Ysgol Tŷ Monmouth Policy

Mathematics and Numeracy

POLICY STATEMENT

- At Ysgol Tŷ Monmouth we will equip each of our Pupils with the skills necessary to ensure that they are able to make practical connections, apply their skills in everyday life; and use these skills to reason in the world around them.
- The maths and numeracy curriculum is inclusive, sequential and supported by the Curriculum for Wales framework, including for Pupils in the 14 to 16 curricula.
- For maths to become embedded, Pupils must first experience the 'concrete' before moving onto the 'visual' and then the 'abstract.' Pupils' experiences are personalised at their appropriate stage, in relation to the range of contexts experienced and skills applied. This includes promoting Pupils' rights and developing life skills around safe financial management.
- Article 36 of the UN Convention on the Rights of the Child states Pupils have the right to live free from exploitation.

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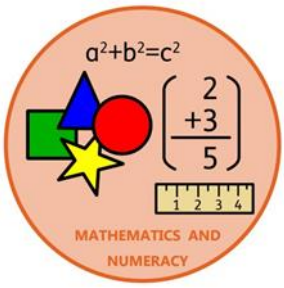
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1. Scope

1.1 Introduction



1.1.1 Mathematics surrounds us and underpins many aspects of our daily lives, such as architecture, art, music, money, and engineering. It is essential for progress in other areas of learning and experience, and taught as a core part of daily learning, thereby allowing Pupils the opportunity to apply their learning in meaningful, practical, and real-life contexts.

1.1.2 Numeracy is the application of mathematics to solve problems in real-world contexts and plays a critical part in our everyday lives. Experiences in this area of learning are geared towards ensuring Pupils develop mathematical resilience and encourage them to be creative; asking them to play, experiment, take risks and be flexible in tackling mathematical problems.

1.1.3 Teaching and learning opportunities considers the four statements of what matters:

- The number system is used to represent and compare relationships between numbers and quantities.
- Algebra uses symbol systems to express the structure of mathematical relationships.
- Statistics represent data, probability models chance, and both support informed references.
- Geometry focuses on relationships involving shape, space and position, and measurement focuses on quantifying phenomena in the physical world.

1.1.4 The statements of what matters are reflected in the curriculum maps. Curriculum maps form the long-term overview for planning and assessment, whilst providing opportunities for Pupil's to deepen their knowledge and skills through set stages (attend, engage, explore, consolidate, and apply).

1.1.5 Progress is measured from each Pupils starting point, individual education plan, personal outcomes (IDP), and wider developmental needs. Progression is planned through secure individual steps and may include:

- Number and place value.
- Patterns, relationships, and early algebraic thinking.
- Shape, space, position, and transformation.
- Measure, including time, money, length, mass, capacity, and temperature.
- Data handling, interpretation, and simple statistics.
- Probability and decision making in everyday situations.
- Functional numeracy for daily routines, travel, shopping, cooking, leisure, and work-related learning.

1.2 Aims

1.2.1 We have high expectations of all our Pupils and recognise that Pupil progress will be met within the appropriate steps of each Pupil's development. To support progression effectively, we aim to:

- Develop Pupils' confidence, resilience, independence, and enjoyment in mathematics and numeracy.
- Ensure all Pupils make progress from their starting points and are challenged appropriately.
- Build functional numeracy for everyday life, independence, and participation in the community and next steps.
- Provide access to mathematical concepts through meaningful, inclusive, and multisensory experiences.
- Promote mathematical communication, reasoning, and problem solving in ways appropriate to each Pupil.
- Develop understanding of number, measure, shape, space, data, and probability through broad and relevant experiences.
- Support Pupils to transfer mathematical skills across settings, subjects, routines, and real-life situations.
- Embed mathematics and numeracy across the school day rather than confining them to discrete lessons.

1.3 Planning for Opportunity

1.3.1 Pupils are provided with a wide range of experiences and opportunities which are thoughtfully planned and informed by individual education plans (IEP's), continuous assessment, pupil interest, and individual outcomes. This includes:

- Sensory exploration, hands on learning and practical activity.
- A range of concrete resources and manipulatives.
- Pictures, symbols, signs, and communication aids.
- Spoken language, questioning and discussion.
- Structured tasks and real-life applications.
- Repeated opportunities for reinforcement, retrieval, and generalisation.
- Real life opportunities to develop and apply key skills in the community.
- Problem solving as part of an everyday approach.

1.3.2 These experiences will support Pupils at Ysgol Ty Monmouth to:

- Develop confidence, self-esteem, and independence.
- Develop social and communication skills.
- Be able to co-operate, share and interact with others, in a range of situations.
- Develop a positive attitude to all areas of maths and numeracy.
- Explain their mathematical logic and reasoning.
- Develop confidence and competence with numbers and the number system.
- Develop the ability to solve problems through decision-making and reasoning in a range of contexts.
- Develop a practical understanding of the ways in which information is gathered and presented.
- Understand the importance of mathematics in everyday life.

2. Cross-Curricular Responsibilities

2.1 Literacy

2.1.1 Pupils will have opportunities to describe, explain and justify their understanding of various mathematical concepts, using appropriate mathematical vocabulary. Literacy skills can also be developed to describe mathematical processes, such as reasoning, understanding a range of calculation strategies, describing visualisation of shapes, studying and interpreting information in statistics and comparing alternative methods before arriving at a solution to a mathematical problem. These literacy skills can be used as they encounter practical, real-life problems.

2.2 Numeracy

2.2.1 This area, by definition, has numeracy at its heart. The five mathematical proficiencies of conceptual understanding, communication using symbols, fluency, logical reasoning, and strategic competence can be applied and connected. This can be achieved by using a range of real-life contexts to introduce and explore mathematical concepts and consolidate them. For example, percentages can be applied to annual percentage rates (APR) to demonstrate their use in financial literacy.

2.3 Digital Competence

2.3.1 Digital approaches enhance Pupils' mathematical and numeracy skills across a range of situations that will naturally occur within the area of learning and experience. This is more than simply the interaction with technology. For instance, the development of Pupils' digital skills could be done by creating a graph by using a spreadsheet to enhance digital understanding and strengthen Pupils' mathematical and numeracy skills. As Pupils develop and progress, they will increasingly use more complex digital skills, processes, techniques, and systems to create solutions to address specific problems, opportunities or needs. Aspects of collection, representation, and analysis, for example, will become more sophisticated as Pupils progress.

2.4 Integral Skills

2.4.1 The curriculum at Ysgol Tŷ Monmouth prioritises the following integral skills:

- Creativity and Innovation
- Critical thinking and problem solving
- Personal effectiveness
- Planning and organising

2.4.2 Mathematical working requires and develops creativity and curiosity which also transfer to other aspects of life. Frequently in mathematical problem-solving the Pupil does not immediately know how to approach the problem; it takes creativity and courage to explore different approaches before deciding how to proceed. Planning and modelling tasks within mathematics develops Pupils' ability to turn ideas into action.

2.4.3 Critical thinking underpins learning in mathematics. Mathematics teaches us problem-solving skills which transfer to all areas of the curriculum, to life in general and to the world of work.

2.4.4 Studying mathematics develops personal effectiveness by developing the ability to find solutions to challenges. Communicating about mathematical thinking and solving problems is a core aspect of mathematics. Mathematical communication is precise and logical and will be useful in life generally.

2.4.5 Mathematical thinking requires Pupils to be organised and, as they progress through school, their organisational skills will develop, particularly as they plan and implement the sequential data-handling cycle.

3. Monitoring and Reviewing

3.1.1 The success of the mathematics and numeracy curriculum may be measured in the following ways:

- Pupils' ability to use and apply skills independently at their level.
- Increased Pupil confidence in using and applying skills.
- Increase in the success rate of individual learning goal.
- Termly showcase of Pupil's development.
- Small steps progress as evidenced via B Squared and other relevant assessment tools.

3.1.2 The effectiveness of this policy is monitored through:

- Learning walks, scrutiny of planning, assessment records and Pupil work.
- Review of individual Development Plans and progress against outcomes.
- Analysis of communication and literacy progress from baseline to review (progress meetings).
- Pupil voice gathered through accessible communication methods.
- Feedback from families, team members and external professionals (such as through annual reviews).

4. Legislative Framework

4.1.1 This policy has been drawn up on the basis of law and guidance, namely:

- The Curriculum and Assessment Act (Wales) 2021
- ALN (Additional Learning Needs) Code of Practice Wales 2021
- United Nations Convention on the Rights of the Child 1989
- Education Act 2002
- Human Rights Act 1988
- Equality Act 2010