

## Intent Statement for Maths in Padbury CE School

### **Vision:**

At Padbury CE School, our vision is for all children to shine in everything they do and take their lights to shine for others. In maths, this is achieved through developing pupils' curiosity to encourage and enable them to confidently explore and investigate concepts and to share that with others. Pupils need to have the knowledge, skills and attitudes to learning that will enable them to succeed. Through our practical and challenging curriculum, we aim to inspire and excite our children and foster a keenness to learn. We believe that these opportunities will ensure that our children can shine beyond Padbury and continue to be confident and resilient life-long learners who explore and investigate mathematical concepts with enthusiasm.

### **Intent:**

At Padbury C E School, we are adopting a mastery approach in the learning and teaching of mathematics. As things stand, this is being embedded across the school. The main aim of such an approach and development of a curriculum model that values 'going deeper' is to ensure that our children develop a secure knowledge of mathematical concepts, are able to access age-appropriate ideas and do not see gaps open in their learning over time.

It is likely that those undertaking learning walks and/or monitoring lessons will see more whole-class teaching than may have been evident before the implementation of the 2014 National Curriculum. Pupils progress through curriculum content at broadly the same rate, although support/intervention and broader opportunities are provided to move groups of children on so that they are able to:

- Grasp concepts and methods, e.g. through more varied use of practical equipment – in the case of lower attainers
- Be challenged through exposure to greater depth in their learning, e.g. through tackling more complex problems in different contexts - in the case of higher attainers

### **Aims and Purposes of Mathematics:**

The National Curriculum for mathematics aims to ensure that all pupils:

- become **fluent in the fundamentals of mathematics**, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- can **solve problems by applying** their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

### **Implementation:**

#### Mathematics in Early Years Foundation Stage

At Padbury C E School, we believe that every child is entitled to a high-quality mathematics education, which will provide a foundation for them understanding the world. As a result, they will have an appreciation of the beauty and power of mathematics, plus a sense of enjoyment and curiosity about the subject. It is our belief that our children should have a positive learning attitude modelled and:

- **be provided with a broad range of counting experiences** at an early stage of them developing a sense of number
- **learn about key early mathematics concepts and skills**, which need to be understood before they begin to calculate
- **develop a depth in understanding linked with calculation**, including mental maths strategies that can be associated with various structured models and images

### KS1 and KS2

When children enter Key Stage 1 they begin following the White Rose Scheme of learning. White Rose is designed by mathematical experts; it builds fluency and provides opportunities for problem solving and reasoning in all lessons. It is a blocked curriculum approach with key concepts such as addition and subtraction revisited frequently in a range of contexts such as measure.

White Rose is the basis of planning however teachers plan and adapt for the needs of the children in the class. Physical resources and a range of scaffolds are used appropriately.

### Building Fluency

Across the school from foundation stage to year 6 children take part in daily 'Mastering Number' sessions. This is a fluency programme designed by the National Centre for Excellence in the Teaching of Mathematics (NCETM) it focusses on key skills from the national curriculum and ready to progress criteria. Foundation and Key Stage focus on key number concepts and in Key Stage 2 we focus more on multiplicative relationships.

### **Impact:**

Through our mastery approach to teaching and learning in mathematics we encourage children to 'go deeper' with their learning. As a result, children develop a secure knowledge of mathematical concepts, as well as a fluent and flexible approach when applying their skills to enable them to reason and problem solve effectively. Through our small step approach to building up mathematical skills and ongoing assessment and early intervention, we identify and plug gaps in children's learning so that children make good progress over time from their starting points. This mastery approach to mathematics at Padbury results in:

- A fun and engaging curriculum
- Children who are actively involved in their learning
- Children who are fluent and flexible in their application of mathematical skills
- Children who persevere with their learning and are not afraid to 'have a go'
- Children who notice patterns and seek connections in their learning
- Children who can reason mathematically and are able apply their understanding to solve problems
- Children who are keen to learn and demonstrate a positive attitude in maths lessons

### **Assessment in Maths:**

Children's mathematical knowledge is assessed in all lessons and is ongoing. At the end of each unit there is an end of topic test which allows teachers to assess progress and identify any gaps in knowledge or misconceptions that can then quickly be addressed. All formative assessments are recorded against the year groups objectives on Bromcom as each unit is taught, this and the end of unit tests then help teachers to form their summative judgements.

### **Progression in Maths:**

In mathematics at Padbury we follow the White Rose Schemes of Learning which are built around an age appropriate small step approach to teaching and learning. There is a focus on mastery and 'going deeper' to ensure that concepts are embedded before moving on. Concepts are then applied through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. Children are challenged with a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

### **Spiritual, Moral, Social and Cultural (SMSC) Development in Maths:**

#### Spiritual

- At Padbury we want children to be excited about Maths. We want them to feel delight when they have shown resilience and are able to solve questions that they found difficult to solve.
- Mathematics helps students to make informed decisions in life, based on the skills and confidence gained from choosing the most appropriate method in solving problems. These skills are transferrable to real-life situations, and therefore help the students become reflective, responsible and insightful individuals.

#### Moral

At Padbury we want children to have strong beliefs in what is morally right. We provide reasoning opportunities where the children are encouraged to prove their answer and give reasons for their thoughts. This allows them to evidence their views not just in Maths but in the wider world.

As a result, we can support our children to understand how logical reasoning can be used to consider the consequences of particular decisions and choices and help them learn the value of mathematical truth.

#### Social

At Padbury we use a range of social skills in different contexts, for example working and socialising with other pupils, including those from different backgrounds.

We also encourage collaborative learning through working effectively with others, tolerance of one another and supporting each other to recognise individual strengths and how this can benefit others.

#### Cultural

At Padbury we see Maths as a universal language. Various approaches are used in our practice e.g Shanghai.

Our children are encouraged to develop an understanding of the history of Maths and how the number system has evolved. They value the things we share in common across cultural, religious, ethnic and socio-economic communities.

Our children are encouraged to appreciate the range of different cultures in the school and further afield as an essential element of their preparation for life in modern Britain.

### **Safeguarding**

Safety is paramount in all lessons and where the children are using technology to support the learning in Maths, the safeguarding principles are applied. All forms of technology are checked regularly, and children know how to safely report any unwanted sites or images that may appear despite the filters and precautions taken. We have ensured our child protection policies cover the use of technology by adults and children within the school.

The school complies with

- Inspecting Safeguarding in early years, education and skills settings

Appropriate filters and monitoring systems are in place to protect learners from potentially harmful online material.

## **Special Educational Needs and Disability, and Inclusion**

Where necessary, specialised equipment to support children with SEND will be purchased from the SEND budget and maintained by TIO.

Lesson plans will be adapted to ensure equality of access to all children. For children with special educational needs, tasks may be broken down into small steps, giving children appropriate and achievable goals, and activities should reinforce the pupil's understanding of content covered previously. In this way all children will be enabled to achieve their full potential.

Padbury CE School is committed to promoting Disability Equality and equality of opportunity for pupils with learning difficulties. When planning and teaching Maths, staff will make reasonable adjustments to promote equality of opportunity for disabled and nondisabled pupils. This could include;

- allocating adult support
- providing additional support materials (e.g. visual aids such as photographs, Makaton symbols, concept boards)
- providing alternative resources (e.g. alternative resources for pupils with sight or hearing difficulties)
- modifying tasks where appropriate (e.g. working on the same objectives but with an alternative choice of media, recording work in different ways such as with a digital camera or voice recorder ➤ See also 'SEN Policy'