# 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.
- For maths to become embedded, Pupils must first experience the 'concrete' before moving onto the 'visual' and then the 'abstract.' Like all areas of learning, our Pupils' experiences are personalised at their appropriate stage, in relation to the range of contexts experienced and skills applied.
- Article 28 of the UN Convention on the Rights of the Child states Pupils have a right to an education.

| Document Control | | | |
|---|---|---|---|
| Policy Code: | TŷM3f | Policy Owner: | Rhuanedd Deroy-Jones |
| Version: | 25.09_v1.06 | Policy Author(s): | Rhuanedd Deroy-Jones<br>Natasha Smith |
| Date ratified: | September 2024 | | |
| Review Frequency: | 2 Years | | |
| Next review date: | September 2026 | Ratifying Committee: | PRG |

| Document History (last 3 versions) | | | |
|---|---|---|---|
| Date of Issue | Version No. | Person(s) responsible for change | Nature of Change |
| September 2025 | V1.06 | Anne Stephens | Quality Review Cycle |
| September 2024 | V1.05 | Anne Stephens and Abbie Heard | Annual Review |
| November 2023 | V1.04 | Sam Butland | Updated the policy format |

# CONTENTS

**1. Introduction ..... 3**

**2. Objectives and Opportunities ..... 4**

**3. Cross-Curricular Responsibilities ..... 6**

3.1 Literacy ..... 6

3.2 Numeracy ..... 6

3.3 Digital Competence ..... 6

**4. Integral skills ..... 7**

4.1 Creativity and Innovation ..... 7

4.2 Critical Thinking and Problem Solving ..... 7

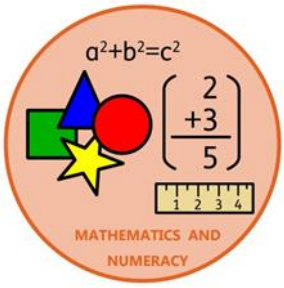
4.3 Personal effectiveness ..... 7

4.4 Planning and organising ..... 7

**5. Monitoring and reviewing ..... 8**

**6. Legislative Framework ..... 9**

# 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.

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 will consider 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 This is reflected in the curriculum maps which form the long-term overview for planning and assessment.

1.1.5 Teaching and learning opportunities will be broad and balanced, but specific to the individual needs of the Pupils within each class. This approach will ensure the four purposes are also addressed in a meaningful way.

## 2. Objectives and Opportunities

2.1.1 We have high expectations of all our Pupils and recognise that these objectives will be met within the appropriate stages of their development. The objectives are:

- To develop logical thinking skills
- To develop co-operation, communication and perseverance to problem solve.
- To develop skills to problem-solve in daily life.
- To develop an understanding of the concept of sequence and time.
- To experience meaningful and fun mathematical experiences that can be applied in everyday life.
- To understand basic mathematical concepts and apply them to a growing range of situations.
- To develop and build on the ability to budget and use money, in increasingly complex ways.
- To use knowledge of mathematics and numeracy in a vocational context.
- To explore space, shape and position using all the senses.

2.1.2 Ysgol Tŷ Monmouth will work towards these objectives by giving Pupils a wide range of experiences and opportunities. This could include, but are not restricted to:

- Practical, hands-on learning,
- Creative role play experiences to apply skills,
- Real life opportunities to develop their skills,
- Collaborative projects to apply their skills,
- Visits within the local area (community access),
- Planning and participating in end of term celebrations,
- Self-reflection time after learning experiences,
- Physical Activities,
- Problem solving as part of an everyday approach,
- Practical demonstration, using real-life examples where possible,
- Multi-sensory play,
- Product development and Enterprise
- Cooking and shopping trips

2.1.3 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.

# 3. Cross-Curricular Responsibilities

## 3.1 Literacy

3.1.1 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.

## 3.2 Numeracy

3.2.1 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.

## 3.3 Digital Competence

3.3.1 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.

# 4. Integral skills

## 4.1 Creativity and Innovation

4.1.1 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.

## 4.2 Critical Thinking and Problem Solving

4.2.1 The development of logical and 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. Mathematics involves solving problems and begins by analysing the requirements, before then asking questions and evaluating information. In the development of solutions, Pupils identify potential approaches and develop arguments, justifying their decisions.

## 4.3 Personal effectiveness

4.3.1 Studying mathematics develops personal effectiveness. When studying mathematics everyone encounters challenges at some point, and overcoming these challenges requires and develops resourcefulness and resilience. 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.

## 4.4 Planning and organising

4.4.1 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. In their mathematical problem- solving, Pupils should be encouraged to predict and estimate solutions and then check their answers, reflect on their results, and evaluate their approaches. Increasing confidence in decision-making for mathematical problem-solving supports Pupils to be more aspirational in setting goals and challenges for themselves including planning how to achieve these.

# 5. Monitoring and Reviewing

5.1.1 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 goals,
- Termly showcase of Pupil's development,
- Small steps progress as evidenced via B Squared and other relevant assessment tools.

## 6. Legislative Framework

6.1.1 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