



Ysgol Bro Tawe

Numeracy Policy

Definition of Numeracy

'Numeracy is not the same as mathematics. Numeracy is a proficiency with number.....although pupils usually learn their numeracy skills during mathematics lessons, to be fully numerate they must be able to apply these skills in other subject areas and real-life contexts.'

(Estyn Report: Improving numeracy in KS2 and KS3, April 2010)

Our mission Statement

Ysgol Bro Tawe is committed to raising the standards of numeracy of all of its pupils, 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 everyday life and lifelong learning.

Expected characteristics of a numerate pupil

At Ysgol Bro Tawe, we intend that all of our pupils 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.
- manage their reliance on using a calculator and use them when it is appropriate to do so.
- develop their skills in estimation and approximation and have strategies for checking the 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

'Numerate individuals are able to function responsibly in everyday life and contribute effectively to society.

Numerate pupils are able to handle numbers fluently in mental, oral and written work exploit patterns within number when calculating and approximating; measure and calculate accurately and estimate reasonably, using appropriate units of time, length, area, volume, mass, capacity, angle and related compound measures; use calculators accurately and appropriately; use an increasing range of skills to identify, analyse and describe practical problems or tasks involving numerical data; read, extract, interpret and analyse numerical and statistical data from a range of sources and presented in a variety of forms; and select appropriate techniques to represent data.'

(Improving numeracy in KS2 and KS3, Estyn, April 2010)

Teaching and learning style

We believe children should acquire and absorb numeracy through a holistic approach to learning. We aim to ensure learning is exciting, challenging and creative, and that learners understand what they need to do to improve and how they can do this.

We develop children's mental recall skills through carefully planned activities and differentiated questions. Discussing and talking about mathematics and mathematical concepts is fundamental to children's learning and understanding in this area. We endeavour to ensure that pupils are engaged and actively participating in lessons.

We recognise all children are different and provide suitable learning opportunities for all children by matching the challenge of the activity to the needs / ability of the child. Differentiation is a key practice and we provide opportunities for children to plan, develop and reflect on their own learning. We encourage children to learn collaboratively and take some ownership for their own learning and embed the principles of Developing Thinking and Assessment for Learning in our activities.

During the Foundation Phase pupils will be involved in activities which begin developing their problem-solving, communicating and reasoning / logical thinking skills. Hands-on learning will develop the pupils' understanding of measure and shape and spatial awareness. As they progress children's confidence in predicting outcomes of problems will increase, they will have a wide variety of methods of communication available to them, including ICT and will become more sophisticated in recognising relationships and in the use of mathematical questioning. Through practical experiential learning opportunities, using a range of resources and ICT children understanding of number will develop, increasing their confidence in mental mathematics.

Progression through Key Stage 2 will see learners build on the pupils' skills, knowledge and understanding. Numeracy across the curriculum sees pupils continue to develop positive attitudes towards mathematics and extend their mathematical thinking by solving mathematical problems and communicating and reasoning mathematically.

Mathematical Development in the Foundation Phase

During the Foundation Phase, children develop their skills, knowledge and understanding of numeracy through oral, practical and play activities. Children have opportunities to develop, apply and extend their skills of using and applying mathematics, number, measures, shape and space through a variety of media, including ICT.

Key Stage 2

At Key Stage 2, learners are given opportunities to build on their thinking, literacy, numeracy and ICT skills that they have started to acquire and develop during the Foundation Phase, in line with the non-statutory Skills framework for 3 to 19 year-olds in Wales and the Literacy and Numeracy Framework. Learners continue to acquire, develop, practise, apply and refine these skills through group and individual activities in a variety of contexts across the curriculum. Progress can be seen in terms of the refinement of these skills and by their application to tasks that move from: concrete to abstract; simple to complex; personal to the 'big picture'; familiar to unfamiliar; and supported to independent and interdependent.

Full consideration is given to the Skills Framework and Learning Across the Curriculum, comprising:

Thinking Skills

ICT Skills

Curriculum Cymreig

Personal & Social Education

Developing Thinking

Learners develop their thinking across the curriculum through the processes of planning, developing and reflecting. This will be done by:

- learners asking questions, exploring alternative ideas and making links with previous
- learning in order to develop problem solving strategies.
- gathering, selecting, organising and using information, and identifying patterns and
- relationships.
- predicting outcomes, making and testing hypotheses, reasoning mathematically when
- investigating and analysing and interpreting mathematical data.
- describing what they have learned, reflecting on work and justifying conclusions and
- generalisations.

Developing ICT

Learners develop their ICT skills across the curriculum by finding, developing, creating and presenting information and ideas and by using a wide range of equipment and software. This will be done by:

- learners using a variety of ICT resources to find, select, organise and interpret information.

The Curriculum Cymreig

Teachers will ensure that links with the Welsh language and Welsh culture will be explored during numeracy lessons: Number chant, songs, rhymes, patterns, displays, etc.

Additional Learning Needs / More Able & Talented

Learning opportunities are matched to the needs of all children to include challenge and support for our most and least able children. When necessary these take account of any relevant targets set for individual children in their Individual Education Plans (IEPs). Ysgol Bro Tawe recognises and supports the needs of all children, offering appropriate challenge to help foster a commitment to lifelong learning. The school has an LSA who delivers Catch Up Numeracy to pupils. More Able & talented pupils are identified through analysis of data and teacher assessment. Using a wide bank of resources, including ICT, class teachers are able to challenge and further develop the Numeracy skills and knowledge of these groups. Children are provided with activities above and beyond usual classroom practice. Staff plan for opportunities to develop skills as specified in the new Numeracy Framework.

The Literacy and Numeracy Framework

At Ysgol Bro Tawe we see the introduction of the Literacy and Numeracy Framework as of central importance to our planning. Within Numeracy we expect the children and young people to become accomplished in:

developing numerical reasoning

using number skills

using measuring skills

using data skills

At Ysgol Bro Tawe we strive to ensure that there is an application of mathematical understanding in daily activities at school, and that the pupils have the skills to continue this at home, at work and in the community. These skills will enable pupils to tackle real-world problems in a variety of situations through the application of numerical reasoning. By adopting a cross-curricular approach pupils will develop the skills to plan how to solve problems, before then carrying out the mathematical procedures to find the solutions.

The Literacy and Numeracy Framework provides an opportunity for teachers to ensure that year group appropriate skills are identified for cross-curricular implementation. These skills are identified in planning documents and audited to ensure a comprehensive coverage across all curriculum areas.

Planning

At Ysgol Bro Tawe we follow the New Heinemann Maths scheme of work – enriched by other resources – which builds upon children’s prior learning. Whilst there are opportunities for children of all ability levels to develop their skills, knowledge and understanding, there is planned progression built in, so that children are increasingly challenged as they develop. Planning takes account of the Skills Framework and the Literacy and Numeracy Framework, including the development of children’s thinking skills through a variety of problem solving and investigation experiences.

Standardisation and Moderation

All staff at Ysgol Bro Tawe must be aware and play an active role in the standardisation and Moderation process of children's work. Time is available during staff meetings for staff to look at varying pieces of children's work and to come to an agreement through discussion, what level is to be awarded to a certain piece of work, or what level to award to an individual pupil. This work will be organised into a standardised and moderated Cluster Portfolio.

Parental Involvement, Partnerships & Community

Parents and members of the community are encouraged throughout the school to support the learning of their children. We actively promote parent support with mental mathematics, number bonds and multiplication tables. Occasionally infant children may be given homework to reinforce concepts which parents are encouraged to help with. Key Stage 2 children are regularly provided with homework to consolidate and extend their numeracy skills. In Key Stage 2 homework – along with support material – will often be posted on the school website.

The Purpose of Discussion in Numeracy / Mathematics

Ysgol Bro Tawe is committed, as a staff, in emphasising the CAME approach and philosophy. Discussion is a core aspect of this approach in mathematics and is extremely important for many reasons:

- Discussion helps co-operative work
- Discussion can be used to develop meaning and understanding before skills are introduced
- Discussion helps with teacher assessment
- Discussion amongst peers gives children the confidence to give answers in class
- Organisation of Discussion (as appropriate)
- Whole class discussion
- Small group discussions/paired work (children less inhibited)
- The teacher should talk less and listen more
- The teacher should question more and not interrupt too soon
- Try to develop children's thinking
- Resist the temptation to tell the answers
- Structure questions carefully
- Give all children appropriate time to think through answers
- Create an atmosphere in the classroom where all answers are accepted and valued and that wrong answers are seen as points of discussion
- Set up situations to generate discussions
- Use practical activities
- Maximise time for discussion as it gives a child confidence and leads to positive attitudes

Assessment

Assessment is an essential part of the work of all teachers; it needs to be carried out in a variety of ways and for a variety of purposes. Assessment should support and encourage good practice. A balanced approach should always be maintained in the assessment procedures. Assessment should be integral to classwork. Assessment should always be assessment for learning.

Statutory assessment at the end of Foundation Phase and Key Stage 2 consists of teacher assessment during the summer term in Year 2 and Year 6. These assessments are based on the teacher's knowledge of how the learner performs across a range of contexts and takes into account different strengths and areas for development in that learner's performance. This is checked against outcomes and level descriptions to ensure that the level judged to be the most appropriate is the closest overall match to the learner's performance in the attainment target.

(For more detail see our assessment policy)

Target Setting

Each child has individual targets set termly based on the work being covered for that term. Both teacher and pupils set individual targets in Maths in order to ensure progress, and encourage pupil involvement and ownership of these.

Equality of Opportunity

All pupils will have access to Numeracy teaching, resources and equipment and equal opportunity will be given to all regardless of race, gender and ability. Teachers must ensure that the individual needs of pupils are met.

Liaison

We are regularly involved in cluster group meetings to standardise and moderate pupils' work. It is essential to ensure effective transition that there is dialogue between ourselves and the Secondary school.

Liaison between the Secondary and Primary has always been considered vitally important in the education of our pupils, to ensure smooth transition between Key stages.

Monitoring

This is the responsibility of the Numeracy Area Learning Team. The work of the Learning Area Team also involves supporting colleagues, being informed about current developments, and providing a strategic lead and direction for this learning area within the school. The Learning Area Team liaise with each other and the headteacher, indicating areas for improvement.

Signed

Date