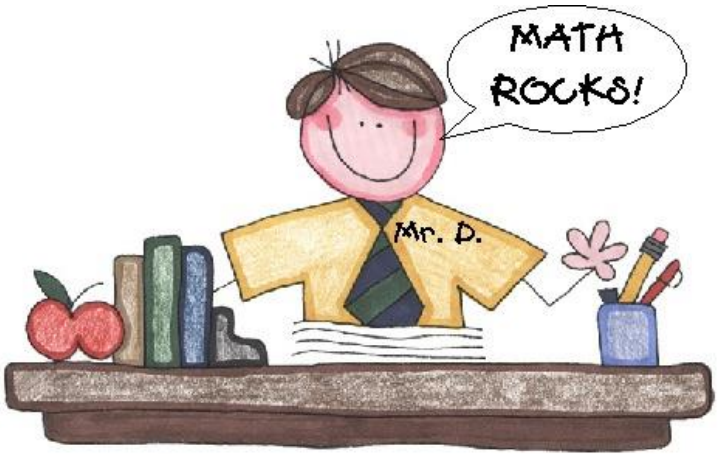
Verwood First School

Mathematics Policy



Reviewed September 2021

Policy Statement

'Mathematics equips pupils with a uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem-solving skills and the ability to think in abstract ways'
National Curriculum

What is Mathematics?

Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

Aims of Mathematics

- ☆ **To become fluent** in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- ☆ To be able to **solve problems** by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios.
- ☆ **To reason mathematically** by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.
- ☆ To have an appreciation of **number and number operations**, which enables mental calculations and written procedures to be performed efficiently, fluently and accurately to be successful in mathematics.

As a school we recognise our statutory obligation to teach the National Curriculum *(hereafter abbreviated to NC)* programmes of study as detailed in the New framework for Mathematics. However, we consider this to be a minimum framework on which our scheme of work will be based and plan additional learning opportunities for the learning of mathematics within our curriculum.

Our Beliefs for mathematics teaching and learning

- ☆ To teach mathematics relevant to each child's ability, understanding and maturity using a variety of relevant strategies and resources, including the use of concrete resources where possible.
- ☆ To encourage the appropriate and effective use of practical mathematics, using ICT.
- ☆ To develop an understanding of mathematics through a process of enquiry and experiment.
- ☆ To encourage children to develop general strategies for reasoning and problem solving.

- ☆ To create positive attitudes within challenging yet secure situations, developing confidence and independence.
- ☆ To encourage parental involvement in mathematics.
- ☆ To aid the rapid recall of experienced routines and facts.

Planning and Delivering The Mathematics Curriculum

As a school we have adopted the key recommendations of the Framework for mathematics:
- dedicated mathematics lessons 5 days a week
- direct teaching and interactive oral work with the whole class and groups
- an emphasis on mental calculation, including the teaching of times tables in addition to following the Maths No Problem scheme. In KS2, this takes the form of Times Table Rock Stars to develop quick recall of times tables
- teaching for mastery, with all pupils engaged in broadly the same content, adapted slightly for those that are working below Age Related Expectations.

Across the school, children are taught in mixed ability classes.

When planning the termly learning, teachers ensure that a range of learning opportunities are covered and that topic and real-life contexts are imbedded, using Maths No Problem (Y1-4) and White Rose Maths (EYFS) to guide this. Teachers use Assessment for Learning strategies to support their daily planning.

Medium term planning is carefully planned so that there are opportunities for fluency, reasoning and problem solving activities.

Teaching and Learning Styles

The focus is on direct teaching that is oral, interactive and lively. Activities are introduced to children using a range of methods and stimuli, including the use of concrete resources. When introducing activities, teachers explain the learning clearly and model mathematical language that children are expected to know.

We expect pupils to play an active part in their own learning by
- answering questions in full sentences,
- contributing to discussion during whole class and learning partner talking time,
- explaining and demonstrating their methods,
- demonstrating resilience and reciprocal learning styles,

The range of activities will include:
- practical work
- problem-solving
- investigations
- oral and written tasks
- ICT
- real life contexts
- mental recall

Children Recording Their Work

Children need to record and present their work in order to:
- help clarify their own thinking
- communicate and explain their ideas to others
- provide evidence of their work in mathematics

They will be taught to record their mathematical thinking in a variety of ways using, for example, diagrams, graphs, pictures, writing, and will increasingly be expected to choose the most appropriate method. Teachers with also use cameras to photograph and video practical learning experiences.

Inclusion/SEN/Able pupils

We aim to plan lessons in which all children can be included.

- ☆ Pupils who grasp concepts quickly are challenged with rich and sophisticated problems within the topic.
- ☆ Those children who are not sufficiently fluent are provided additional support to consolidate their understanding before moving on.
- ☆ Where pupil's learning difficulties extend to mathematics and they have an Individual Education Plan, support is given in the classroom suited to their individual needs and barriers to learning.
- ☆ Different teaching styles are used to ensure all children access the learning and concrete and pictorial learning is key to the teaching at Verwood First School.
- ☆ We plan to meet the needs of both genders.

Assessment

It is the responsibility of the teacher to monitor the progress of the pupils in his / her class in order to plan the next stage of the learning. Assessment in Mathematics should be a continuous and on-going process so that teachers can provide progressively challenging tasks to match the children's needs.

Assessment for Learning is used for daily assessment of children understanding. Children learn to self assess their achievement. Effective, high-order questions are used to extend, challenge and assess learning continuously.

Termly teacher assessments are made against the NC statements of attainment and the levels recorded on SIMS, an online assessment tool. This allows for an overview of an individual's progress throughout his / her time in the school and allows teachers to plan to levels of achievement.

Standardised testing (SATs) are undertaken year 2 to monitor and evaluate achievement against national age-related standards. Testing is undertaken in years 3 and 4 in the form of Testbase tests. These are used to moderate teacher assessment judgements and to inform next year's planning. The Early Years Foundation Stage profile is used to assess the children's learning needs in Year R.

Marking

Teachers use Assessment for Learning strategies to effectively mark work in line with the school's marking policy. Children use improvement time to look back and complete feedback challenges.

The Environment and Resources

A wealth of resources are available to support the children's mathematical learning. Each base is equipped with a range of practical and core equipment appropriate to the level of the pupils. Other, more specialized equipment is kept in a central store cupboard.

The Mathematics co-ordinator has responsibility for a budget and will liaise with year leaders when deciding upon requirements. If new resources or replacement items are needed this should be discussed with the Mathematics co-ordinator.

ICT and Numeracy

Where appropriate I.C.T can be used to enhance and extend children's learning. This includes as part of a whole class or during independent activities. Children should be given the opportunity to:

- practice and consolidate number skills
- use digital and analogue devices
- program toys to turn and follow a path
- represent and interpret data
- experience with and discuss shapes and patterns.

Teachers will use:

- interactive whiteboards
- ICT suite
- learning programs
- programmable toys
- cameras
- electronic scales/clocks

Home – School Links

Parents are kept informed of their children's progress by one written report annually. Parents' consultation evenings are held in the autumn and spring term. Parents are informed on their child's attainment in relation to the national average and also of their progress. Workshops with information about topics of interest or concerns for parents are run as the need arises.

In order to advance individual children's maths skills in school and at home, we also set weekly home learning (Years 1-4) through SumDog that is based on a topic they have learnt in school or as a pre-teaching tool to prepare them for their next topic. We also utilise Times Tables Rock Stars for multiplication practise, application and consolidation in KS2.

Governors

There is a designated Numeracy governor who supports the work of the subject leader where appropriate.