



MATHEMATICS POLICY

Introduction

This policy outlines the teaching, organisation and management of the mathematics taught and learnt at Irby Primary School.

The Nature of Mathematics

Mathematics is a tool for everyday life. It is a whole network of concepts and relationships which provide a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas and to tackle a range of practical tasks and real life problems. It also provides the materials and means for creating new imaginative worlds to explore.

Purpose of Study from the new National Curriculum for Mathematics

'Mathematics is a creative and highly inter-connected 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 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.

Aims

Using the Mathematics curriculum as set out in the Primary Curriculum 2014, it is our aim to develop mastery of:

- Mathematical fluency
- Mathematical reasoning
- Mathematical problem solving

It is also our aim for our children to become confident mathematicians with the skills, knowledge, understanding and reasoning to use mathematics in later life whilst fostering a real love for the subject. To enable us to do this we also aim to help our children foster:

- A positive attitude towards mathematics and an awareness of the fascination of mathematics.

- Competence and confidence in mathematical knowledge, concepts and skills and language.
- An ability to solve problems, to reason, to think logically and to work systematically and accurately.
- Mathematics fluency, i.e. the ability to transfer their mathematics skills to different situations both within mathematics and in other subjects.
- Initiative and an ability to work both independently and in cooperation with others.
- An ability to communicate and reason mathematics in a variety of ways including concrete, pictorial and abstract representations.
- An ability to use and apply mathematics across the curriculum and in real life. This is particularly relevant in subjects such as science where practical interpretation of data is integral to the subject.
- Development of organising and managing information gathered practically in everyday situations; in the use of measures and spatial measurement.
- Development of practical understanding of the ways in which information/statistics are gathered by counting and measuring, and are presented in graphs, diagrams, charts and tables.
- To assist in their own learning and that of others, by self and peer evaluation.
- Recognise and use pattern and make connections between mathematical ideas including those in other curriculum areas.

Objectives

- To enable all pupils to achieve their potential according to their ages and abilities.
- To provide training and support that will develop an expert staff that provides a balanced and broad curriculum suited to the development of appropriate knowledge and concepts.
- To ensure management systems and structures provide support for the aims and objectives of mathematics.
- To provide appropriate resources to ensure a rich and diverse curriculum.

- To ensure teaching and learning styles are varied and suited to the pupils being taught and the areas being studied.
- To ensure full coverage of the National Curriculum in mathematics in all year groups.

Teaching Guidelines

Mathematics in the first place is a practical subject, which develops the concepts of shape, space, number, pattern and problem solving. In the early Foundation years children have activities that develop these concepts and prepare the children for further mathematical studies when they are ready.

F2 children follow the EYFS Early Learning Goals for their ages and stages of development. The early learning goals for numbers include Numbers for Labels and Counting, Calculating and Shape, Space and Measures.

From Year 1 to Year 6 the school follows the National Curriculum for mathematics and the schools calculation policy, which provides detailed guidance for the implementation of mathematics in the school, and targets to be achieved by each year group by the end of each school year.

Mathematics is taught daily as a discrete subject but is also integrated into the other subject areas. Mathematics is integrated into the planning of all subjects and applied across the whole curriculum. In this way pupils learn the place of mathematics in the world around them.

Teachers use a range of teaching and learning styles, incorporating individual, pair, class and group work into lessons. Children are taught through discussion, practical activity, games, investigations, problem solving, recording and practice, consolidation, and through the use of IT. The teaching styles and methods are varied according to the subject matter and the pupils being taught. (Please see Calculations Policy).

Pupils develop mathematics through using a variety of methods: mental strategies, practical activity, written calculations, problem solving, discussion and application of basic skills. Pupils should work with concrete, pictorial and abstract representations at all levels in school.

Pupils of different levels of ability are catered for through the differentiation of resources provided for them. Children who grasp the concept quickly should be challenged through rich and sophisticated problems to develop in-depth mastery of the subject.

Additional support is provided for pupils with additional maths learning needs. Pupils on the SEND register are provided for using IEP targets and intervention programmes.

Mathematics homework is given according to the class teacher's identification of need. This should be weekly in the form of a 'Mathletics' challenge. EYFS are encouraged to engage in Mathletics activities but are set learning log homework. Mental maths and targets are given

to each child at the beginning of each academic year (home-school maths charts - see appendix 3 for an example) for the children to work through at home.

Mathematics should be used in other subjects especially Science, DT and Computing.

Planning

- **Long Term Planning**

This is based on curriculum 2014, the long term plan (see appendix 1) details what is to be taught over the year and provides teaching guidelines and overall objectives for each year group for the whole year.

- **Short Term Planning**

Lessons are planned in detail and specific class objectives are set. Learning targets are also set for each pupil according to the standard they are working towards.

Assessment and Monitoring

Mathematics will be marked and feedback given to pupils daily. This should follow the school's marking policy (see appendix 2) and children should be encouraged to respond to feedback through GPR (gel pen response). This should inform next steps in teaching.

Mathematics provision is monitored by the mathematics leader with teaching observations and/or learning walks taking place. Pupils' work is examined, planning analysed and classroom practice monitored. The mathematics leader also ensures all members of staff have appropriate training to enable them to deliver the curriculum to the expected standard of excellence.

Children leaving F2 are assessed on the three key areas and point scores given on the EYFS profile (1,2,3 = emerging, expected, exceeding). Pupils are assessed in mathematics at the end of Year 2 and the end of Year 6 by external bodies. Times Tables are assessed externally in Year 4. Assertive Mentoring or NFER/SATs papers are used half termly, in Years 1-6, to assess progress. Target Tuesdays and Five-a-day Fridays are used to practise skills and keep mental and written fluency. Assessments should be used to identify next steps for the whole class and individuals.

Pupils with Additional Needs

All classes consist of pupils of varying abilities and with varying needs and our classroom practice ensures that most of these needs can be met within the classroom organisation.

However, when a child has very specific additional needs, support is provided firstly by the school's internal organisation structure, which gives personal assistance and additional

practice and is administered by teaching assistants within the school, often within the classroom, during the lessons.

Pupils with SEND are placed upon the SEND register, which records the support given and provides each child with an individual education plan (IEP). Parents are given regular reports, and when the pupil has achieved the necessary standard she/he is removed from the register. Children on this register for maths are often working below their age group in mathematics and may require differentiated work at times. More details about this can be found in the school's SEND policy.

Home / School Links

We see the relationship with parents as very important in supporting their children's mathematical skills. We provide support for parents through Maths Workshops.

Children are set Mathletics activities weekly and are encouraged to play fun maths games on the website to gain points and rewards. Home-School mental maths charts are provided for parents and children to work through during the year.

Continued Professional Development

Mathematics lead teachers will attend courses: this information will be disseminated to staff through staff meetings. Training for new initiatives or to support staff who have recently qualified or changed year groups will be sources whenever possible. The mathematics lead will work with a curriculum team to ensure mathematics is developing in line with new ideas and guidance across the whole school. Good practise will be shared in school through coaching, lesson study and/or observations of colleagues and during staff meetings.

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