



## Maths at Sky Primary & Eden Project Nursery

*What are the aims?*

### INTENT

#### Mathematics

Pure mathematics is, in its way, the  
poetry of logical ideas.

Albert Einstein

At Sky Primary and Eden Project Nursery we want our children to be enthusiastic and proficient mathematicians, who can apply their learning across a range context and understand the importance of mathematics in everyday life. Through our maths curriculum we aim to develop our children's reasoning and problem-solving skills so that they feel confident to tackle challenges and develop tenacity and think creatively.

Our children are able to explore, understand, and appreciate relationships and patterns in both number and shape in their everyday life. We wish to promote enjoyment and enthusiasm for learning through practical activity, cross-curricular learning, exploration, and discussion.

We deliver the programme of study that meet the requirements of the National Curriculum 2014. We believe all children can achieve in mathematics and teach for secure and deep understanding of mathematical concepts through manageable steps. The majority of children will be taught the content from their year group only. We aim for children to become true masters of content, applying and being creative with new knowledge in multiple ways.

In teaching this way, we aim to promote confidence, resilience and competence with numbers and the number system through children working hard and pushing themselves to achieve. We wish to provide opportunities for children to challenge themselves, to develop communication skills, independence and co-operation when solving problems in order to take responsibility for their learning. This in turn will equip children with learning behaviours that will support them into their adult life.

We wish for all children to:

- Become fluent in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- Be able to solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios
- Reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language
- Have an appreciation of number and number operations, which enables mental calculations and written procedures to be performed efficiently, fluently and accurately to be successful in mathematics.

## Maths at Sky Primary & Eden Project Nursery *What does it look like?* Implementation

At Sky mathematics is a fundamental part of each day. We believe that Maths teaches us how to make sense of the world around us. We aim to provide children with the skills in order to develop the ability to calculate, to communicate to reason and to solve problems.

Learning in maths is applied across a range of curriculum areas. Skills in the following areas are further developed: **data handling**, **measures**, **number and place value** and **problem solving**.

Previous learning is reviewed and revised regularly through starter activities in each lesson. White Rose '**Flashback 4**' resources may be used.

**Teaching in EYFS** aims to nurture all children as confident, capable mathematicians for the future. Teaching focuses on developing firm mathematical foundations in ways that are engaging and appropriate for their age. Daily opportunities are carefully planned, so that children can experience '**hands on maths**' using authentic **real-life** resources.

In KS1, teachers adapt the White Rose Scheme of Learning, as it provides small steps guidance to develop varied fluency, problem solving and reasoning tasks. A range of resources are used to enhance provision for all learners:

- **NRich and NCETM materials provide teachers with further questions and problems to be discussed as well as addressing potential misconceptions.**
- **Numicon is used school wide as a manipulative to develop a variety of concepts but is used largely**

Maths is taught using a mix of **different approaches** to ensure skills have been mastered:

- **Concrete** resources used to support learners understanding of processes
- **Pictorial** approaches to help visualise maths – use of bar models
- **Abstract** methods taught consistently across school as outlined in our calculation policy.

Challenge in each year group is through depth of key skills – not moving learning forward too quickly. Each lesson offers challenge that applies key skills taught and application of skills in a wider context

- **Misconceptions** that have been identified before the lesson are addressed.
- **Links** to other areas of maths and **key skills** required are revised
- **Key vocabulary** is introduced.

Scaffolding up:

Assessment of understanding

The expectation in every Maths lesson is that all children are able to achieve the learning objective but in a number of different ways and to varying depths of understanding. A child's readiness to be stretched or need to be supported is assessed through observation and questioning which take place at the earliest possible opportunity.

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*What does it look like?*

### IMPACT

To engage children within Maths outside of the classroom, children have access to **online resources**

**Data gathering, termly tracking** and **pupil progress** meetings with members of SLT identify individuals and groups requiring extra support. Leaders also monitor impact through **focused learning walks** and **pupil conferencing**.

Where there is a need, children are taught in a small intervention group to ensure **key skills** are built upon and developed at a suitable pace to meet the needs of the children. **Challenge** and **high aspirations** remain in place for **all children**.

Parents are informed at parents' evenings about how their children are progressing in maths and targets are given for the children to work on at home. Relevant information is also shared with parents e.g. **calculation policy** and yearly overview.

We place a strong emphasis on the **power of questioning** using **sentence stems** to enable all children to respond: this enables us both to explore topics together as a class as well as verbally develop reasoning skills during our lessons.

**Ongoing assessments** through **pit stops** and **live marking** throughout the lesson ensure **progress** is being made. Day to day assessments take place on Maths Planning sheets. **Summative assessments** are completed on **Target Tracker** through three data drops.

Most children achieve **age-related expectations** by the time they leave Sky Primary and Eden Project Nursery and maintain good progress through each key stage. We aim for all children to know their **times tables up to 12 X 12** by the end of year 4. The curriculum ensures **confidence** and **flexibility in maths** so that children have the **knowledge and skills** necessary for the next phase of their learning.

We aim to develop children who have the **curiosity** and **courage** to engage with, and construct their own, new challenges; children who value the others' contributions and can **work collaboratively** towards joint solutions and children who have the compassion to help and support their peers. Explanation and discussion develop children's confidence in speaking and listening.