



*Inspire Education Trust*  
Together we achieve, individually we grow

# Mathematics Policy



## Mathematics Policy

### Aims

**'If you want to take place in tomorrow's world, you'll need mathematics and statistics just as much as grammar and syntax.'**  
**(Professor Robert Worcester).**

- 1.1 Within our Trust we aim to prepare children by providing them with essential skills for life. We want children to gain a sense of enjoyment and achievement in their mathematical studies. It is important children do not feel Mathematics lessons are a burden to be endured each day but lessons should provide a vibrant and stimulating arena for developing skills to be used in a practical context.
- 1.2 Mathematics teaches children how to make sense of the world around them through developing their ability to calculate, reason and solve problems. It enables children to understand relationships and patterns in both number and space in their everyday lives.
- 1.3 Our objectives in the teaching of mathematics are:
  - to promote enjoyment of learning through practical activity, exploration and discussion;
  - to promote **fluency** 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 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 help children understand the importance of mathematics in everyday life;
  - to develop a deeper understanding working towards mastery of skills to apply within a range of contexts and the wider world.
  -

### Teaching and Learning

**"A great teacher makes hard things easy."**  
**(Ralph Waldo Emerson; 1803-1882.)**

- 2.1 The Trust uses a variety of teaching and learning styles in mathematics. Our principal aim is to develop children's knowledge, skills and understanding. During our daily lessons, we encourage children to ask as well as answer mathematical questions using a wide variety of mathematical vocabulary.

- 2.2 Many children require concrete objects to test mathematic concepts. Key concepts are introduced using elements of Richard Dunns 'Maths Makes Sense' (MMS) and Numicon resources. Throughout the school, classrooms are fully equipped to cater for many different learning styles.
- 2.3 Children 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. ICT is used in mathematics lessons for modelling ideas and methods. Working Walls are consistently utilised effectively to highlight current mathematical learning in the classroom, these include key vocabulary, models, success criteria and challenges. Wherever possible, we encourage the children to apply their learning to everyday situations and develop this throughout the curriculum.
- 2.4 Children have a wide range of mathematical abilities. We group children into different sets (where applicable) allowing them to learn with peers of a similar ability. Within these sets the teachers differentiate their lessons to provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. Teachers and classroom assistants provide support and to ensure that work is matched to the needs of individual.

### **Mathematics Curriculum Planning**

- 3.1 Mathematics is a core subject in the National Curriculum and we ensure the statutory requirements of the programme of study for mathematics is implemented.
- 3.2 National Curriculum expectations are central to teacher planning for learning. We assess children against age related expectations and design lessons to provide children with the knowledge and skills to allow them to reach age related expectations.
- 3.3 Teachers plan lessons with reference to Cornerstones termly objectives to ensure coverage and progression throughout the year.
- 3.4 Teachers are provided with a 'Route Way Through Calculation'. Teachers refer to this document to ensure calculation methods are taught to the children with a consistent whole school approach. Methods are designed and presented to build children understanding of key concepts.
- 3.5 Class teachers complete the weekly plans for the teaching of mathematics. These weekly plans list the specific learning objectives and expected outcomes for each lesson, and give details of how the lessons are to be taught. Copies of these plans are kept centrally and reviewed by the subject leader. The class teacher and subject leader often discuss them on an informal basis.
- 3.7 The daily lesson generally comprises of mental skills, direct teaching and independent or group work. It is essential that all lessons build in an opportunity to enhance skills to a real life context and this should allow children to reason, use and apply and confirm learning.

## The Early Years Foundation Stage

- 4.1 We teach mathematics in our Foundation Stage through play and activities. This becomes more formal as the children progress through Nursery into Reception. We relate the mathematical aspects of the children's work to the objectives set out in the Early Years Foundation Stage Curriculum, which underpins the curriculum planning for children from birth to five. We assess and measure each child's progress against the EYFS Profile. 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.

## Mathematics Across the Curriculum

**“Enthusiasm is excitement with inspiration, motivation,  
and a pinch of creativity.”**

**Bo Bennett**

### 5.1 **Creative Curriculum**

Our Trust runs an exciting and challenging creative curriculum. Mathematic skills are taught in discrete lessons, however where possible links to theme are made to provide valuable learning opportunities. These meaningful cross-curricular links help to embed maths and provide real life relevance to the concepts and skills they are acquiring. This is a two way process. Theme provides a real life context for maths lessons and maths skills may be applied to enhance theme lessons. Opportunities to do this are on going and may be identified at all stages of the planning process; long-term, medium-term and short-term. As a part of a STEM cycle, Maths becomes a key focus of one of the three termly topics taught throughout the year where skills are applied across all areas of the theme.

### 5.2 **Science**

Mathematics is an essential element of scientific enquiry and provides a great opportunity to embed skills and apply to a useful and practical purpose. Science planning highlights where maths skills for measurement and data handling are present allowing the teacher to assess children using and applying these skills.

### 5.3 **English**

In mathematics lessons, we expect children to read and interpret problems and pick out the key information in order to identify the mathematics involved. They are also improving their command of English when they explain and present their work to others during sessions. In English lessons, too, maths can contribute: younger children enjoy stories and rhyme that rely on counting and sequencing, while older children encounter mathematical vocabulary, graphs and charts when reading non-fiction texts.

#### 5.4 Personal, social and health education (PSHE)

Mathematics contributes to the teaching of PSHE. Children are aware of how to apply their mathematic skills to enhance their social and economic wellbeing. The work that children do outside their normal lesson also 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.

#### 5.5 ICT

Information and communication technology enhances the teaching of mathematics significantly. There is a variety of software available to present information visually, dynamically and interactively, so that children understand concepts more quickly. Children use ICT to communicate results with appropriate mathematical symbols and use it to produce graphs and tables when explaining their results. When working on control, children can use both standard and non-standard measures for distance and angle. They can also use simulations to identify patterns and relationships.

Teachers regularly use web sites such as 'Mathletics' as a useful resource to support lesson planning. Children can access the website at school or at home to practise skills through interactive, fun games. Teachers set homework for children to complete via this website. Children are given immediate feedback and may complete tasks again. This promotes independence and allows children to be "in charge" of their own learning.

### **Mathematics and Inclusion**

- 6.1 In our Trust, mathematics forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our mathematics teaching, we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents and those learning English as an additional language, and we take all reasonable steps to achieve this. For further details, see separate policies: Special Educational Needs; Disability Discrimination; Gifted and Talented Children; English as an Additional Language (EAL)
- 6.2 When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors - classroom organisation, teaching materials, teaching style and differentiation - so that we can take some additional or different action to enable the child to learn more effectively. Assessment against the National Curriculum allows us to consider each child's attainment and progress against ARE. This ensures that our teaching is matched to the child's needs.

- 6.3 Individual Education Plans (IEPs) are created for children with special educational needs; this may include, as appropriate, specific targets relating to mathematics.
- 6.4 We enable all pupils to have access to the full range of activities involved in learning mathematics. Where children are to participate in activities outside the classroom (a 'maths trail', for example), we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

### **Assessment for Learning**

- 7.1 Teachers will assess children's work in mathematics from three aspects (long-term, medium-term and short-term).
- 7.2 Short-term assessments are integral to every lesson. These daily assessments are closely matched to the teaching objectives and help teachers monitor how learning is progressing during the lesson. From these assessments teachers can adjust their daily plans. Written or verbal feedback is given to help guide children's progress. Children are given regular opportunities to peer and self-assess their own work and they are encouraged to make judgments about how they can improve their own work.
- 7.3 Using Cornerstones termly descriptors teachers can make medium-term assessments to measure progress against the key objectives, and to help plan the next unit of work. Teachers can then agree with pupil's personalised targets, which focus teaching and learning to achieve the next steps.
- 7.3 We make long-term assessments towards the end of the school year, and we use these to assess progress against school and national targets. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents and carers. We pass this information on to the next teacher at the end of the year, so that s/he can plan for the new school year. We make the long-term assessments with the help of end-of-year tests and teacher assessments. We use the national tests for children in Year 2 and Year 6, plus Cornerstones assessments for children in both Key Stage 1 and 2. We also make annual assessments of children's progress measured against the level descriptions of the National Curriculum relating to ARE.

### **Parental Involvement**

- 8.1 Maths homework is set regularly by teachers using the 'Mathletics' web site. Parents can encourage children to access the website at all times to play educational games designed to enhance mathematical skills.
- 8.2 More creative mathematical challenges maybe presented in 'POWER Projects'. This allows children freedom to communicate their knowledge in their own way.

- 8.3 Targets are set for each child and are communicated to parents so they are kept informed and can assist by helping children practise set targets.
- 8.4 Teachers meet parents and report to them verbally each term. A full written report is provided for all parents towards the end of the Summer Term.
- 8.5 Where applicable, particularly in reflection of the new curriculum, parent workshops will be held to share written methods and expectations for children at all ages.

### **Monitoring and Review**

- 9.1 The quality of teaching and learning in mathematics is monitored by Standards Leaders for each phase within the school. They monitor standards in Maths through observing lessons, discussions with teachers, evaluating planning, book trawls and pupil interviews.
- 9.2 The coordination and planning of the mathematics curriculum are the responsibility of the subject leader, who also:
- supports colleagues in their teaching, by keeping informed about current developments in mathematics, and by providing a strategic lead and direction for this subject;
  - support Standards Leaders by monitoring data and helping to identify target groups thus ensuring adequate provision and intervention is available.
  - gives the Executive Principal /Headteacher an annual summary report in which s/he evaluates the strengths and weaknesses in mathematics, and indicates areas for further improvement.
- 9.3 A named member of the school's Local Governing Body is briefed to oversee a School Improvement Priority which includes the teaching of mathematics. The governor meets at least once a year with the subject leader to review progress.
- 9.4 This policy will be reviewed at least every two years.

Date approved by Local Governing Body: March 2016

Date to be reviewed: Spring Term 2018

Signed: \_\_\_\_\_