013, produced by the Welsh Government which lays out specific, progressive and measureable numeracy statements.

A definition of numeracy

Numeracy is a proficiency which involves confidence and competence with numbers and measures. It is more than an ability to do basic arithmetic. 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 is gathered and presented. Whilst mathematics teaching within our school gives pupils an understanding of basic mathematical concepts, our application of those maths skills throughout the curriculum will improve the numeracy standards of our pupils.

A numerate student should, by the end of primary school, be able to:

- transfer mathematical skills to a variety of contexts including classroom, play and every day situations;
- identify the appropriate steps and information needed to complete the task or reach a solution;
- select appropriate mathematics and techniques to use;
- estimate and visualise size when measuring and use the correct units

- select and use suitable instruments and units of measurement, record measurement in different ways and have an understanding of imperial and metric units;
- choose an appropriate mental or written strategy to use and to know when it is appropriate to use a calculator;
- explain results and procedures clearly using mathematical language;
- refine informal methods of recording written calculations moving to formal methods of calculation when developmentally ready;
- select and construct appropriate charts, diagrams and graphs with suitable scales. Extract and interpret data from a range of different diagrams, timetables and graphs. Draw conclusions from data and recognise that some conclusions may be misleading or uncertain;
- select from an increasing range of checking strategies to decide if answers are reasonable, including the use of inverse operation;
- interpret answers within the context of the problem and consider whether answers including calculator, analogue and digital displays are sensible;
- 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 using appropriate written methods, drawing on a range of calculation strategies;
- use reasoning to solve problems;
- calculate simple perimeters, areas and volumes;
- have an understanding of simple fractions and their decimal and percentages equivalents;
- Calculate percentage quantities;
- Represent data using lists, charts, tables and diagrams; extract and interpret information from an increasing range of diagrams
- Use simple ratio and proportion;

- understand the difference between the mean, median and mode and the purpose for which each is used;
- Have an understanding of management of finances including profit, bank accounts and value for money;
- Have an understanding of time in order to use time tables, make calculations based on time and to use timing devices accurate to the nearest tenth of a second;
- Measure and record temperatures including negative numbers and to calculate temperature differences

The management of the framework

The role of the Senior Management Team is to:

- participate in the planning, implementation and evaluation of the whole school framework
- determine the role of the Numeracy Co-ordinator;
- specify expectations to be made of all teachers;
- support the development and implementation of a whole school numeracy policy;
- provide INSET resources for mathematics teachers and other teachers in the school;
- provide opportunities for effective communication between the Numeracy Co-ordinator, the Senior Management Team and all teaching and support staff
- provide finance for material resources;
- support and encourage staff involved in the project.

The role of the Numeracy Co-ordinator is to:

- work with the senior management team to determine a strategy for dealing with numeracy across the curriculum and to ensure the effective development and implementation of a whole school numeracy policy;
- establish lines of communication between staff;
- establish lines of communication between the school and other cluster schools including high schools;
- monitor the implementation of the whole school numeracy framework
- evaluate the effectiveness of the framework and make modifications to planning where necessary;

- ensure the procedural and reasoning tests for the assessment of numeracy are carried out on time, appropriately and marked accordingly;
- ensure that the data and analysis of tests/assessments is used effectively to inform future planning.

The role of class teachers is to:

- ensure that they are familiar with correct mathematical language, notation, conventions and techniques and encourage students to use these correctly;
- be aware of appropriate expectations of students and difficulties that might be experienced with numeracy skills and refer to the 'Lines of Development' document to ensure appropriate numeracy skills are being developed;
- ensure that a maths skill has been taught in a maths lesson before that skill is applied in lessons elsewhere in the curriculum
- seek opportunities to develop numeracy skills across the curriculum.

Planning and assessment

Planning for the development of numeracy skills should:

- appear in both mid and short term planning and as a long term planning document to be referred to;
- ensure coverage, progression across the key stages and improve teaching and learning
- involve the use of skills statements from the Framework
- ensure inclusion and differentiation
- ensure the transference of numeracy skills across the curriculum

Assessment will be by Teacher Assessment and using the statutory (May2014) Procedural and Reasoning Tests.

Assessment should:

- inform planning and have an impact on teaching and learning
- make reference to the objectives from the Framework
- inform target-setting

Monitoring and Evaluation

The effectiveness of our implementation of the numeracy framework will be monitored in the following way:

- reviewing planning
- regular evidence gathering by numeracy coordinator
- lesson observations and book trawls
- consultation with staff, SMT and governors

- discussion with students
- analysis of assessment data and tests
- improvement in the application of skills by all pupils

Information provided from the monitoring and review process will inform decision making about improvements and further developments.