

West Melton Primary School



Maths Policy

The West Melton Way

Date approved by Governing Body: May 2020

Review Date: May 2021

Written by: G Oldham

Draft - to be approved by Governors

Maths Policy

Introduction

Mathematics is a creative and highly inter-connected 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. (National Curriculum 2014)

The aims of the 2014 National Curriculum are for our pupils to:

- Become fluent in the fundamentals of mathematics through varied and frequent practice with complexity increasing over time.
- Develop conceptual understanding and ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically; follow a line of enquiry, conjecture relationships and generalisations.
- Develop an argument, justification and proof by using mathematical language.
- Problem solve by applying knowledge to a variety of routine and non-routine problems by breaking down problems into simpler steps and persevering in answering.

The National Curriculum sets out year-by-year programmes of study for key stages 1 and 2. This ensures continuity and progression in the teaching of mathematics.

The EYFS Statutory Framework 2014 sets standards for the learning, development and care of children from birth to five years old and supports an integrated approach to early learning. This is supported by the 'Development matters' non statutory guidance.

The EYFS Framework in relation to mathematics aims for our pupils to:

- Develop and improve their skills in counting
- Understand and use numbers
- Calculate simple addition and subtraction problems
- Describe shapes, spaces, and measures

The purpose of mathematics in our school is to develop:

- Positive attitudes towards the subject and awareness of the relevance of mathematics in the real world.
- Competence and confidence in using and applying mathematical knowledge, concepts and skills.
 - An ability to solve problems, to reason, to think logically and to work systematically and accurately.
 - Initiative and motivation to work both independently and in cooperation with others.
 - Confident communication of maths where pupils ask and answer questions, openly share work and learn from their mistakes.
 - An ability to use and apply mathematics across the curriculum and in real life.
 - An understanding of mathematics through a process of enquiry and investigation.

We aim to provide a stimulating and exciting learning environment that takes account of different learning styles and uses appropriate resources to maximise teaching & learning.

Breadth of study careful planning and preparation ensures that throughout the school children engage in:

- practical activities and games using a variety of resources
- problem solving to challenge thinking
- individual, paired, group and whole class learning and discussions
- purposeful practise where time is given to apply their learning
- open and closed tasks

- a range of methods of calculating e.g. mental, pencil & paper and using a calculator
- working with computers as a mathematical tool

Through our creative approach to teaching and learning we also seek to explore and utilise further opportunities to use and apply mathematics across all subject areas.

Medium term planning

Years 1-6 use the White Rose Maths Hub schemes of learning as their medium term planning documents. These schemes provide teachers with exemplification for maths objectives and are broken down into fluency, reasoning and problem solving, key aims of the National Curriculum. They support a mastery approach to teaching and learning and have number at their heart. They ensure teachers stay in the required key stage and support the ideal of depth before breadth. They support pupils working together as a whole group and provide plenty of time to build reasoning and problem solving elements into the curriculum.

Short term planning

The above schemes of learning support daily lesson planning. Lessons are planned based around the White Rose resources for each year group and are adapted to meet the needs of whole classes and individual children. Planning is monitored at regular intervals by the mathematics subject leader.

Each unit of learning will be delivered in the following order:

- **Prior learning assessment**
Children complete a prior learning assessment based on learning from previous year groups. This ensures that misconceptions are identified and addressed before new learning begins.
- **New Learning**
Children are taught a variety of methods for recording their work and are encouraged and helped to use the most appropriate and convenient. Children are encouraged to use mental strategies and their own jottings before resorting to more formal written methods. Children's own jottings to support their work are encouraged throughout all year groups.
- **White Rose End of Block Assessment**

Children complete the White Rose End of Block Assessment at the end of each unit of work. Misconceptions are addressed as whole class, small group or individual interventions as required.

EYFS planning is based on the medium-term plans and delivered as appropriate to individual children with thought to where the children are now and what steps they need to take next. All classes have a daily mathematics lesson where possible.

In key stage one lessons are 45-60 minutes and in key stage two at least 60 minutes.

Teachers of the EYFS ensure the children learn through a mixture of adult led activities and child-initiated activities both inside and outside of the classroom.

Special educational needs & disabilities (SEND)

Daily mathematics lessons are inclusive to pupils with special educational needs and disabilities. Where required, children's IEP's incorporate suitable objectives from the National Curriculum for Mathematics, PIVATS or development Matters and teachers keep these in mind when planning work. These targets may be worked upon within the lesson as well as on a 1:1 basis outside the mathematics lesson. Maths focused intervention in school helps children with gaps in their learning and mathematical understanding. These are delivered by trained support staff and overseen by the SENCO and/or the class teacher. Within the daily mathematics lesson teachers have a responsibility to not only provide differentiated activities to support children with SEND but also activities that provide sufficient challenge for children who are high achievers. It is the teachers' responsibility to ensure that all children are challenged at a level appropriate to their ability.

Equal Opportunities

Positive attitudes towards mathematics are encouraged, so that all children, regardless of race, gender, ability or special needs, including those for whom English is a second language, develop an enjoyment and confidence with mathematics.

This policy is in line with the school's 'Racial Equality' policy. The aim is to ensure that everyone makes progress and gains positively from lessons and to plan inclusive lessons.

Lessons involving lots of visual, aural and kinaesthetic elements will benefit all children including those for whom English is an additional language (EAL). Differentiated questions are used in lessons to help children and planned support from Teaching Assistants and other adults.

Lessons

In all lessons, the WALT and success criteria are clearly displayed and discussed. The emphasis in lessons is to make teaching interactive and lively, to engage all children encouraging them to talk about mathematics.

Lessons involve elements of:

- Instruction - giving information and structuring it well;
- Demonstrating - showing, describing and modelling mathematics using appropriate resources and visual displays;
- Explaining and illustrating - giving accurate and well- paced explanations;
- Questioning and discussing;
- Consolidating;
- Reflecting and evaluating responses - identifying mistakes and using them as positive teaching points;
- Summarising - reviewing mathematics that has been taught enabling children to focus on next steps Pupils'

Arithmetic Session

Daily arithmetic sessions take place in all classes from Y1 to Y6. In Key Stage One, this involves securing fundamental number facts including counting and number bonds. In Key Stage Two, the main focus of this session is to teach fluent and rapid recall of timetable facts.

An extended arithmetic session is also taught weekly where children have the opportunity to practise more formal methods of calculation including written methods of addition, subtraction, multiplication and division.

Marking

Marking of children's work is essential to ensure they make further progress. Work is marked within the lesson and against success criteria, in line with the school marking

policy, and includes next steps. Children are encouraged to self-assess their work and are given time to read teachers' comments and make corrections or improvements.

Classroom Environment

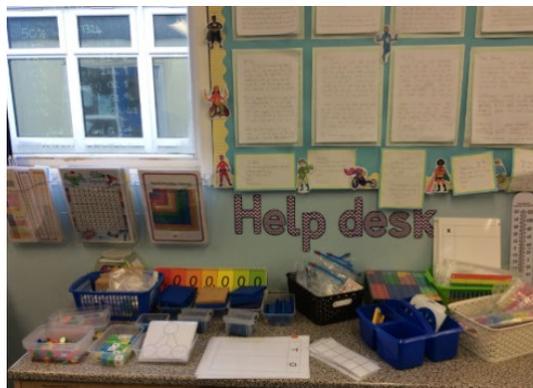
Help Desk

All classrooms to have a help desk set up with a variety of concrete equipment. Equipment to be out and visible at all times and stored in easily accessible containers. (eg several small tubs of counters instead of all counters stored in one large container) to ensure that children can access as the need arises.

All help desks to include:

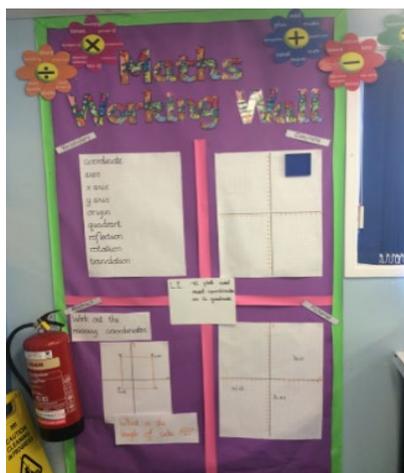
- Cubes
- Counters
- Double sided counters
- Place value counters (KS2)
- Numicon
- Dienes/Base Ten
- Cuisenaire rods and track
- Tens Frames
- Straws
- Bead Strings
- Place value mats.
- Grid method mats
- Numicon Arrow cards FS & KS1)
- Arrow cards up to 1 million (KS2)
- Money

Measuring and capacity equipment, fractions strips and large peg boards are stored centrally.



Maths Working Wall

All classrooms have a Maths Working Wall displayed in a prominent position in the classroom. The working wall is divided into four headings: Vocabulary, Concrete, Pictorial, Abstract, to support the Maths mastery approach to lessons. The use of the working wall allows children to build connections between concrete representations and their conceptual understanding of maths and provides children with a support scaffold that can be used independently during lessons.



Assessment

Assessment is an integral part of teaching and learning and is a continuous process. Teachers make assessments of children daily through;

- Regular marking of work
- Analysing errors and addressing misconceptions
- Asking questions and listening to answers
- Facilitating and listening to discussions
- Making observations

These ongoing assessments inform future planning and teaching. Lessons are adapted readily and short term planning evaluated in light of these assessments.

Medium Term Assessments

Termly assessments are carried out across the school using puma assessments. Assessment data is logged and tracked across the year group to enable teachers and senior leaders to monitor progress of classes and individual children. Pupil Progress

meetings are timetabled each term for all classes. Progress of pupils is discussed and appropriate intervention considered and put in place where appropriate.

Formal Assessment

EYFS pupils are assessed against the EYFS Profile- Number and Shape, Space and Measure.

Y2 and Y6 complete the national tests (SATs) in May.

Role of the Maths Subject Leader

- To lead in the development of maths throughout the school.
- To monitor the planning, teaching and learning of mathematics throughout the school.
- To help raise standards in maths.
- To provide teachers with support in the teaching of mathematics.
- To provide staff with CPD opportunities in relation to maths within the confines of the budget and the
School Improvement Plan
- To monitor and maintain high quality resources.
- To keep up to date with new developments in the area of mathematics