

Mathematics Policy



**The Inspire Multi Academy
Trust (South West)**

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POLICY FOR MATHEMATICS

1. INTRODUCTION

Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways.

Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a healthy and enthusiastic attitude towards Mathematics that will stay with them to encourage economic wellbeing. 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.

This policy should be read in conjunction with the Calculation Policies for each Key Stage.

2. INTENT FOR THE SUBJECT

The curriculum within the Inspire Multi Academy Trust is designed to provide a broad and balanced education that meets the needs of all children. It provides opportunities for children to develop as independent, confident and successful learners, with high aspirations, who know how to make a positive contribution to their community and the wider society. The curriculum ensures that academic success, creativity and problem solving, reliability, responsibility and resilience, as well as physical development, well-being and mental health are key elements that support the development of the whole child and promote a positive attitude to learning. The curriculum celebrates the diversity and utilises the skills, knowledge and cultural wealth of the community while supporting the children's spiritual, moral, social and cultural development, ensuring that children are well prepared for life in modern Britain.

At the Inspire Multi Academy Trust, we take a mastery approach to the teaching and learning of Mathematics. Essentially, our ethos is that all children can be successful in the study of mathematics. We do not accept that 'some children cannot do maths' or that children should be limited by prior attainment. Maths is for everyone. We teach the skills to ensure our children are resilient learners who become life-long Mathematicians. We aim to deliver an inspiring and engaging Mathematics curriculum through high quality teaching. In order to improve our mastery approach and improve the quality of our maths teaching, we use the Power Maths approach.

The Power Maths approach enables children to be numerate, creative, independent, inquisitive, enquiring and confident. Children should not be afraid to make mistakes and should fully embrace the fact that mistakes are part of learning. A mastery curriculum promotes a deep, long-term, secure and adaptable understanding of the subject, so that children become fluent in calculations; possess a growing confidence to reason mathematically and hone their problem-solving skills.

The intention of the Maths curriculum within the Inspire Multi Academy Trust is for children to be excited about Maths. Developing a positive attitude to this subject is essential. Teachers promote children's enjoyment of Maths and provide opportunities for children to build a conceptual understanding of Maths before applying their knowledge to everyday problems and challenges. We ensure that challenge is provided for all children, whatever their understanding. Children are encouraged to be brave and push the boundaries, deepening their understanding further.

The only way to learn Mathematics is by doing Mathematics!

3. RATIONALE

All school policies form a corporate, public and accountable statement of intent. As a primary school it is very important to create an agreed whole school approach of which staff, children, parents, carers, governors and other agencies have a clear understanding. This policy is the formal statement of intent for Mathematics. It reflects the

essential part that Mathematics plays in the education of our pupils. It is important that a positive attitude towards Mathematics is encouraged amongst all our pupils in order to foster self-confidence and a sense of achievement. The policy also facilitates how we, as a school, meet the legal requirements of recent Education Acts and National Curriculum Requirements.

4. SCOPE

This statement of policy relates to all pupils, staff, parents, carers and governors within the Inspire Multi Academy Trust. The age range of pupils from 4 - 11 must be acknowledged in the creation of policy and the development of the Mathematics curriculum.

5. AIMS

5.1 General

Although relating specifically to Mathematics our aims for the subject are also in line with the school's general aims. We aim to provide the pupils with a Mathematics curriculum, which will produce individuals who are literate, numerate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their mathematical knowledge, skills and understanding to their full potential.

5.2 Specific

Our pupils should

- have a sense of the size of a number and where it fits into the number system
- know by heart multiplication and division facts up to 12 x 12 by the end of Year 4
- know by heart number facts such as number bonds, doubles and halves
- use what they know by heart to figure out numbers mentally
- calculate accurately and efficiently, both mentally and written, drawing on a range of calculation strategies
- make sense of number problems, including real life problems, and recognise the operations needed to solve them
- discuss and explain their methods and reasoning using correct mathematical terms
- judge whether their answers are reasonable and have strategies for checking them where necessary
- suggest suitable units for measuring and make sensible estimates of measurements
- explain and make predictions from the numbers in graphs, diagrams, charts and tables in appropriate curriculum areas
- develop spatial awareness and an understanding of the properties of 2D and 3D shapes

6. PRINCIPLES

The principles of Mathematics within the Inspire Multi Academy Trust are:

- policy and provision are evaluated and reviewed regularly.
- resources of time, people and equipment are planned, budgeted for and detailed when appropriate in the School Development Plan.
- the governing body of the Trust discharges its statutory responsibility with regard to Mathematics.
- links to the real world will be integrated where appropriate.
- planning of Mathematics ensures continuity and progression across all year groups and key stages

7. IMPLEMENTATION

7.1 Organisation and Curriculum Coverage

Within the Inspire Multi Academy Trust, we recognise that children need to be confident and fluent across each yearly objective. To ensure consistent coverage, teachers follow the Power Maths scheme of learning to support their planning. Teachers are also developing their understanding of mastery. Power Maths is an exciting and

inspiring class mastery approach, which has been recommended by the Department for Education. Every Power Maths lesson is divided into sections that involve plenty of discovery, sharing, thinking together, practice and reflection. After a quick Multiplication Starter or Retrieval Challenge, the main lesson begins with a 'Discover' and 'Share' task in which a contextual problem is shared for the children to discuss in partners. This helps promote discussion and encourages the children to apply their Oracy skills in a real-life context it also ensures that mathematical ideas are introduced in a logical way to support conceptual understanding.

In KS1, these problems are almost always presented with objects (concrete manipulatives) for children to use. Children may also use manipulatives in KS2. Teachers use careful questions to draw out children's discussions and their reasoning and the children learn from misconceptions through whole class reasoning. Following this, the children are presented with varied similar problems which they might discuss with a partner or within a small group. At this point, scaffolding is carefully reduced to prepare children for independent practice. This is the 'Think together' part of the lesson and the children might record some of their working out in their Maths books or on a mini whiteboard. The teacher uses this part of the lesson to address any initial errors and confirm the different methods and strategies that can be used. The children are then often shown a 'challenge' which promotes a greater depth of thinking. The class then progress to the 'Practice' part of the lesson, which is designed to be completed independently. This practice uses conceptual and procedural variation to build fluency and develop greater understanding of underlying mathematical concepts. A challenge question and links to other areas of Maths encourages children to take their understanding to a greater level of depth. Children who complete this are provided with further 'rich and sophisticated' problems from the deepening tasks. The final part of the sequence is a 'reflect' task. This is an opportunity for children to review, reason and reflect on learning and enables the teacher to gauge their depth of understanding. Children are encouraged to solve problems each day through the use of concrete resources, pictorial representations and abstract thinking.

Each child in Years 1 and 2 has their own Practice Book in which they answer questions and discuss their thinking with their teacher. In the Key Stage 2 classrooms, the Power Maths questions and resources are used in the children's Maths Books.

7.2 Provision

Pupils are provided with a variety of opportunities to develop and extend their mathematical skills in and across each phase of education. Pupils engage in:

- the development of mental strategies
- written methods
- practical tasks
- investigational learning
- problem solving
- mathematical discussion
- consolidation of basic skills and number facts
- the appropriate use of ICT to support learning

Mathematics contributes to many subjects, and it is important children are given opportunities to apply and use Mathematics across the curriculum and in real contexts when possible.

We endeavour at all times to set tasks that have high expectations for all, are challenging, motivating and encourages pupils to talk about what they have been doing as well as responding to written questions to develop their understanding as outlined in the school's marking policy.

7.2 Early Years

See EYFS curriculum guidance for Mathematics.

7.3 Key Stage 1

See the Mathematics programme of study 2014: Key Stage One objectives.

7.4 Key Stage 2

See the Mathematics programme of study 2014: Key Stage Two objectives.

8. ASSESSMENT

Assessment is regarded as an integral part of teaching and learning and is a continuous process being monitored by the Target Tracker Application. It is the responsibility of the class teacher to assess all pupils in their class.

In our school we are continually assessing our pupils and recording their progress. We see assessment for and of learning as an integral part of the teaching process and strive 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.

Information for assessment will be gathered in various ways: by talking to the children, observing them, marking their learning, etc. Teachers will use these assessments to plan further lessons as and when required. Ongoing assessment relating to the Target Tracker Application statements for each pupil will be recorded electronically. The children will be formally assessed three times a year to record progress and this progress will be discussed/monitored during Pupil Progress Meetings and Inclusion Reviews. See school assessment policy for specific detail.

9. ROLE OF THE SUBJECT LEADER

The Mathematics leader is responsible for co-ordinating Mathematics across The Trust. This includes:

- ensuring continuity and progression from year group to year group
- advising on in-service training to staff where appropriate. This will be in line with the needs identified in the School Development Plan and within the confines of the school budget
- advising and supporting colleagues in the implementation and assessment of Mathematics throughout the school
- assisting with requisition and maintenance of resources required for the teaching of Mathematics. Again, this will be within the confines of the school budget
- to monitor teacher's planning and children's outcomes to ensure high standards of provision

10. ROLE OF CLASS TEACHER

Class teachers are to ensure progression in the acquisition of mathematical skills with due regard to current curriculum.

- to develop and update skills, knowledge and understanding of Mathematics
- to identify inset needs in Mathematics and take advantage of training opportunities
- to keep appropriate on-going assessments
- to plan effectively for Mathematics liaising with subject leader when necessary. Use The Trust's Year Group Curriculum Maps to ensure the correct unit of learning are taught at the correct times and then using Power Maths' short term planning.
- to inform parents of pupils' progress, achievements and attainment

11. EQUAL OPPORTUNITIES

All children have equal access to the curriculum and appropriate access arrangements are made when required. This is monitored by analysing pupil performance throughout the school to ensure that there is no disparity between groups.

12. PARENTAL/CARER INVOLVEMENT

Within the Inspire Multi Academy Trust, we encourage parents and carers to be involved by:

- inviting them into school twice yearly to discuss the progress of their child
- inviting them into school in the summer term to discuss the yearly report
- circulating information via newsletters when significant changes have been/are made to the Mathematics curriculum
- holding workshops for parents/carers focusing on areas of Mathematics