

Worlingham CEVC Primary School

MATHEMATICS POLICY

*Like a tree firmly planted by streams of living water we will grow
in knowledge, love, faith and wisdom. Based on Psalm 1:3*



Aims and Objectives

There are three main aims for the National Curriculum for Mathematics;

- 1 Fluency.
- 2 Reasoning.
- 3 Problem Solving.

Mathematics is an integral part of daily life. At Worlingham CEVC Primary School we develop our children's skills and knowledge of all aspects of Maths in order to equip them for a range of contexts and situations that they will encounter throughout their lives.

We aim to do this through:

- Challenge;
- Practice;
- Investigation;
- Problem solving;
- Understanding;
- Explanation;
- Teaching skills and knowledge;

All children access the statutory requirements of the National Curriculum for Mathematics, developing their knowledge, skills and understanding towards a mastery of the curriculum.

This is done through:

- developing mental and written calculation strategies
- problem solving
- estimating and predicting
- interpreting data and results
- checking results
- explaining methods
- reasoning
- understanding numbers
- relating to real life situations
- investigations
- practical application of skills and knowledge

The skills developed within Maths lessons are applied across the curriculum. This application of skills provides for children to use Mathematics in a range of contexts.

Teaching Methods

A variety of teaching and learning methods are used, depending on the aspect to be taught and learned, and teachers take into account children's preferred learning styles (aural, kinaesthetic and visual). Numicon plays a major part in supporting children's understanding of number through use of practical apparatus and teaching materials.

Emphasis in lessons is put upon mental strategies and explanation of working methods. Teaching and learning takes place as a whole class group, in small groups, pairs and individually, involving practical and written activities.

Key Stage 1 & 2 have a daily Maths lesson. Each lesson involves a mental strategies session; a main teaching activity and a plenary to review and further the learning. The introduction of '5-minute challenges' ensure children revisit areas of the curriculum and also enable teachers to carry out 'assessment for learning'. Challenges also enable children to develop their fluency, problem solving and reasoning skills.

Mental Maths and the learning of times tables is an integral part of Maths lessons. Resources have been purchased to support the teaching, learning and application of mental Maths skills. These skills are taught to support the children with the statutory multiplication tables check.

Learning intentions for each lesson are displayed and shared with the children and are referred to throughout the lesson, reminding the children of the purpose of their learning. In the Early Years Foundation Stage, Maths is taught as one of the areas of learning through practical, integrated activities, using a thematic approach.

Where appropriate, children take part in a weekly Maths Olympics challenge to further develop mental calculation skills. These challenges begin in Key Stage 1 and are developed as children progress through Key Stage 2. These challenges begin in Key Stage 1 and are developed as children progress through Key Stage 2.

ICT opportunities are built in to lessons and are used, where appropriate, to enhance the learning.

Empty Number Lines & Bar Modelling

Children learn to use empty number lines from EYFS (where appropriate) to support their calculation work, as well as using 100 squares and other calculation methods. The use of an empty number line is developed as children progress with their mathematical understanding.

Another modelling strategy that is used is the bar method. From Key Stage 1 the children are taught how to use the bar method as another strategy to support their understanding of mathematical ideas when moving from concrete apparatus to abstract concepts. This pictorial representation helps to bridge the gap between these stages. The bar model can be used to support a range of calculations using the four operations as well as percentage and fraction questions.

Children will move towards formal methods of calculations as outlined in the National Curriculum.

Maths Olympics

Beginning in Key Stage 1, children will take part in a weekly Maths Olympics challenge. Initially these differentiated challenges build upon the children's recognition and recall of addition & subtraction number bonds. These challenges progress to include multiplication facts too for Key Stage 1. In Key Stage 2 the Maths Olympics challenges include both multiplication and division facts. Different 'medals' are completed, which increase in complexity. Other Maths Olympic challenges include pupils working on a set of calculations for a fixed period of time, working to beat their previous score or time. The achievements are celebrated in terms of personal progress to ensure the well-being of all pupils are considered.

Recording methods

Initially children are encouraged to record their working in a way that suits them, as well as developing mental calculation strategies that are suitable to the task. In line with the National Curriculum and the School's Calculation Policy children are taught more efficient calculation and recording strategies as they progress with their learning and understanding.

White boards are used extensively in all Maths lessons.

The Calculations Policy is used by all staff and supports the daily, medium term and long term planning of mathematics.

Assessment

Assessment takes place:

- throughout the lesson in mini plenary sessions
- in the plenary
- through marking of children's work
- by talking to children
- through setting specific tasks and annotating work
- through end of unit tests
- by using statutory end of Key Stage SATs and other published assessment materials.

Individual summative assessments are recorded on the school's tracking sheets at the end of each term. For QLA purposes, pupil results are recorded on an analysis grid corresponding to the specific assessment carry out.

Planning

Each teacher produces weekly short term plans based on the National Curriculum. Plans are adapted to the learning needs of the children, and include:

- learning intentions
- differentiation and challenge activities
- assessment opportunities
- organisation
- teaching methods
- lesson content

Monitoring Mathematics

The Maths coordinator monitors Mathematics through:

- scrutiny of the plans
- scrutiny of the children's work
- talking to children
- observing lessons
- moderating work
- tracking children

Safety

Children are taught how to use all equipment safely and a high standard of behaviour is expected in all lessons.

Teaching and Learning Resources

Each class has access to a range of equipment within their classrooms, in addition to a wider variety of resources in the Maths cupboard.

Teacher resources are kept in the staffroom and all staff also have access to online resources to support planning, learning and teaching.

'Working walls' ensure children's progress and achievements are celebrated from previous units. New vocabulary is displayed and explained to children to enable a rich vocabulary within mathematics. MAST based questions and prompts are displayed and used to promote mathematical discussion. Cold tasks are used at the start of topics to provide teachers with assessment for learning knowledge and to track progress within mathematics.

We do not use one particular Maths scheme, preferring to use a variety of teacher resources to support the teaching of Mathematics, and the requirements of the National Curriculum.

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