Mathematics Policy

Introduction

Mathematics is a creative and highly interconnected 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 Mathematics National Curriculum are for all our pupils to:

- 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 generalising, 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

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:

-To promote a positive 'can-do' attitude towards mathematics with children seeing maths as an interesting and fascinating subject.
-To ensure all children understand the importance of mathematical skills in everyday life.
-Through practical activities, investigative activities and discussion, all children develop good basic skills and a secure, deep conceptual understanding of the mathematics they learn.
-That every child develops number sense; a secure knowledge and understanding of numbers, number facts and the number system.
-To develop children's mathematical fluency, mathematical reasoning and competency in problem solving by making rich connections across mathematical ideas.
-To develop confident, resilient mathematicians, who can rapidly recall mathematical knowledge and skills equipping them to solve a range of problems.

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-To develop children's ability to express themselves fluently, to talk about maths with confidence, using key mathematical vocabulary and be able to orally justify, argue and prove.

Teaching and Learning

At Dishforth CE Primary, we use a variety of teaching and learning styles in mathematics lessons to meet the need of all learners. We ensure all children are exposed to well organised, carefully planned maths sessions that enables all children to develop their fluency, reasoning and problem solving skills.

Careful planning and preparation ensures that all children at Dishforth CE Primary School are given the opportunity to engage in:

- practical activities and games using a variety of resources to support the development of children's mathematical fluency and deeper conceptual understanding.
- problem solving activities which challenge and extend their mathematical thinking
- reasoning activities which challenge children's to use their thinking skills and their mathematical language
- individual, paired, group and whole class learning and discussions
- purposeful practise where time is given to apply their learning

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

Teachers Planning and Organisation

Long Term Planning
The National Curriculum for Mathematics 2014, Development Matters and the Early Learning Goals (Number and Shape, Space & Measure) provide the long term planning for the mathematics taught at Dishforth CE Primary.

Medium Term Planning
Reception – Year 6 use the White Rose Maths Hub *Small Steps* schemes of learning as their medium term planning documents.

These schemes of learning focus on breaking the curriculum down into small manageable steps which should help children to develop a secure understanding of key concepts as well as providing children with opportunities to solve problems and reason mathematically. They support a mastery approach to the teaching of mathematics.

Short Term Planning
The White Rose Small Steps schemes of learning supports the planning of the daily maths lesson.

All classes have a daily mathematics lesson.
In key stage one lessons are between 40-60 minutes.
In key stage two lessons are 60 minutes
In EYFS children learn through a mixture of adult led activities and children initiated activities within their environment.

Lessons

In all lessons, children will have a clear understanding of the learning objective. This may be shared with the children orally or may be written on the board.

The teaching of maths follows the concrete-pictorial-abstract approach to enable children to develop their understanding of key mathematical concepts and to develop a secure number sense.

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Pupil's Records of Work

Children are encouraged to record their work using pictures, jottings, written methods and through written explanations.

We also aim to help children develop the confidence to talk about their mathematics. Children should be able to explain and discuss the mathematics they are using and should be encourages to justify and reason.

Teachers/children may choose to use photographs, observations and annotations to record learning when activities are more practical and work has been discussion orally.

Importance is placed on good presentation, whatever form of recording work is being used.

Children are encouraged to show this working out and their errors. The use of rubbers within Maths lessons is not encouraged. Children are advised to put a neat pencil line through their mistakes.

Feedback

Where possible, children's learning will be reviews and feedback will be given within the lesson. Teachers and teaching assistants will constantly monitor and check the progress of children within the lesson and ensure that feedback is given to them and children act upon this feedback. Next steps will be given where appropriate, often within lessons to check or extend a child's thinking.

Assessment

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

- regular checking and marking of work
- analysing errors and picking up on misconceptions
- asking questions and listening to answers
- facilitating and listening to discussions
- making observations

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

Monitoring and Evaluation

Monitoring of the standard of children's work and the quality of teaching in mathematics is the responsibility of the Head Teacher and the link governor supported by the Mathematics Co-ordinator.

The work of the Mathematics Co-ordinator also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in school.

The Mathematics Co-ordinator is responsible for identifying the strengths and weaknesses within the subject and developing an action plan to further develop the subject.

The Head Teacher allocates regular management time to the mathematics co-ordinator so that she can review samples of children's work, talk to children about their maths learning and undertake learning walks and lesson observations of mathematics teaching across the school.

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A named member of the school's governing boy is briefed to overview the teaching of Numeracy. This governor meets regularly with the mathematics co-ordinator to review progress, as well as carrying out lesson observations and learning walks.

Special Educational Needs and Disabilities (SEND)

The teaching of mathematics is inclusive to all pupils with special educational needs and disabilities. Where required, children's IPMs incorporate suitable objectives from the National Curriculum for Mathematics or Development Matters 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. Maths focused intervention programmes are available in school to help children with gaps in their learning and mathematical understanding. These are delivered on a 1:1 basis by trained support staff and overseen by the class teacher. 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.

Interventions

It is important to allow all children to fulfil their full potential in Maths. Assessment data is used to track pupils' progress and allow early intervention to take place of those children at risk of underachievement. Early intervention ensures all children get the very best start to learning maths. Quality first teaching and interventions focus on equipping all pupils with the essential knowledge and skills they need to succeed in the next stage of their mathematics learning. The Numeracy Co-ordinator is responsible for having an overview of the maths progress of all children in all year groups. The Numeracy Co-ordinator works closely with the SEND Coordinator and the class teachers to ensure that appropriate interventions are taking place.

Equal opportunities

Teachers work within the school Equal Opportunity Policy. We believe that all children irrespective of background, race, gender and capability should have equal access to the curriculum.

Health and Safety

Health and Safety regulations in class-based lessons apply as for any other subject. For outside visits there will always be the required pupil: adult ratio and risk assessments will be carried out for visits.

Staff Responsibilities

Numeracy Co-ordinator
-to be responsible for organising, updating and reviewing resources
-to keep the staff informed of current thinking and ideas
-to plan, in conjunction with the staff the school's numeracy curriculum
-to be able to advise and support staff; ensuring regular professional development of staff to aid consistency and effective implementation
-To liaise with other curriculum co-ordinators
-To continually review and develop the teaching learning of mathematics within the school.

Other staff
-to ensure that the agreed Numeracy Policy is put into practice and reviewed every 2 years
-to share ideas and expertise.
-to plan, teach and assess Numeracy in line with the agreed policy.

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