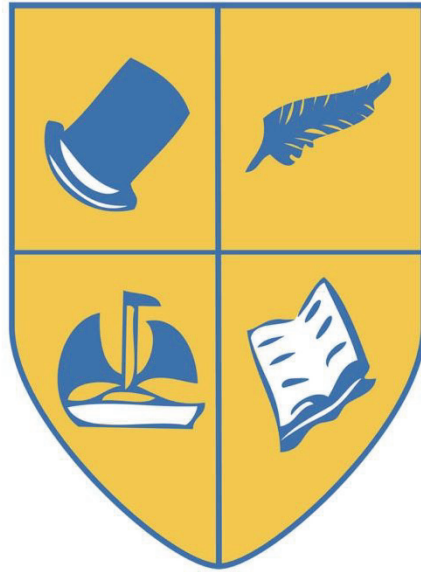


# Maths and Numeracy Policy



September 2022

The policy is written with consideration to our school commitment to the Rights of the Child and our achievement of becoming a Rights Respecting School and it complies with Article 28 of the UNCRC 'Every child has the right to an education' as well as Article 29 'Education must develop every child's personality, talents and abilities to the full.'

In our school, it is our intent that we help children to develop resilience, perseverance and independence. Our children learn that they are valued and valuable, they are independent people in their own right. As a school community, we will endeavour to support each child to make the most of every opportunity we offer. We provide enriching experiences to engage learners and in designing and developing our curriculum we have taken into consideration the four purposes of our curriculum which are that all learners become:

- Healthy and confident individuals
- Ambitious and capable learners
- Enterprising and creative contributors
- Ethical and informed citizens

### Intent

At Neyland Community School we are committed to developing learners who have a mathematical mindset and a love of learning mathematics.

We are passionate in our belief that all pupils can learn maths and setting a culture in school where staff are dedicated to helping all learners achieve their full potential in maths.

Our learners are encouraged to be creative in their application of maths and numeracy. They are taught through a range of approaches and will develop a range of strategies to solve problems. They learn maths through a Concrete, Pictorial and Abstract approach – the use of practical activities, manipulatives and games is crucial to our philosophy as well as using drawings to make sense of their learning.

The statements of 'what matters' as set out in the new curriculum in Wales will underpin the learning experience for our pupils and they will learn mathematics and numeracy through the concepts of number, algebra, geometry and statistics, developing the proficiencies of conceptual understanding, communication using symbols, fluency, logical reasoning and strategic competence.

Numeracy, described as the application of mathematics to solve problems in real-world contexts – plays a critical part in our everyday lives, and at Neyland it is important that mathematics and numeracy experiences are engaging, exciting and accessible and that learning experiences develop mathematical resilience.

In the early years, play and exploration of ideas form an important part in the development of mathematics and numeracy. We aim for our learners to be effective problem solvers and make connections and work collaboratively. As learners progress through the school they will have the opportunity to work both independently and collaboratively to build on the foundations established in the early years.

### Aims of policy:

- To promote a positive attitude towards Maths and Numeracy
- To ensure pupils have access to a broad, balanced and creative curriculum.
- To provide clear and consistent teaching throughout the school **that is equitable for RADY learners**

- To ensure that all children, of all abilities, are provided with a curriculum that challenges them **is equitable for disadvantaged learners and leads to them catching up with non-disadvantaged peers.**

### Overall Objectives

- Pupils are creative in their approach to solving problems and move through CPA approaches fluently and confidently.
- Pupils are proficient in the five competencies of conceptual understanding, communication using symbols, fluency, logical reasoning and strategic competence.
- Pupils are able to use logical reasoning as proof for their maths.
- Maths and Numeracy supports pupils in their acquisition of the four purposes.
- Learners understand that maths and numeracy helps them understand and make sense of the world around them.

### Statutory requirements:

Schools must design, adopt and implement a curriculum that:

- enables learners to develop in the way described in the [four purposes](#)
- is broad and balanced
- is suitable for learners of differing ages, abilities and aptitudes
- provides for appropriate progression for learners and includes a range of provision to ensure this

A school curriculum must:

- contain the six areas of learning and experience
- encompass the statements of what matters (as set out in the statements of what matters code)
- reflect the principles of progression set out in the progression code
- include the mandatory curriculum elements
- encompass the mandatory cross-curricular skills
- be equitable for all learners in adherence to the RADY principles

### Approaches to number - Number sense

We believe that a good understanding of number underpins mathematical development. Developing 'number sense' and a strong conceptual understanding of numbers and number relationships is crucial for our pupils to solve mathematical problems effectively.

Learners will develop their sense of number through learning the meaning of number, understanding number relationships, number magnitude, operations involving numbers and numbers and quantities. These skills are important because they lay the foundation for more advanced skills.

Through their development it is our aim for all learners to become proficient in the mathematical activities of mental calculation, computation and estimation, judging the relative magnitude of numbers, recognising part-whole relationships and place value concepts and problem solving and reasoning.

At Neyland it is important that our learners learn maths and numeracy through authentic contexts that have real-world applications. Our learners will engage in activities that have real meaning to them and our commitment to outdoor learning will play an important part in this.

Learners will use the computer programme Mathletics to develop fluency and to support understanding of all concepts. Pupils that do not make expected progress will receive timely and purposeful intervention that allows them to secure their understanding and our involvement with NACE will allow more proficient learners to strengthen their understanding to a greater depth.

### The CPA Approach

Concrete, Pictorial, Abstract (CPA) is a highly effective approach to teaching that develops a deep and sustainable understanding of maths in pupils. The CPA approach builds on children's existing knowledge by introducing abstract concepts in a concrete and tangible way. It involves moving from concrete materials, to pictorial representations, to abstract symbols and problems.

Concrete is the “doing” stage. During this stage, students use concrete objects to model problems. Unlike traditional maths teaching methods where teachers demonstrate how to solve a problem, the CPA approach brings concepts to life by allowing children to experience and handle physical (concrete) objects. With the CPA framework, every abstract concept is first introduced using physical, interactive concrete materials.

Pictorial is a highly visual stage of learning maths ideas stage. Here, learners use drawings and different representations of concrete objects used to model problems. This stage encourages children to make a mental connection between the physical object they just handled and the abstract pictures, diagrams or models that represent the objects from the problem.

Building or drawing a model makes it easier for children to grasp difficult abstract concepts (for example, fractions). This stage helps solving maths problems become more accessible for learners by allowing them to represent ideas individually and creatively rather than relying on formal procedural methods.

Abstract is the “symbolic” stage, where children use abstract symbols to model problems. Learners should progress to this stage when they have demonstrated that they have a solid understanding of the concrete and pictorial stages of the problem. The abstract stage involves the teacher introducing abstract concepts and learners are introduced to the concept at a symbolic level, using only numbers, notation, and mathematical symbols (for example, +, −, x, /) to indicate addition, multiplication or division.

### Mathletics

Mathletics is the online software program used to support the teaching and learning of concepts. Learners develop their understanding through engaging and purposeful activities and through reward. Mathletics provides learners with the opportunity to put their mathematics skills to use through activities and challenges that are relevant, interesting and exciting.

### Learning environment:

Classrooms are an important resource in allowing mathematical development. All classes have child accessible maths areas and resources. Practical resources are vital to allow learners make sense of problems and are important to engage learners of all ages. Classrooms are set up to allow independence and choice of approach – with learners having the opportunity to work both collaboratively and independently.

The outdoor environment is hugely important and supports mathematical development through interesting and practical ways to learn maths in authentic contexts. Our outdoor sheds are fully resourced with materials and equipment for effective mathematical learning.

### Assessment, target setting and record keeping:

Teachers use the Balance Assessment Tool to assess all children in maths and numeracy. Weekly objectives are set, linked to the planned work. These objectives are then assessed during and after the unit of work. Teachers also make half termly professional judgements on this area of learning.

The formative assessments that teachers make as part of every lesson helps teachers to adjust their daily plans. Teachers match these short-term assessments closely to the teaching objectives.

Assessment is used to measure the progress made from the start of a concept and against the objectives and progression steps in Balance. Tasks are assessed against the success criteria created by the class teacher and learners.

Marking in Maths is in accordance with the school's Marking and Feedback Policy.

Pupils undertake Welsh Assembly Government tests at the beginning and end of each academic year.

### Inclusion:

Teaching and learning is adapted to suit the learning and ability of all children, whilst ensuring that all children are suitably challenged. Every pupil is given the opportunity to be included in all aspects of school life and in all areas of the curriculum. We promote positive attitudes and a "marvellous mistake" ethos throughout the school. All children are encouraged to challenge themselves, seek to discover and believe in their own ability. Teaching styles are adapted in response to learning needs. Pupil groups such as ALN, eFSM and vulnerable families are at the forefront of everything we do at Neyland Community School. We instil a belief in all of our children than "Those who seek discover, those who discover change the world".

### Role of the subject leader:

The Subject Leader is responsible for improving the standards of teaching and learning in Mathematics and Numeracy through:

- monitoring and evaluating **through the lens of the poorest learner.**
- pupil progress and analysis of data, **including RADY learners attainment and progress as a priority, leading to constructive diagnostic conversations.**
- provision of Maths, ensuring the breadth and balance of the curriculum,
- Maths across the curriculum,

-the quality of the Learning Environment.

Other responsibilities are:

- auditing and supporting colleagues in their CPD;
- purchasing and organising resources;
- reporting to governors and SLT;
- guidance and support for parents and carers;
- keeping up to date with recent curriculum developments in Wales.

#### Staff development:

Staff development is undertaken in the following ways:

- By identifying areas for development during Performance Management reviews.
- In the School Improvement plan (whole school development).
- By making staff aware of relevant courses.
- By observation and feedback.
- By whole school INSET.
- By visits to leading Maths and Numeracy teachers/schools when appropriate.

#### Role of the parent/carer:

We encourage parents to support their child's learning by:

- Attending the school parents' evenings which are held twice a year to discuss individual progress and targets for the future **ensuring this is done equitably with understanding and care for RADY families.**
- Supporting extra-curricular activities and home learning linked to Maths
- Helping develop Mathematical development through incidental use of maths to help children make sense of the world and in their daily lives
- Foster a positive mindset to learning mathematics and that learning mathematics is accessible to all learners.

#### Governors

It is the role of the Maths and Numeracy Governor to:

- Play a key role in the monitoring and evaluating of Mathematics throughout the school. This will include focused visits, discussions with the AoLE leader, reviews of policy and action plan and evaluation and review of data and results. **Governors to receive briefing on RADY, the expectations, strategies employed and frequent progress briefings.**

The Mathematics and Numeracy Leader will keep governors informed of the implementation, progress and impact of new initiatives within the school.

Policy by: Mr Ricky Bowen

Date: September 2022

*Article 28: All children have a right to an education.*

*Article 29: Education should develop each child's personality and talents to the full.*

*Article 30: All children have the right to learn and use the language and customs of their families whether these are shared by the majority of people in the country or not.*