



Overleigh St Mary's CE Primary

Mathematics Policy

Date policy last reviewed:

February 2022

Signed by:

21.03.22

Headteacher

Date:

Chair of governors

Date:

21.03.22

PURPOSE / VISION STATEMENT

'A high quality mathematics education 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)

INTENT

The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately;
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language;
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

This policy outlines the teaching organisation and management of the mathematics taught and learnt at our school. This policy is based on the new National Curriculum for mathematics and the Early Years Foundation Stage curriculum.

AIMS & OBJECTIVES

Our aim at Overleigh is to ensure that every child becomes a fluent mathematician and has the ability to solve problems, to reason, to think logically and to work systematically and accurately. We intend to provide a curriculum that

- ✓ caters for the needs of all children
- ✓ sets them up with the necessary skills and knowledge for them to become fluent in the fundamentals of mathematics
- ✓ become confident mathematicians that can apply their understanding in real life contexts

At Overleigh, we follow the national curriculum for mathematics which aims to ensure that all pupils:

- ✓ Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- ✓ Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- ✓ Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

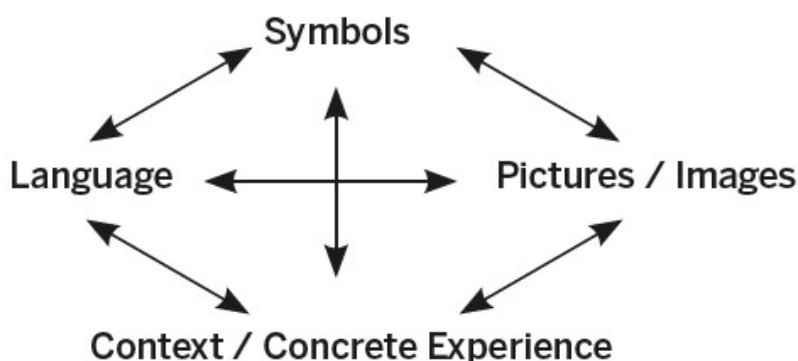
We intend to make maths practical, relevant and engaging so that our children enjoy maths and understand how mathematics is a vital life skill and is necessary and useful throughout their life.

IMPLEMENTATION

PROCESSES IMPLEMENTED IN SCHOOL

Teaching and Learning

We implement mathematics through high quality teaching, incorporating continuous levels of challenge through varied and well planned activities with a focus on fluency, reasoning and problem solving. Activities are planned using a 'must, should, could' structure, which enables the majority of children to start at the same level and then progress at the pace appropriately matched for their learning needs throughout the lesson. New mathematical concepts are introduced using Haylock and Cockburn's '*connected model of learning mathematics*' (1989).



The connected model approach enables all children to experience hands-on learning, and allowing them to have clear models and images to aid their understanding. We use a variety of mathematical resources in classrooms including Numicon, Base 10 and counters to support their concrete experiences. To support

this approach, we also use a range of planning resources including those provided by the White Rose Hubs, NCETM and NRICH.

Each mathematics lesson should last approximately 60 minutes in Key Stage 1 and 2, although teachers should be allowed and encouraged to adapt these timings in accordance with additional needs or planned cross-curricular activities. We implement our curriculum by using the mastery approach. The over-riding aim of the mastery curriculum is to teach children the objectives which are age-appropriate expectations as the new National Curriculum develops through the school. It is, however, accepted that some children will need work differentiating for them based on their previous skills, knowledge and understanding at various parts of lessons or topic strands.

At all times, children should be given the opportunity to develop their mental calculation strategies with daily activities planned which complement topics being covered and progressively build on known number bonds and tables facts.

The opportunity to use mathematical vocabulary accurately should be included within all key concepts and children should be encouraged to use correct mathematical terminology within their verbal and written explanations. This should be modelled by the teacher at all times whilst teaching mathematics and should be visible and easily accessible by the children via the maths working wall present in all classrooms.

Children will have the opportunity to learn mathematics and to deepen their knowledge, skills and understanding by working in:

- Whole class situations
- Co-operative learning groups including small group and partner work
- Individual independent activities
- Guided support groups/interventions as required

Within these individual, grouped or whole class activities children should engage in:

- Mathematical discussions where they are encouraged to reason, listen and develop their knowledge and apply mathematical vocabulary
- Mental mathematical tasks which develop, refine and enhance mental strategies
- Practical activities which provide concrete and pictorial learning opportunities
- Investigative maths
- Problem solving including word problems and a range of other representations as detailed in the White Rose and NCETM guidance
- Learning through play using maths games
- Using age related and developmentally progressive written methods as outlined in the calculation policy
- Consolidating number bonds and facts

Mathematics should form an integral part of the wider curriculum. Therefore, cross curricular mathematical opportunities should be planned for in other subjects on a regular basis which allows children the opportunity to demonstrate their ability to apply their mathematical skills, knowledge and understanding in a wider context.

Special Educational Needs

Every child has access to the mathematics curriculum. Children's needs are catered for through differentiated work within each lesson or additional support for individuals or small groups as deemed necessary by the class teacher, subject leaders or SLT in collaboration with the SENDCo. This should take into account different children's abilities from SEND, G&T and EAL which should be identified in weekly planning where appropriate.

Health and Safety

All activities will be followed with due regard to health & safety as set out in the Health & Safety Policy.

DISSEMINATION

This policy, and all subsequent changes in practice due to developments in the subject [at a national level] will be shared with all staff at regular staff meetings.

RESOURCES / RESOURCE ALLOCATION

A variety of practical resources will be stored and used within each year group that are appropriate for the age and ability of the children. A variety of textbooks, will also be available as a supplementary resource to facilitate learning, dictated by objectives highlighted in planning.

All other maths resources should be kept in the central mathematics resource area and signed out and back in as required to inform other staff of the location of resources at any given time.

The use of computing and technology is an essential element of mathematics and should be implemented into planning, when beneficial. Calculators will be used at relevant stages during key stage 2 where objectives specify.

IMPACT

RESPONSIBILITIES

Governors: The governing body will be informed of significant developments within the subject area and, if necessary, their approval will be sought. The subject will also be supported by a nominated governor.

Headteacher: Alongside the senior leadership team and the subject leaders it is the head teacher's responsibility to monitor standards and report these to the governing body.

Subject Leader: The responsibility for ensuring coverage of the National Curriculum lies first with the SLT and subject leader but ultimately with the individual teacher.

The subject leader will attend relevant training for the enhancement of their subject and encourage other members of staff to attend courses according to their needs. The subject leader will provide training within school where a need is identified.

Teachers: The responsibility for ensuring coverage of the National Curriculum lies first with the SLT and subject leader but ultimately with the individual teacher. It is each teacher's responsibility to ensure that all children have access to the mathematics curriculum through quality first teaching.

Parents, Pupils and Outside Agencies: Parents are informed of a child's progress and next steps at parents' evenings or through written reports on a yearly basis, although if parents wish to see teachers about an area in mathematics they are encouraged to make an appointment with the class teacher.

ASSESSMENT AND RECORDING

Formative Assessment

AfL will continue to be at the forefront of informing teacher assessment and in identifying next steps within a child's learning. We use Assessment for Learning (AfL) materials from Years Nursery to Y6 to support regular formative assessment of basic skills in numeracy. Teachers use strategies such as effective questioning, clear learning objectives, informative and effective feedback and response, in their teaching in order to ensure that ongoing assessment informs future learning. This is backed up by the use of success criteria for each unit of White Rose Planning undertaken. All teachers and teaching assistants work closely together to monitor those children who have not met objectives, and interventions are planned for individuals or groups in order to maintain progress and achievement against age-related outcomes. The school's *Assessment* and *Marking* Policies inform high quality feedback and pupils' response to it in Mathematics

The school's progress tracking system, iTrack, is updated termly and can be added to by teachers on a more frequent basis as required, for instance the end of a particular White Rose topic strand. National Curriculum tests are used at the end of KS1 and 2; teachers use past and sample papers to inform their assessments as they prepare pupils for these assessments.

Summative Assessment

In the Summer Term, Years 3, 4 and 5 will use end of year tests as a confirmation of teacher assessment. Year 2 will sit 2 externally set but internally marked national tests to assess the children against national standards, and Year 6 will sit 3 externally set and externally marked papers.

The Foundation Stage is assessed using the Early Years Foundation Stage Profile.

MONITORING & REVIEW

The SLT and subject leaders are responsible for monitoring the standards of the children's work and the quality of teaching in mathematics. The subject leader is responsible for supporting colleagues in the teaching of mathematics, for being informed about current developments in the subject, and for providing a strategic lead and direction for the subject in the school.

The mathematics subject leader completes an annual review in the autumn term, identifying strengths and areas for further development. This information will be shared with the Governor Curriculum and Ethos Committee. The mathematics subject leader will maintain a pro-active approach to agreeing non-contact time for monitoring and evaluation. This may include evidence of book scrutiny, moderation of work, monitoring of planning, learning discussions with children (pupil voice) and lesson observations/drop-ins. Evidence of monitoring and evaluation will be included in the subject leader file.

REPORTING TO GOVERNORS

Material changes to practice and policy will be shared through the Curriculum and Ethos Committee, and children's progress (at a school level) through the Standards Committee

OTHER POLICIES TO BE READ IN CONJUNCTION WITH THIS POLICY

- ✓ Calculation Policy
- ✓ Teaching and Learning
- ✓ Assessment Policy
- ✓ Feedback to Learning and Marking Policy
- ✓ Health and Safety
- ✓ Equal Opportunities Policy
- ✓ SEND Policy (Inclusion)

COMPLAINTS PROCEDURE

The school has a formal complaints procedure, details of which can be found in the complaints policy, available upon request from the school office.

This policy was written and reviewed by the Subject Leader: Colin Longworth and Nemeka Dickson

This Policy was reviewed by Curriculum Manager / Deputy Head

This policy was signed off by Curriculum and Ethos Committee

This policy was ratified by the Governing Body