Eastbury
Community Primary
School

Mathematics Policy (Draft)

Policy Creation and Review	
Author(s)	H. Mehza
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Next Review Date	Review when required

Mathematics Policy

Mathematics Policy Introduction:

Mathematics teaches children how to make sense of the world around them through developing their ability to use number, calculate, reason and solve problems. In addition it helps children to understand relationships and patterns in both number and space in their everyday lives. Our mathematics curriculum is based on a Singapore maths which is facilitated by the Maths No Problem scheme.This programme of work has helped us to motivate and engage all pupils, with an emphasis on making links between maths and real life. Despite following Maths No Problem in our school, teachers are given freedom to make decisions which are best for their pupils learning.

Aims:

The aims of Mathematics for EYFS are:

- Our Foundation Stage teachers use the Early Years Foundation Stage Curriculum to support theirteaching of Mathematics in the Foundation Stage.
- The children have the opportunity to talk and communicate in a widening range of situations and to practise and extend their range of vocabulary and mathematical skills.
- The children explore, enjoy, learn about, and use Mathematics in a range of personalised situations.
- Mathematics is planned on a weekly basis and assessed using the criteria from the Early Learning Goals.
- Mathematics is taught both as a discrete subject (20-30 minutes per day) and within the whole Early Years Curriculum to give children opportunities to use their mathematical skills in real life situations.

The aims of Mathematics for KS1 and KS2 are:

- That the children develop fluency within the subject; this is done through varied and frequent practice so that pupils develop an understanding of patterns and the links in mathematics. Subsequently, the children strengthen their ability to recall and apply knowledge rapidly and accurately.
- That the children develop their ability to reason within the subject; this is done by allowing the children ample opportunities to discuss their learning and explain, justify and prove concepts using the appropriate mathematical language.
- That the children develop their problem solving skills within the subject; this is done by exposing the children to a wide variety of problems and a range of methods for answering them.

Teaching and Learning style:

Singapore Maths is the approach we have adopted at Eastbury; it is based on research and evidence and has changed the way we delivered teaching. Instead of learning discrete mathematical facts of by heart, the children are taught to develop fluency based on concepts derived from Bruner's Concrete Pictorial Abstract (CPA) approach.

Children have the benefit of understanding why formulas work, instead of just applying them. This leads to a deeper form of learning and longevity in retaining this knowledge. We always try to contextualise Maths, so that the children understand the links between the mathematics that they learn in school and how to use Maths in real life. We try to show that mathematics is not an isolated subject, by linking learning to the practical matters of the real world around them.

Mathematics Curriculum Planning

The School uses the Maths No Problem series - which is in line with the National Curriculum expectations - for long and medium term planning and this informs our teachers' weekly short term planning. Short term planning is based on each year group's Maths No Problem textbook which details the expectations set within the National Curriculum.
Within a year group, teachers produce presentations using Slides that are easily accessible to all; these should include questioning and visual aids appropriate for the session to outline the learning. These are monitored by Subject Leaders, who offer support where needed.

The lessons at Eastbury are as follows:
Anchor Task: Children will be presented with a problem which they need to solve in mixed ability groups. During this part of the lesson, the Teacher will provide the children with a range of suitable manipulatives (resources such as cubes, counters or number cards); teachers also ask well thought-out questions, which enable the children to think deeply about their learning.

Let's Learn: During this part of the lesson, the children have the opportunity to share their methods, which are then shared with the class. The teacher will use the textbook at this point to share multiple methods to solve the problem.

Journalling: Children will have the opportunity to solve a problem similar to the Anchor Task independently. This part of the lesson is very important in that it allows the children to present their work creatively in a way that is meaningful to them. It also allows the teacher to see which of the children have understood the concept.

Guided Practice: The teacher works with the class through a series of related questions designed to help the children develop their ability to identify patterns and use these to make links in their learning.

Independent Practice: Once the teacher is satisfied that the children have all accessed the learning, they have the opportunity to complete a workbook activity where they can demonstrate their learning.

Teaching Mathematics to pupils with special educational needs:

In order to ensure that the children with SEND are able to access the learning, we provide the following:

- Manipulatives to support their learning journey, including games and puzzles.
- Learning which utilises all areas of the school, including outside areas.
- Learning based on the different types of learners, for example the use of songs.
- Personalised interventions.
- Planning based on IEPs and B-squared profiles.

Assessment and Recording:

Mathematics is assessed by the class teacher during lessons at the following times:

- During child-led conversations
- During journaling
- During independent work.
- This is done incisively, using immediate feedback to target understanding and misconceptions promptly.

Summative assessment is an ongoing process completed by class teachers using the online School Pupil Tracker website.

Journalling: Children will have the opportunity to solve a problem similar to the Anchor Task independently. This part of the lesson is very important in that it allows the children to present their work creatively in a way that is meaningful to them. It also allows the teacher to see which of the children have understood the concept.

Independent Practice: Once the teacher is satisfied that the children have all accessed the learning, they have the opportunity to complete a workbook activity where they can demonstrate their learning.

Recording will begin to implement the use of computing to show a variety of methods.

Resources:

- The use of Mathematics resources is integral to the concrete – pictorial – abstract approach and thus planned into our learning and teaching.
- We have a wide variety of good quality equipment and resources, both tangible and ICT based, to support our learning and teaching.
- These resources are used by our teachers and children in a number of ways including:

a) Demonstrating or modeling an idea, an operation or method of calculation, e.g.: a number line; place value cards; dienes; money or coins; measuring equipment for capacity, mass and length; bead strings; the interactive whiteboards and related software; 3D shapes and/or nets; Numicon and related resources and software; multilink cubes; clocks; protractors; calculators; dice; number and fractions' fans; individual whiteboards and pens; and 2D shapes and pattern blocks, amongst other things;
b) Enabling children to use a calculation strategy or method that they couldn't do without help, by using any of the above or other resources as required; and
c) Providing a context for the application and practice of calculation strategies and number skills.

- Standard resources, such as number lines, multi-link cubes, dienes, hundred squares, shapes, etc. are located within individual classrooms in well-stocked Mathematics trollies.
- Resources within individual classes are accessible to all pupils who should be encouraged to be responsible for their use.
- Further resources (often larger items shared by the whole school) are located in the Mathematics Shed.
- A range of Mathematics related software is also available and this is accessible via the shared drive, which children can access when projected onto the Interactive Whiteboards in each classroom; by using individual class-based laptops; or by using Ipads.
- Teachers are encouraged to use the school playgrounds as an outdoor classroom when possible, for example, when teaching length, area or perimeter.
- Teacher's resources are largely based on the Maths No Problem series, which can be accessed online.

Monitoring and Review:

The Head of Primary, Primary Leadership Team and Mathematics Subject Leader will monitor the effectiveness of this policy when necessary. The Head of Primary will report to the governing body on the effectiveness of the policy annually and, if necessary, make recommendations for further improvements. Also, the Primary Leadership Team and Mathematics Subject Leader will carry out deep dives to ensure that Mathematics learning is on track throughout the year. If needed, support will be provided to teachers in planning sessions to clarify any queries that may arise.