



Dolphinholme CE Primary School

Mathematics Policy 2021

MISSION STATEMENT

‘With God at the heart of everything we do,
We educate by encouraging a sense of wonder, praise and mutual respect.
We offer every child opportunities for success,
Making them confidently equipped for life’s journey.’

Aims and objectives

Using the programmes of study from the National Curriculum 2014 for Teaching Mathematics it is our aim to develop:

- A positive attitude towards Mathematics and an awareness of the fascination of Mathematics.
- A fluency in the fundamentals of Mathematics, including through varied and frequent practice with increasingly complex challenges over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems.
- Competence and confidence in mathematical knowledge, concepts and skills
- An ability to solve problems, to reason, to think logically and to work systematically and accurately.
- An ability to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing a hypothesis, justification or proof using mathematical language.
- An ability to 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.
- Initiative and ability to work both independently and in cooperation with others.
- An understanding of Mathematics through a process of enquiry and systematic experiment.

School Policy and the National Curriculum

Through careful **planning** and thorough **preparation**, we aim to ensure that throughout the school children are given the opportunities to take part in:

- Practical activities and Mathematical games.
- Problem solving tasks.
- Individual, group and whole class discussions and activities.
- Open and closed tasks.

- A range of methods of calculating e.g. mental, pencil and paper, practical and using a calculator.
- Working with computers as a mathematical tool.
- Cross curricular links to other subjects e.g. Science data.

School Curriculum - Programme of Study

Early Years Foundation Stage (EYFS):

In EYFS a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding – such as using manipulatives, including small pebbles and tens frames for organising counting – children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built.

It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, ‘have a go’, talk to adults and peers about what they notice and not be afraid to make mistakes. Children use their knowledge and skills in these areas to solve problems, generate new questions and make connections across other areas of learning and development.

Children in the EYFS learn by playing and exploring, being active, and through creative and critical thinking which takes place both indoors and outside. We recognise that children learn through routine, continuous provision and incidental learning opportunities, as well as planned sessions and activities. Mathematical understanding can be developed through stories, songs, games, routine, questioning, imaginative play, child initiated learning and structured teaching.

The ELGs should not be used as a curriculum or in any way to limit the wide variety of rich experiences that are crucial to child development. Instead, the ELGs should support teachers to make a holistic, best-fit judgement about a child’s development, and their readiness for year 1

Key Stage 1 and 2

The Programmes of study for mathematics are set out year by year for Key Stages 1 and 2 in the National Curriculum (2014). The programmes of study are organised in a distinct sequence and structured into separate domains. Pupils should make connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Key Stage 1

The principal focus of mathematics teaching in Key Stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. By the end of Year 2, pupils should know the number bonds to 20 and be precise in using and

understanding place value. An emphasis on practice at this early stage will aid fluency. Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at Key Stage 1.

Lower Key Stage 2

The principal focus of mathematics teaching in lower Key Stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. By the end of Year 4, pupils should have memorised their multiplication tables up to and including the 12 times table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

Upper Key Stage 2

The principal focus of mathematics teaching in upper Key Stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers and be able to manipulate the numbers freely between values. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio. By the end of Year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils should read, spell and pronounce mathematical vocabulary correctly.

Planning and Organisation

Plans are developed from the National Curriculum 2014 and the Lancashire Framework for maths and take into consideration the needs of our children. In KS2 we use the Target Maths scheme which includes differentiated resources within the book. In KS1 we use Primary Stars Maths alongside the Lancashire plans.

We carry out our curriculum planning in three phases [long term, medium term and short term]. Each class is responsible for the mathematics in their class in consultation with the Mathematics Subject Leader.

Long term plans give an overview of the whole year and which topics are to be covered in what order.

Medium term plans give a breakdown of each half term and topics are broken down into specific concepts.

Short term plans are for teachers' own use and are usually planned day to day.

The approach to the teaching of mathematics within the school is based on three key principles:

1. A daily Mathematics lesson (between 45 and 60 minutes).
2. A clear focus on direct, instructional teaching and interactive oral work with the whole class and groups.
3. An emphasis on mental calculation and place value in most lessons.

Calculation Policy

The calculation policy (see separate document) has been devised to meet requirements of the National Curriculum 2014 for the teaching and learning of mathematics, and is also designed to give pupils a consistent and smooth progression of learning in calculations across the school. It has been updated in light of the new national curriculum programmes of study and discussion with class teachers.

Differentiation

Whole class teaching takes place in every year group so that every child experiences lessons and objectives specifically for their year group. Differentiation is often not by task, but through support (either adult intervention or equipment), expectation, questioning and outcome. Some children will have an adapted task if they cannot access the objective, but will experience the teaching aspect of that objective.

Cross Curricular Links

Throughout the whole curriculum, opportunities to extend and promote Mathematics should be sought. Within Science topics, children will also develop their mathematical skills. This will help children appreciate how to work scientifically but also practise discrete mathematical skills. Nevertheless the prime focus should be on ensuring mathematical progress delivered discreetly or otherwise.

Inclusion, equal opportunities and SEN

The daily mathematics lessons are inclusive to pupils with Special Educational Needs. Where required, children's IEPs incorporate suitable objectives from the New National Curriculum and teachers keep these objectives 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.

Within the daily mathematics lesson teachers must not only provide differentiated activities to support children with special educational needs but also activities that provide appropriate challenges for children who are high achievers in mathematics. It is vital that all children are challenged at a level appropriate to their ability.

The assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, differentiation – so that we can take some additional or different action to enable the child to learn more effectively. Assessment against the National Curriculum for maths allows us to consider each child's attainment and progress against expected levels. This ensures that our teaching is matched to the child's needs. Intervention will lead to the creation of an individual Education Plan (IEP) for children with special educational needs. The IEP may include, as appropriate, specific targets relating to maths with a focus such as Precision Teaching or IDL Maths.

Assessment and Record Keeping

Teachers make regular assessments of each child's progress and record these systematically.

Short Term

Children's class work is assessed frequently through

- regular marking
- analysing errors and misconceptions
- questioning
- observation
- discussion
- plenaries

This is used to inform future planning and teaching. Lessons are adapted readily and short term planning is evaluated and annotated in light of these assessments.

Medium Term

Termly assessments are carried out across KS1 and KS2, using the assessment materials for each year group. These materials are to be used alongside judgements from class work, use of Lancashire Klips and Lancashire Maths assessments to form a teacher assessment for each child.

Long Term

Y2 and Y6 to complete SATs assessments every May. Pupils in Year 4 will complete the statutory Multiplication Tables Check in June. Using the tracking system and evidence built up over the year, teachers make an informed overall assessment of each child. This information is shared with the next teacher and the Headteacher. Parents are informed of their child's progress through parents' evenings and the end of year annual report.

Resources

All teachers should organise an area within the classroom dedicated to mathematics resources. This area should be clearly labelled and easily accessible to all children and allows them to become familiar with all resources. Resources which are not required regularly are stored centrally for all year groups to access.

Social, Moral, Cultural and Spiritual

Dolphinholme C.E. Primary School provides a wide range of opportunities for pupils to develop their spiritual, moral, social and cultural identity so that they can thrive as they grow and develop in these areas in school and the wider world. As part of our spiritual, moral, social and cultural development we promote fundamental British values. Our pupils' spiritual, moral, social and cultural development gives them the skills to be thoughtful, caring and active citizens in school and in wider society which we develop and nurture through a range of activities and opportunities both within and outside the school

environment. Children are consolidating their skills and are developing a deeper understanding of maths in everyday life and the awe and wonder of the world around them; God's fingerprint on the world.

As children move on to further their education and learning, their thinking skills, passion for maths, and high aspirations travel with them and continue to grow and develop as they do.

Role of the subject leader

Staff Development

Supported by the Maths subject leader, teachers are expected to keep up to date with subject knowledge and current materials that are available in school. Training needs are identified as a result of whole school monitoring and evaluation, appraisal and through induction programmes. These will be reflected in the Maths School Development Action Plan. Additional adults who deliver specific programmes will receive appropriate training as required.

Monitoring and Evaluation

The schools monitoring and review is in accordance with the School Monitoring and Evaluation Schedule. The coordination and planning of the Maths curriculum are the responsibility of the maths subject leader who also:

- Supports colleagues in their teaching by keeping informed about current developments.
- Gives the Headteacher an annual school development plan which evaluates the strengths and weaknesses in maths.
- Uses specially allocated regular management time to review and monitor evidence of children's work through book scrutinies and maths lesson observations across school.
- Gives opportunities to review the scheme, to undertake a book scrutiny and review the policy and published materials on a regular basis during staff meetings.

This policy will be reviewed at least every two years.

Subject Leader: Emily Clarke