

# MATHS POLICY



Reviewed Summer 2017

## **Aims**

Our aim is that children leave Eastway with 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. We believe that every Eastway child should leave us fluent in the fundamentals of maths, able to reason mathematically and to solve problems.

## **Teaching and Learning**

Teaching and learning in maths should follow the teaching and learning policy.

We follow a Singapore Maths pedagogy in our maths lessons. During these lessons, children are not told how to follow procedures through didactic teaching; instead they are led through carefully planned and resourced problems that lead the children to develop deep conceptual understanding through which they will develop their own procedures. Teachers act as naïve learners to ask questions that extend and deepen the children's learning, model curiosity, highlight misconceptions and draw attention to key ideas.

We follow the Maths No Problem scheme in Y1-Y6 as the basis of our lessons. Teachers should follow the LTP to ensure that full coverage is made over a year.

Whilst there are exceptions, the vast majority of lesson should follow a typical Singapore maths structure of:

- Exploration: Children work with manipulatives to explore a problem with their peers with minimal teacher input. Teachers deepen thinking during this time through prompting and questioning as well as gathering key ideas to return to in the discussion section of the lesson.
- Discussion of methods: This should stem from the children's approaches where possible and should include at least one more literal method for struggling learners.
- Journal: Children journal at least one method to refine their thinking
- Guided practise: Whole class practise of the skill under the guidance of the teacher
- Workbooks: Independent practise of skills

In EYFS, children study one number for a minimum of a fortnight, aiming to develop a strong number sense with these children. All aspects of maths are taught through this number.

## **Differentiation**

We recognise that there are children working at different levels of mathematical understanding at Eastway. We also recognise that all children have the capacity to become competent mathematicians. Our aim is to provide children with rich learning experiences that will help all children gain a depth of conceptual understanding of age-related material. We seek to support the struggling learners and stretch the advanced learners by:

- Creating a culture of everyone having a go and an expectation that everyone can and will understand given the right opportunities
- Working on open ended tasks that can be accessed at a range of levels. We ask questions that are targeted to these different layers of understanding (including questions in the workbooks).
- Careful selection of manipulatives that support deep understanding
- Careful planning of a range of methods that stretch from the most literal methods for struggling learners, to more sophisticated methods for the advanced learners
- Following a concrete, pictorial, abstract approach to support different stages of understanding within the same concept

Children who struggle in a lesson should be offered small group intervention on the same day where possible. We believe that advanced learners should be extended through the depth and sophistication that they tackle the year group content, rather than simply accelerating to the curriculum of an older cohort

Some children may also require support for recording skills. Children identified as gifted, talented or SEN may need further differentiation. Please refer to Gifted and Talented policy, SEN policy and inclusion policy

### **Mental Maths**

We make use of the animal awards to map out the progression of mental mathematic skills across the school. Every child should have their own animal award with key targets at a level that is appropriate to their current attainment. From Y1-Y6, children have a weekly session teaching mental mathematics strategies. See mental maths policy for additional information.

### **Marking and feedback**

Marking in maths books must focus on the child's mathematical knowledge, understanding, application and approaches. We draw a distinction between calculation errors (which the child should find and correct, using the calculation error stamper) and errors that occur due to a misunderstanding in maths.

Workbooks should be marked with the children as part of the session, giving the children immediate feedback on their performance. Older children will be able to mark their own work. Where children are able, they should sort their books into green (I can do this on my own), yellow (I made some mistakes, but I can see where I've gone wrong) and red (I've made some mistakes but I don't know why). Teachers should spend most of their marking time on the children needing it most. Intervention should be made either by allocating some intervention time during the afternoon of the same day, or with a response task in their book that will shift the child's understanding forward. The children who have most or all questions right, just need briefly checking and stamping to say the objective has been achieved.

Each journal is not marked daily. Instead, the class should be grouped into 4 or 5 groups and one group's journals should be collected at the end of a lesson. This allows teachers to give detailed feedback to the child's approach to journaling over a few entries. Journal success criteria are available in the maths area of the staff shared area.

### **Assessment**

Assessment will take place as part of lessons, at the end of each chapter and at the end of each half term.

- Formative assessments will be an informal part of every lesson to check the children's understanding and give the teacher information to adjust the current and future lessons. Children who struggle in a lesson should be offered small group intervention on the same day where possible
- After each review, teachers should update the statements on target tracker to provide a description of what the child can and can't do. This will be used to feedback to families and inform future planning.
- Each half term, teachers should update the steps on target tracker. They should use a best fit of how the child has performed in most lessons (knowing that these are pitched at ARE). Most children will be assessed as follows:

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2

Able to access content independently but with very literal / concrete / pictorial methods Assess 1 step below ARE	Year below S e.g. 2S	Year below S+ e.g. 2S+	Year group B e.g. 3B	Year group B+ e.g. 3B+	Year group W e.g. 3W	Year group W+ e.g. 3W+
ARE	Year below S+ e.g. 2S+	Year group B e.g. 3B	Year group B+ e.g. 3B+	Year group W e.g. 3W	Year group W+ e.g. 3W+	Year group S e.g. 3S
Working at greater depth Assess 1 step above ARE	Year group B e.g. 3B	Year group B+ e.g. 3B+	Year group W e.g. 3W	Year group W+ e.g. 3W+	Year group S e.g. 3S	Year group S+ e.g. 3S+

If a child is working below the age group expectation, the slider on target tracker should be used to decide their step. This must be below the step of the children working on literal methods but accessing ARE content.

### Teaching Time

All classes are taught maths daily. In KS1 and KS2, this lesson should be a minimum of an hour. In Foundation Stage, mathematical activities will be part of the children's daily continuous provision and enhanced by the adults that work with them. In addition to this, daily teacher input slots will also develop mathematical knowledge and understanding.

### Resources

Resources that are used regularly are kept in classrooms. Topic specific resources are kept in the maths store. Topic boxes may be kept in classrooms for the duration of the topic. It is the teacher's responsibility to ensure that all resources are placed back in the box and the box is returned to the maths office once the class have finished using it.

### SMSC

We encourage the use of collaborative tasks where appropriate in maths. During these tasks, children should work in a way that develops their ability to work effectively as a team and prepare them for life in a community. We encourage as many moments that inspire awe and wonder as possible as part of our maths lessons.

For additional information, please read policies relating to

- Teaching and Learning
- Marking & Feedback
- Inclusion
- Gifted and Talented
- Assessment for Learning
- Mental Maths
- Cross Curricular Learning
- ICT
- Writing across the curriculum
- Equal opportunities
- Inclusion
- EAL