

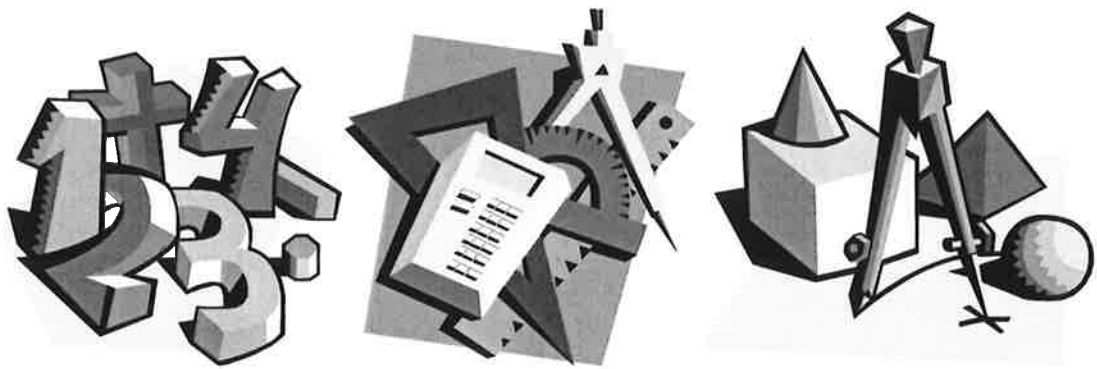
# **Oldfleet Primary School**



## **Mathematics Policy**

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# Oldfleet Primary School



## Mathematics

# Policy Document

# **OLDFLEET PRIMARY SCHOOL**

## **MATHEMATICS POLICY**

### **INTRODUCTION:**

Mathematics is an essential part of everyday life. It is a whole network of concepts and relationships, which provide a way of viewing and making sense of the world. It is used to understand and tackle a range of practical tasks and real-life problems. It also provides the materials and means for creating new imaginative worlds to explore. It is vital that children have the building blocks in place to use their secure knowledge to solving a variety of problems; therefore we must ensure that children develop a healthy and enthusiastic attitude towards Mathematics that will stay with them throughout their life.

Oldfleet Primary School follows the National Curriculum Mathematics Programmes of Study: Key Stages 1 and 2. In the Foundation Stage the curriculum is guided by The Early Years Foundation Stage Framework. This ensures continuity and progression in the teaching of Mathematics.

## AIMS:

### General:

- ❖ Although relating specifically to Mathematics, our aims for the subject are also in line with the school's general aims.
- ❖ We aim to provide the pupils with a Mathematics Curriculum, which will produce individuals who are literate, numerate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their mathematical skills to their full potential.
- ❖ It is the overall aim that by the age of eleven, children will be numerate and have gained success in all areas of Mathematics and should make use of the knowledge, skills and understanding outlined in the programmes of study in practical tasks, in real-life problems and investigate within Mathematics itself.

### Specific:

Our pupils should:

- ❖ Have a sense of the size of a number and where it fits into the number system;
- ❖ Know by heart number facts such as number bonds, multiplication tables, doubles and halves;
- ❖ Be encouraged to apply the skills to a deeper problem (independently dependent on age/stage)
- ❖ Use what they know by heart to figure out numbers mentally;
- ❖ Calculate accurately and efficiently, both mentally and in writing and paper, drawing on a range of calculation strategies;
- ❖ Make sense of number problems, including non routine problems, and recognise the operations needed to solve them;
- ❖ Explain their methods and reasoning using correct mathematical terms;
- ❖ Judge whether their answers are reasonable and have strategies for checking them where necessary;
- ❖ Suggest suitable units for measuring and make sensible estimates of measurements;
- ❖ Explain, solve problems / puzzles and investigations;
- ❖ Make predictions from the numbers in graphs, diagrams, charts and tables;
- ❖ Develop spatial awareness and an understanding of the properties of 2D and 3D shapes.
- ❖ Understand and use fractions across different areas in mathematics and other subjects.

## **INCLUSION:**

We seek to include all abilities of children by planning and delivering differentiated lessons / different levels of challenge or depth according to the children's needs and by ensuring where possible, children with Special Educational Needs and Disabilities are taught and supported within the class lesson where possible.

Our most able children should be identified as early as possible, and placed on the Gifted and Talented Register. Teachers are made aware of the children in their class that are on the register and will provide differentiated work, further challenge or extensions to allow the children to apply their knowledge in new contexts. Thus, making expected progress.

Children are taught in mixed ability class groups for the main maths lesson to allow for a greater flexibility in teaching mathematics across the curriculum.

In some of the year groups using Big Maths, there is a Support Big Maths group used to deliver the CLIC session at an appropriate pace or level for the children who have been identified as requiring further support.

We seek to incorporate Mathematics into a wide range of cross-curricular subjects.

In the daily Mathematics lesson we support children with English as an additional language in a variety of ways. (*eg. repeating instructions, speaking clearly, emphasising key words, using picture cues, playing mathematical games, encouraging children to join in counting, chanting, finger games, rhymes etc. ....*)

## **GENERAL PHILOSOPHY**

The key to success will be the flexibility in our approach to Mathematics teaching. Mathematics teaching should include opportunities for:

- ❖ Exposition by the teacher;
- ❖ Discussion between teacher and pupils;
- ❖ Discussion between pupils themselves;
- ❖ Individual / group practical work which is appropriate;
- ❖ A focus on reasoning;
- ❖ Problem-solving, including the application of Mathematics to everyday situations;
- ❖ Investigative work;
- ❖ interactive teaching methods
- ❖ assessment to inform planning
- ❖ Consolidation and practice of fundamental skills.
- ❖ Time given for children to apply the skills to a range of problems and real life situations.

Good teaching and high expectations of children are key to promoting high standards within the school.

Different teaching styles are encouraged within the maths lesson. Children need to understand that numbers and concepts can be shown in different ways. They also need to see examples of misconceptions so they have greater confidence in their own understanding.

WALT and Success Criteria (Must, Should, Could and Could Even) objectives should be shared with the children, and displayed clearly throughout the lesson. Plenary sessions can also be used to extend thinking, and assess pupils' understanding.

In Foundation Stage through to Year five Little Big Maths and Big Maths will be used to support the teaching of number work, particularly in mental starters.

Teachers should follow National Curriculum Mathematics Programmes of Study: Key Stages 1 and 2 and the Medium Term Plan for Mathematics. Teachers should use their professional judgement when deciding how long to spend on each area of mathematics, depending on the needs of their pupils.

### **The Mathematics Leader will:**

- ❖ Lead by example, showing a thorough understanding of the subject;
- ❖ Offer support to teachers in planning, teaching, assessment and resources;
- ❖ Work alongside the Head Teacher to monitor and evaluate teaching and progress;
- ❖ Regularly review and audit areas for improvement in the subject through analysing and monitoring data, children's work, planning and lessons;
- ❖ Identify INSET needs, plan and deliver INSET;
- ❖ Manage, audit, order and organise resources for teaching Mathematics;
- ❖ Regularly review the School Improvement Plan in relation to mathematics alongside the Senior leadership Team.

### **The Head teacher will:**

- ❖ Set high expectations and monitor teaching and progress;
- ❖ Encourage a whole school approach, keeping parents, governors and all support staff well informed;
- ❖ Support the co-ordinator and individual teachers;
- ❖ Regularly review the School Improvement Plan.

### **The Special Educational Needs Co-ordinator (SENCO) will:**

- ❖ Support the Mathematics Co-ordinator and teachers in dealing with children with Special Educational Needs and Disabilities (SEND) and encourage whole class inclusion where possible;
- ❖ Use the detailed objectives in the framework or supporting documents when preparing Education, Health and Care plans;
- ❖ Liaise with the class teachers and support staff to identify intervention groups, where necessary.

### **The Gifted and Talented Co-ordinator will:**

- ❖ Support the Mathematics Co-ordinator and teachers in dealing with children who have been identified as more able and encourage whole class inclusion where possible;
- ❖ Update the Gifted and Talented Register on an annual basis and disseminate to staff;
- ❖ Liaise with the class teachers and support staff to identify intervention groups, where necessary.

## **Teachers will:**

- ❖ Follow and use the National Curriculum Mathematics Programmes of Study: Key Stages 1 and 2, the Medium Term Planning for Mathematics, the agreed Short Term Planning Format and Oldfleet Primary School's Calculation Policy when planning Mathematics lessons;
- ❖ Deliver Mathematics in five sessions a week;
- ❖ Give opportunity for children to independently apply skills to show their understanding (Mastery)
- ❖ Use a range of teaching styles to incorporate: direct teaching, whole mental / oral starters, group / paired work and individual work;
- ❖ Sit children in mixed ability groups (where possible) to enable all children to achieve the same objectives.
- ❖ Set realistic and achievable individual pupil targets in line with school policy;
- ❖ Have high expectations of children's work and behaviour;
- ❖ Refer to the appropriate documents provided by the Mathematics Leader or the Senior Leadership Team to aid assessment;
- ❖ Provide informative, interactive and interesting displays on Mathematics; (*See Display Policy*)
- ❖ Give homework activities in line with the school policy (*e.g. learning tables, homework being an extension of work already covered*);
- ❖ Mark work using up to 'Three stars and a wish' criteria; (*See Marking Policy*)
- ❖ Allow time for children to respond to marking; (*See Marking Policy*)
- ❖ Plan opportunities for self-assessments (traffic light system) and peer assessments using WALT grids to be stuck into children's books (*See Marking Policy*)
- ❖ Make cross-curricular links with Mathematics when teaching other subjects

## **In the Daily Mathematics lesson teachers will:**

- ❖ Ensure there is a mental / oral starter, linked with the main activity where appropriate or a Little Big maths / Big Maths CLIC session and a plenary to reflect on learning, extend or address any misconceptions;
- ❖ Share clear learning objectives and success criteria (WALT) with the children;
- ❖ Represent problems in a variety of ways so that all children can access the learning.
- ❖ Provide daily practice of mental skills including counting, rapid recall, newly learned facts and calculation strategies either through a mental starter or a CLIC session;
- ❖ Maintain good pace and use effective questioning;
- ❖ Use and display accurate mathematical vocabulary, making sure they model how language is used;
- ❖ Ensure time is given to the reading and writing of mathematical vocabulary where appropriate;
- ❖ Plan for reasoning / investigation / problem-solving opportunities;
- ❖ Make cross-curricular links where appropriate;
- ❖ Ensure worksheets and textbooks are not overused in order to maintain the interest of the children;
- ❖ Engage pupils in challenging, differentiated activities / different levels of challenge or depth using a range of resources, including IT;
- ❖ Plan for the use of support staff within the lessons, where possible.

### **Support Staff will:**

- ❖ Follow the school's policy when teaching Mathematics (*See: The Calculation Policy, The Presentation Policy and the Assessment Policy*)
- ❖ Be included in staff training for Mathematics where appropriate;
- ❖ Have a clear understanding of their role in each part of the lesson;
- ❖ To take an active role during maths lessons;
- ❖ Share the learning objectives for each lesson;
- ❖ Assist teachers in assessing children's understanding in a lesson;
- ❖ Delivering interventions or guided work where appropriate.
- ❖ Use the Maths glossary (in the staff shared Maths folder) to boost their own understanding with any areas of uncertainty.

### **Children will be encouraged to:**

- ❖ Enjoy Mathematics and see its relevance in real-life;
- ❖ Use Mastery approach to apply the skills learned and show a greater and deeper understanding of the concepts involved.
- ❖ Understand exactly what is expected of them;
- ❖ Develop mental calculation strategies;
- ❖ Use mathematical vocabulary with accuracy and confidence;
- ❖ Use their knowledge to solve problems, see patterns, make predictions, present information clearly and interpret data;
- ❖ Give oral explanations of their methods.

### **Parents will:**

- ❖ Be encouraged to develop positive attitudes to Mathematics and actively support their children when homework is given;
- ❖ Be well informed of their child's progress through annual reports and parents evenings.
- ❖ When significant changes have been or are made to the Mathematics curriculum, parents are informed either through meetings, parental consultations or newsletters.

### **Assessment**

Day-to-day assessments are clearly identified on the Short Term Plans by teachers. Intervention plans should be updated each half term to identify children that require support in order to make at least good progress. These assessments should be used by teachers to identify areas for improvement which can be addressed in future lessons. Teacher assessment is also used to set targets or next steps for individual children. A sample of children's work will be moderated across the school at least termly to check and agree teacher assessments. Also teachers will indicate half-termly, children's progress in Mathematics. (*Please see Assessment Policy.*)



## **Presentation of Work**

All work is written in pencil and the date takes the digital form. The title reflects the learning objective (WALT) and the different Success Criteria where possible. These WALTs should be stuck into the book along with the different targets so children can know how to make progress and can self and peer assess against the targets during the lesson. Where squared paper is used, children are reminded to ensure that only one digit is used per square. (*Please see Presentation Policy*)

At Oldfleet, we discourage the overuse of worksheets as too many worksheets have been found to cause disengagement in maths lessons. Before using a worksheet, teachers need to reflect whether the learning objective could be achieved in another way.

## **Marking**

As many examples of work as possible should be self-assessed and peer-assessed. Teachers will mark children's work using the up to 'Three stars and a wish' criteria in a blue pen. Children will be expected to self-assess their understanding of a lesson or piece of work using a traffic light system. They will also be given time to be able to respond to the teacher's marking, where appropriate, in a red pen. In order to further develop a child's understanding of mathematics, they will be asked to peer-mark or assess another child's work in a green pen. The systems used for self-marking, peer-marking or self-assessment will take into account the children's ages and abilities. At times, children in Years 5 and 6 are encouraged to check computational exercises with a calculator. This can foster independence in the children, who can seek help if they are unable to locate and correct their errors.

(*Please see Marking Policy*)

## **Resources:**

General Mathematics resources are stored centrally and are used where applicable. Mathematics resources relating to specific year groups are stored in year group cupboard areas.

## **See also:**

Mathematical Booklet  
Calculation Policy  
Marking Policy  
Homework Policy  
Assessment Policy  
Presentation Policy  
Display Policy

*Reviewed by D Ward January 2017*

This policy was agreed by the staff on \_\_\_\_\_ and will be reviewed in \_\_\_\_\_.