

OTTERHAM C P SCHOOL

Mathematics Policy



Approved 23 March 2021 – Version 1

At Otterham Primary School, we realise the importance of Mathematics as a vital everyday life skill. We understand that it is integral to all aspects of life and with this in mind, we endeavour to ensure that children develop a positive, enthusiastic and resilient attitude towards the subject that will stay with them for life.

At Otterham Primary, we want all children to consider themselves mathematicians and our mission is to:

- develop positive attitudes towards mathematics and give children a sense of achievement and enjoyment
- raise the children's confidence in order for them to develop persistence and perseverance to overcome difficulties in mathematics.
- stimulate a natural curiosity, to ask questions, explore patterns and explain their reasoning through discussion with maths partners or groups.
- raise children's self esteem and give them the tools to become independent, confident and logical thinkers.
- develop a secure understanding of methods for calculating the four operations, which follows our calculation policy
- ensure children have an efficient range of strategies to solve mental calculations

We want all children to benefit from an exciting, balanced and inclusive maths curriculum and understand that this is key to ensuring that each child reaches their full potential. In order to achieve this, we make the most of the resources available including I.C.T and the outdoor learning space. As well as this, we make lessons relevant and meaningful through links to other areas of the curriculum and everyday life. This helps to ensure children understand how Maths relates to the wider world.

The movement towards achieving our vision includes the assessment of children's progress: ensuring that it is carefully monitored and celebrated. This aids us in measuring the impact and quality of the provision within our school.

As a result of this, we strive to develop the whole child as a life-long learner and competent mathematician.

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. 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 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.

Teachers planning and organisation

Long term planning

The National Curriculum for Mathematics 2014, Development Matters and the Early Learning Goals (Number, Shape Space & Measure) provide the long term planning for mathematics taught in the school.

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/flipchart planning. 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. Mathematics is taught through an integrated approach.

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 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.

Inclusion and equal opportunities

All children are provided with equal access to the mathematics curriculum. We aim to provide suitable learning opportunities regardless of gender, ethnicity or home background.

Calculation Policy

The calculation policy (see calculations/progression policy) has been updated in light of the new national curriculum programmes of study and discussion with class teachers.

Resources

All classrooms have a number of mathematical, age appropriate resources. Resources which are not used or required regularly are stored centrally and accessed by teachers at the beginning of a topic.

Marking and presentation

Teachers are expected to adhere to the schools marking policy when marking books and presentation policy when guiding children as to how to present their work. Highlighters are used to mark the objective (green and pink).

Monitoring and Evaluation

The Curriculum leaders, alongside SLT, are responsible for monitoring and evaluating curriculum progress. This is done through book scrutiny, planning scrutiny, lesson observations, pupil interviews, staff discussions and audit of resources.

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 picking up on 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

Termly assessments are carried out across the school using the assessment materials for each year group provided by NFER. These materials used alongside judgements made from class work support teachers in making a steps assessment for each child which in line with the assessment policy.

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.

Long term

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

Developments in September 2020

Due to the Coronavirus, (COVID 19) pandemic and the impact this has had on children's progress and learning during 'lockdown' and partial school closure, there have been changes made to address the need for a 'recovery curriculum of which mathematics has been identified as a crucial subject for consideration.

The government produced a document on the non-statutory Guidance for Key Stages 1 and 2 published by the DFE in June 2020 as well as other recommendations set out by the Local Education Authority. The publication 'identifies the most important conceptual knowledge and understanding that pupils need as they progress from year 1 to year 6. These important concepts are referred to as ready-to-progress criteria and provide a coherent, linked framework to support pupils' mastery of the primary mathematics curriculum.'

Teachers will make informal, formative assessments of the pupils in their classes at the very beginning of the Autumn Term to identify any 'gaps' or 'rusty' areas of knowledge and understanding in the 6 key areas as set out by this non-statutory guidance. These ready-to-progress criteria for all year groups are provided at the end of the introduction in the document. (Ready-to-progress criteria), and each criterion is explained within the corresponding year-group chapter so teachers will have a good understanding of the 'starting points' for their children. In most cases it is anticipated that children will need to revisit mathematics objectives from their previous year group to ensure that they have achieved mastery of these key areas before moving forward successfully onto the next stage of their learning in the subject. These objectives will be identified within their weekly planning.

The six areas of priority include:

- Number and Place Value
- Number facts
- Addition and Subtraction
- Multiplication and division
- Fractions
- Geometry

Whilst we will be prioritising these areas and spending the necessary time required to secure children's learning and mastery of these 'ready to progress' criteria, **we will continue to follow the whole curriculum for Mathematics, which remains a statutory requirement.** However, by meeting the ready-to-progress criteria, pupils will be able to more easily access many of the elements of the curriculum not included in the DFE guidance.

Teachers and practitioners in the Early Years will continue to follow The Early Years Foundation Stage curriculum while adopting the same philosophy and approach in their assessments and teaching during this 'different year.' Children will be taught to meet their needs and varying stages of development which will be 'driven by' ongoing assessment in a range of contexts.

Review

The mathematics policy will be reflected in our practise. The policy will be reviewed September 2021.