

**YSGOL GYNRADD YSTUMLLWYNARTH  
OYSTERMOUTH PRIMARY SCHOOL**

***Achievement Through Challenge/Cyflawni Trwy Herio***

**OYSTERMOUTH PRIMARY SCHOOL MATHEMATICS POLICY**

**Introduction**

This document is a statement of the aims, principles and strategies for teaching and learning mathematics at Oystermouth Primary School.

It was developed to conform with the Foundation Framework for Children's Learning for 3 to 7-year olds in Wales and the revised Key Stage 2 National Curriculum, through a process of consultation with teaching staff.

It is the responsibility of all staff to implement this policy.

**What is Mathematics?**

Mathematics is a body of knowledge which provides a way of viewing and making sense of the world.

It can be used to analyse and communicate practical tasks and real-life problems.

It provides the means for creating new imaginative worlds to explore, and it is through this exploration that new mathematics is created and current ideas are modified and extended.

**Aims**

Our aim in teaching Mathematics is to ensure every child will develop;

- a positive and confident attitude towards mathematics
- an ability to think clearly and logically in number, Shape and space and data handling
- the ability to calculate problems using a variety of mental strategies and formal written methods
- the ability to use their key skills in mathematics across the curriculum
- the ability to use mathematical skills to solve problems in everyday situations
- the ability to use mathematical equipment effectively and appropriately
- the ability to use the calculator accurately whilst understanding its use in no way reduces the need for mathematical understanding
- an ability to work independently or with others to solve mathematical problems
- skills in using I.C.T. to develop their mathematical understanding
- skills and strategies for checking results of calculations

## **Principles of the teaching and learning of Mathematics**

Mathematics is important because;

- of its wide use in the world in which we live, both in everyday situations and in work.
- it can be used to represent or communicate ideas, to predict, to explain and to prove.
- .it is interesting and enjoyable, providing intellectual challenge and aesthetic pleasure.

Mathematical Development is one of the Foundation Phase seven Areas of Learning set out in The Framework for Children's Learning for 3 to 7-years olds in Wales.

It is a core subject in the National Curriculum which was revised and restructured in 2008. The fundamental skills, knowledge and concepts set out in "Mathematics in the National Curriculum", where they are categorised into 4 Attainment Targets:-

- . Using and Applying Mathematics.
- . Number and Algebra.
- . Shape, Space and Measures.
- . Handling Data.

## **Organisation**

The principles of the teaching and learning of mathematics at Oystermouth Primary School are:

- to follow the concrete, visual and abstract approach
- to be relevant to the age and ability of the child
- to enrich children's key skills in mathematics
- to vary teaching methods ensuring breadth and balance
- to ensure continuity and progression
- to build on previous experience
- to ensure every child feels they can achieve

## **Strategies for teaching Mathematics**

The strategies for the teaching of mathematics at Oystermouth Primary School are:

- a dedicated daily mathematics lesson which outlines the lesson objective to the children
- a lesson organised into an oral/mental session, a direct teaching session and a plenary session making use of the strategy moving from concrete learning; to visual to abstract.
- controlled differentiation with all pupils engaged in Mathematics relating to a common theme
- ensuring concrete materials are available for children to use throughout the lesson

- a variety of individual, paired and group directed activities
- to provide the children with choice of equipment, methods and tasks where appropriate
- to give each pupil the opportunity to reason and explain orally, using correct mathematical terms
- the use of open and closed questioning so the child learns through interactive teaching
- the use of classroom assistants and helpers to work with individuals or small groups on certain activities
- the use of I.C.T. to support the key skills taught
- regular investigative and problem solving work
- the use of mathematical key skills across the curriculum
- homework is set to consolidate the skills already learnt
- the use of incidental Welsh to promote the speaking of Welsh

### **Commercially available Schemes of Work**

To provide a framework, which is supported by a variety of other source material and activities, Abacus Mathematics has been adopted as the core scheme. This is used in the Foundation Phase and Key Stage 2.

In order to embed the teaching of literacy and numeracy across the curriculum the school has recently purchased 'Building Blocks Rich Tasks'. The teachers will receive training on September 1<sup>st</sup> 2015 and begin to use the Rich Tasks in the Autumn term 2015. The Maths Co-ordinator will monitor the use of the Numeracy Rich Tasks.

### **Planning for Mathematics**

This is a process in which all teachers are involved.

Planning for Mathematics takes place at three levels, long term, medium term and short term. Where there are strong links between Mathematics and other subjects, these links are used to enrich the learning experience for the children.

The foundation for curricular planning is the Whole School Development Plan, developed through a process of collaboration between staff and approved by governors.

Schemes of work are developed by the co-ordinator in collaboration with the class teachers.

The mathematics curriculum is regularly discussed which ensures consistency of approach and standards.

Work plans are drawn up by year groups and are monitored by the Headteacher.

Differentiation is taken into account when planning

The National Procedural and Reasoning Tests and N.F.E.R. testing is used to give an easily recognisable year on year progression. Common errors are acted upon and used to aid and inform planning and target setting.

### **The Role of the Mathematics Co-ordinator**

The co-ordinator is required to;

- Take the lead in policy development and the production of schemes of work designed to ensure progression and continuity in mathematics throughout the school.
- Support colleagues in their development of detailed work plans and implementation of the scheme of work and in assessment and record-keeping activities.
- Monitor progress in mathematics and advise the Headteacher on action needed.
- Take responsibility for the purchase and organisation of central mathematics resources.
- Keep up-to-date with developments in mathematics education and disseminate information to colleagues as appropriate.

### **Excellence in Mathematics**

This is celebrated in:- classroom displays, displays in the halls, “sharing/good work” in assemblies.

### **More Able and Talented pupils in Mathematics**

Every\_pupil in Oystermouth Primary School is an individual and the needs of each individual will be met by the following:

- In Key Stage 2, TA’s and adult helpers work with the MAT children using the Rising Stars Scheme
- MAT pupils in mathematics are given extra/appropriate mathematics work in all classes

## **Pupils with Special Needs in Mathematics**

Every pupil in Oystermouth Primary School is an individual and the needs of each individual will be met by the following:

- I.E.P'S are drawn up for each child, targets are set for the class teacher, support teacher and the parent/ guardian to support the child with their target. These targets are reviewed and new ones set accordingly.
- reducing the barriers to the child's learning might include a different activity, different resources or support within the lesson. The teacher will plan accordingly using previous formative assessment of the child to inform the planning.
- a TA is employed three days a week to teach the 'Catch Up Maths' programme for pupils with special needs in mathematics
- pupils with special needs in mathematics are supported in the classroom by the class teacher and TA's

The children learn in Mathematics in a variety of contexts, e.g. individually, in pairs, in small groups of mixed or similar ability or as a whole class.

## **Key Skills**

Mathematics has a role to play in the development of NC key skills and common requirements. The scheme of work indicates opportunities where development may take place.

## **Assessment and Marking**

**The assessment of a pupil's understanding of a topic can be carried out in several ways;**

- the use of plenary sessions to assess pupil's understanding and resolve any misconceptions
- effective marking, to have relevant, positive and constructive comments, where possible with the child.
- through discussions in small groups or a practical task
- mental maths drilling sessions
- specific assignments for individual pupils
- skills are assessed and fed into the SIMS system each term
- individual discussion, where the pupil is encouraged to explain their workings
- annual N.F.E.R. testing for every pupil from Year 3 to 6
- annual LNF testing for every pupil from Year 2 to 6
- all formative teacher assessment is used to inform planning, and set targets for individuals
- parents are informed of the Mathematical progress of their child at parent evenings, an annual written report and through informal meetings. The child's level is reported to parents in a written report at the end of Year 2 and Year 6.

Planned assessments in Mathematics take place three times in the year. The assessment task/tasks are accompanied by success criteria, expressed as “I can” statements, and these are shared with the children. The children are encouraged to self-assess and to monitor progress towards the targets which emerge as a result of the assessment.

### **Mathematical Resources**

- each class is self sufficient with Mathematical equipment, resources and supporting materials to aid planning.
- each class must have a display/area dedicated to Numeracy
- class teachers are responsible for the care and upkeep of resources within their class
- the co-ordinator is responsible for the ordering of resources, keeping staff up to date with new resources, including ICT programmes.

### **Safe Guarding and Health and Safety**

When undertaking certain mathematical activities, for example, involving glue or scissors and outdoor maths etc, teachers need to be aware of the Safe Guarding issues which will arise.

Issues in mathematics include:-

- . special care of some apparatus e.g. scissors, compasses
- . use of aprons/protective clothing for “messy” work
- . close supervision of all cooking activities by an adult

### **Numeracy across the curriculum**

Within all subjects the teaching of numeracy and literacy is promoted. Using the Literacy and Numeracy Framework (LNF) teachers are expected to plan and deliver objectives pitched appropriately to the learners ensuring learners are progressing. Lessons have success criteria which include numeracy and/or literacy objectives to ensure the learners are aware of the particular skills they are looking to develop within that lesson. Monitoring of books, lessons and listening to learners will ensure all staff are planning effectively to ensure that every child reaches his/her potential.

“Numeracy means knowing about numbers and number operations. More than this, it includes an ability and inclination to apply numerical understanding and skills to solve problems, including those involving money and measures. It also includes familiarity with the ways in which numerical information is gathered by counting and measuring, and is presented in graphs, charts and tables.” (National Numeracy Project)

“A numerate pupil is one who has the ability to cope confidently with the mathematical needs of adult life. There was an emphasis on the wider aspects of numeracy and not purely the skills of computation.” (Cockcroft Report)

Numeracy is a priority for the whole of Oystermouth Primary School: alongside Literacy it is the focus of teaching and learning.

Within every subject Numeracy is required in the same way Literacy is required. For example, in Science children might use data handling; in Geography they might use coordinates; in History a time line etc.

Our aim is for children to apply the skills they learn in mathematics to all areas of their lives helping them to perceive the importance of being numerate. This is achieved through teachers using the LNF when planning and teaching foundation subject lessons. By using the LNF teachers pitch the numeracy being taught in particular lesson appropriately and ensure the children are making progress.

The focus on Numeracy across all subjects does not take away from the importance of teaching mathematics properly. Oystermouth Primary School's maths lessons are the key focus for teaching the skills the children need to be numerate.

Please refer to the Literacy and Numeracy Policy and Numeracy across the curriculum planning grids.

### **Curriculum Cymreig**

Aspects of Welsh life, language and culture are addressed in all subject policies.

### **Equal Opportunities**

All the children have access to the Mathematics curriculum and are encouraged to achieve their full potential in the subject.

Please see our Equal Opportunities Policy

### **Bilingualism**

In the teaching of Mathematics opportunities are provided for the development of bilingualism.

### **Policy Review**

This Policy will be reviewed in the AutumnTerm 2020.

## **Appendix - Literacy and Mathematics**

We believe at Oystermouth Primary that we must consider and use correct mathematical language when teaching or learning mathematics from the very outset of a child's education.

The basic philosophy of language learning in mathematics can be followed thus:-

### **Oracy**

Using mathematical terms for size, shape, area properties etc, when describing, observing discussing possibilities and predicting outcomes.

Develop and explain ideas when reporting observations to a variety of audiences.

### **Reading**

Make use of a range of sources such as graphs, charts, surveys, questionnaires, databases etc, to gather information. Make use of a range of familiar and new language.

Read for different purposes from a variety of sources including I.C.T. e.g. LOGO, Find It.

### **Writing**

Organise and develop ideas and information e.g. from investigation, problems. Write in response to classroom experiences for a variety of audiences.

Organise, plan and redraft work to explain and develop ideas.

### **Strategies**

Children should be aware that some words in common usage e.g. area, space, difference, have a specific use and meaning within mathematics.

Use opportunities to develop children's correct use of mathematical language.

Encourage use of correct mathematical terms at all times and discourage ambiguous ones.

Check language used in the core scheme "Abacus" and ensure understanding.

Display mathematical language within the classroom and change when appropriate to the topic.

Encourage progression in mathematical language development.



I confirm that I have read and understood this policy. I have had an opportunity to ask questions and will ensure that the principles of this policy will be reflected in my practice:

Name of staff member	Job Role	Date	Signature