Pinchmill Primary School
Mathematics Policy

Intent

At Pinchmill Primary we believe that mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

The aims of mathematics are:

- to promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion;
- to promote confidence and competence with numbers and the number system;
- to develop the ability to solve problems through decision-making and reasoning in a range of contexts;
- to apply their knowledge, understanding and skills to a range of problems in a variety of subject areas;
- to develop a practical understanding of the ways in which information is gathered and presented;
- to explore features of shape and space, and develop measuring skills in a range of contexts;
- to understand the importance of mathematics in everyday life.

Implementation

Alongside the White Rose Maths Scheme, the school uses a variety of teaching and learning styles in Mathematics lessons. Our principal aim is to develop children's knowledge, skills and understanding in Mathematics. We do this through lessons, which have a combination of whole-class and group-directed teaching. During these lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. Mathematical dictionaries are available in all classrooms. Children use ICT in mathematics lessons where it will enhance their learning, as in modelling ideas and methods. Wherever possible, we encourage the children to use and apply their learning in everyday situations and across the curriculum.

In all classes there are children of differing mathematical abilities. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies – in some lessons through differentiated group work, and in other lessons by organising the children to

work in pairs on open-ended problems or games. We use classroom assistants to support children in their learning and to ensure that work is matched to the needs of individuals, both in support and challenge.

Mathematics curriculum planning

Mathematics is a core subject in the National Curriculum and therefore we use National Curriculum objectives for implementing the statutory requirements of the programme of study for Mathematics.

The National Curriculum outlines the age appropriate objectives to be taught in each year group providing a long term plan. The Subject Leader monitors the coverage of objectives taught and learning evident to ensure that there is an appropriate balance and distribution of work across each term.

It is the class teacher who completes the weekly lesson plans for the teaching of mathematics. These weekly plans list the objectives (the essential knowledge, skills or understanding required for progress in the subject), the standards for each group of children working towards a different objective (the essential knowledge, skills or understanding required for the pupils to make progress), the activities (individual, group or teacher led work that will help all pupils to make visible progress) and finally the assessment (next steps to be taken to allow the children to progress further).

Maths plans are available for the Subject Leader to look at on the Teacher's Curriculum area of the School server and the class teacher and subject leader often discuss them on an informal basis.

The Foundation Stage

Mathematics is taught in the Reception class. As the class is part of the Early Years Foundation Stage Curriculum, we relate the mathematical aspects of the children's work to the objectives set out in the Early Learning Goals, which underpin the curriculum planning for children aged three to five. We give all the children ample opportunity to develop their understanding of number, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

Contribution of mathematics to teaching in other curriculum areas

English

Mathematics contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. For example, we encourage children to read and interpret problems in order to identify the mathematics involved. The children explain and present their work to others during plenary sessions. Younger children enjoy stories and

rhyme that rely on counting and sequencing. Older children encounter mathematical vocabulary, graphs and charts when using non-fiction texts.

Information and communication technology (ICT)

Children use and apply mathematics in a variety of ways when solving problems using ICT. Younger children use ICT to communicate results with appropriate mathematical symbols. Older children use it to produce graphs and tables when explaining their results or when creating repeating patterns, such as tessellations. When working on control, children use standard and non-standard measures for distance and angle. They use simulations to identify patterns and relationships. ICT is also used to support and strengthen the skills of the children in an fun and focussed way.

Personal, social and health education (PSHE) and citizenship

Mathematics contributes to the teaching of PSHE. The work that children do outside their normal lessons encourages independent study and helps them to become increasingly responsible for their own learning. The planned activities that children do within the classroom encourage them to work together and respect each other's views. We present older children with real-life situations in their work on the spending of money.

5.4 Spiritual, moral, social and cultural development

The teaching of mathematics supports the social development of our children through the way we expect them to work with each other in lessons. We group children so that they work together, and we give them the chance to discuss their ideas and results. The study of famous mathematicians around the world contributes to the cultural development of our children.

Teaching mathematics to children with special needs

We teach mathematics to all children, whatever their ability. It is part of the school curriculum policy to provide a broad and balanced education to all children. We provide learning opportunities that are matched to the needs of children with learning difficulties. Work in mathematics takes into account the targets set for all individuals in the class.

Impact

We use both formative and summative assessment (Herts for learning) or children's work in Mathematics. Short-term (formative) assessments are made during everyday lessons where notes are made (by the teacher or teaching assistant) about groups of, or individual, children's ability to meet the targeted learning objectives. These short term assessments are written on the lesson plan evaluation and used to help us to adjust our day to day planning to ensure progression in teaching and learning and to address any misconceptions.

Each half term teachers use formative assessment from lesson evaluations from small group and independent room activities to inform their

assessment. Group and room activities are planned to ensure that they have not only acquired the key skills of Mathematics but that they can apply them to real life situations. This information is then tracked using the schools data information system. Peer assessment is also used during lessons to evaluate learning.

Summative assessments are made towards the end of the school year and are used to assess progress against age related expectations. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents. We pass this information on to the next teacher at the end of the year, so that he/she can plan for the new school year. We make summative assessments with the help of end-of-year tests and teacher assessments. We use the national assessments for children in Year 2.

There is a cycle of target setting and tracking in place. Teachers will assess pupils and set targets and then review these targets during the academic year. (See Assessment, Recording and Reporting Policy)

Resources

There is a range of resources to support the teaching of Mathematics across the school. All classrooms have a number line and a wide range of appropriate small apparatus including Numicon to support the early understanding of number and calculation. Mathematical dictionaries are available in all classrooms. Calculators and a range of audio visual aids are also available. The computers allow children to access a range of Mathematical activities and games to support learning across the Mathematics curriculum. We also have some resources centrally stored in the Art Room and ICT room.

Monitoring and review

Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the mathematics subject leader. The work of the mathematics subject leader 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 the school. The Mathematics Subject Leader gives the Head Teacher an annual summary in which he/she evaluates strengths and weaknesses in the subject and indicates areas for further improvement. The Head Teacher allocates regular management time to the mathematics subject leader so that he/she can review samples of children's work and undertake lesson observations of mathematics teaching across the school.

Homework

This will be set weekly in KS1 and KS2 at an appropriate level of development to support teaching and learning in the classroom.

Calculation Policy

A range of methods are taught and learned in line with the White Rose Maths Calculation Policies which are regularly updated, and in line with the latest National Curriculum.

Review Date

The Mathematics policy is to be reviewed annually by the Mathematics subject Leader in consultation with all staff.

Date of Commencement of Policy: **September 2024**

Date of endorsement by Governing Body:

Signed:

Review Date: