

Oak Tree Primary School

Mathematics Policy



Aims

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 have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems
- **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.

At Oak Tree Primary School we aim:

- To help children to perceive Mathematics as a fascinating subject that has a real and practical importance in everyday life.
- To enable children to become confident, fluent and efficient mathematicians.
- To provide children with an understanding of the number system and a range of computational skills.
- To promote the inclination and ability to solve number problems in a variety of contexts, whilst also developing their reasoning and communication skills using correct mathematical vocabulary.
- To promote practical understanding of how information is gathered and presented.
- To secure high standards in mathematics through effective teaching and learning.

It should be clear through teaching and learning that the **depth of understanding** is more important than acceleration through the curriculum.

Year Group Expectations

At Oak Tree Primary School, children should be taught according to year group expectations set out within the 2014 National Curriculum. An emphasis will be placed on children 'mastering' the mathematical concepts set out within their year group expectations, rather than being introduced to new content from another year group.

Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content.

Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

National Curriculum Document – Final edition, 2014

The National Curriculum for Mathematics is divided into:

Number

- number and place value
- addition and subtraction
- multiplication and division
- fractions

Measurement

Geometry

- properties of shapes
- position and direction

Statistics (from Y2 onwards)

Ratio and Proportion (Y6)

Algebra (Y6)

There is no longer a separate Using and Applying strand within the curriculum. This is to be embedded within all areas of Maths.

Mental Maths and Times Tables

Learning multiplication facts is a vital part of any child's mathematical development. Children at Oak Tree Primary School need to be able to recall multiplication facts in any order and also to derive associated division facts. The expectations for each year group are set out in the 2014 National Curriculum.

Mental Maths skills and/or Times Tables will be taught within the daily Maths lesson, and regular testing will be used to monitor progress. Children from Y2-Y6 will have weekly Demon Tables tests to monitor their progress throughout the year.

Planning and Teaching of Maths

Teachers at Oak Tree Primary School should plan using year group specific objectives sought from the 2014 National Curriculum. Emphasis should be placed on breadth of understanding, rather than acceleration through the curriculum. Planning should demonstrate the opportunity for children to be introduced to new concepts, to practise these skills and then to apply and further consolidate and develop these through problem solving and reasoning activities. There should be evidence recorded in children's books of regular problem solving and investigation work.

Progression in Calculation Methods

An outline of the calculation methods used for each number operation at Oak Tree Primary School, determined by Year group, is detailed in the *Mathematics Calculation Policy*. Further examples of each method can be found in the subsidiary guidance.

EYFS

Children in the EYFS will be working towards completing the Early Learning Goals, therefore preparing the children for starting the National Curriculum by using the 'Development Matters in the EYFS.'

Well-planned play, both indoors and outdoors, is a key way in which young children learn with enjoyment and challenge. Mathematical development depends on becoming confident and competent in learning and using key skills. This area of learning includes counting, sorting, matching, seeking patterns, making connections, recognising relationships and working with numbers, space, shape and measures. Mathematical understanding should be developed through a wide range of activities including stories, songs, rhymes and finger games, board games, sand and water, construction on a large and small scale, imaginative play, outdoor play and playground games, cooking, shopping, 2-D and 3-D creative work and by observing number pattern in the environment.

Marking and Feedback

Effective marking in Maths should correct children's misconceptions, help children to consolidate their understanding and challenge children to move their learning forward. Teachers at Oak Tree Primary School will ensure that all Maths work is marked in accordance with the Marking and Feedback policy. See Marking and Feedback policy for further guidance.

Assessment

At Oak Tree Primary School we see assessment as an integral part of the teaching process and endeavour to make our assessment purposeful, allowing us to match the correct level of work to the needs of the pupils, thus benefiting the pupils and ensuring progress.

In Reception, each child has a Learning Journal where evidence is collected in the form of comments, reports or photographs. This is then used to highlight the Early Learning Goals which are age-specific.

In Key Stages 1 and 2, Assessment grids detailing end of year expectations, and progressional steps towards these, will be completed termly to assess children's progress and learning in Maths. Teaching staff will use these grids to identify next steps in teaching and learning. Additional assessments may be completed by teachers at the end of each Maths block/unit/term to gather evidence informing termly assessments against year group expectations and future planning. See Assessment Policy for further guidance.

Leadership and Management

The Subject Leaders' role is to empower colleagues to teach maths to a high standard and support staff in the following ways:

- By keeping up to date on current issues; disseminating relevant information and providing training for staff members (either directly or through other professionals)
- Leading by example / modelling lessons or styles of teaching
- Having a knowledge of the quality of mathematics provision across the school
- Identifying and acting on development needs of staff members.

The Subject Leaders will monitor standards of teaching and learning in Maths through scrutinising planning and children's books, learning walks/observations and conducting pupil voice interviews. Feedback will then be delivered to staff, including clear development points to move the subject forward.

Resources

All children will have access to resources such as number lines, hundred squares and concrete objects to support their mathematical thinking when necessary.

All classrooms must have a number line (relevant to year group) prominently displayed. Each classroom should also have a maths display relating to current work.

Main resources are stored centrally, and are clearly labelled and organised. Subject Leaders are responsible for the maintenance and ordering of new resources.

There is a bank of electronic resources on the server. These are stored electronically so that they can be adapted to suit the appropriate number range, operation or strand depending on the year group and ability of the children.

Teachers can also draw upon planning and resources from the Hamilton Trust scheme of work to support the delivery of the Maths curriculum.

Cross-Curricular Links

As stated in the 2014 National Curriculum, Mathematics contributes to many subjects within the Primary Curriculum, therefore opportunities will be sought to draw mathematical experiences out of a wide range of activities and cultures. This will allow children to begin to use and apply mathematics in real contexts.

Information and Communication Technology

ICT can be used in various ways to support teaching and motivate children's learning. ICT may involve iPads, computers, programmable toys, calculators and audio-visual aids. They will, however, only be used in a mathematics lesson when it is the most efficient and effective way of meeting the lesson objectives.

Special Educational Needs

Teachers should aim to include all pupils fully in the daily Maths lesson. Very able children will need to be stretched through differentiated group work and extra challenges. Children who have difficulties with Maths will benefit from the emphasis on oral and mental work, particularly in watching and listening to other children demonstrating and explaining their methods. Children with severe or complex difficulties may need to be supported with an individual programme.

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