

## The teaching of Mathematics at Britannia Community Primary School

### Intent

Our vision is for all pupils to be confident about their Mathematical ability and understanding. We want them to be able to: reason about their Maths; develop their conceptual understanding, problem solving and fluency; become 'deep thinkers' where they acquire maths skills that can be recalled quickly and transferred and applied in different contexts and develop their mathematical curiosity so that they appreciate the beauty and power of Mathematics. The National Curriculum states the following aims within Mathematics:

- 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

In September 2017, we took the decision to change the way we were teaching Mathematics and adopt the Maths No Problem! scheme from Years 1 to 6 which is based on how Mathematics is taught in Singapore. This decision was taken for a number of reasons, including:

- a drive to raise standards in Mathematics through using a proven teaching style.
- making Maths more fun and engaging – children had stated that they didn't like Maths very much prior to the change.
- improve attitudes towards Maths in our pupils, parents and school staff.

In the scheme, every lesson starts with a problem called an 'In Focus' task. Children are given a few minutes to discuss the problem and then feed back to the class about what they have found. This leads into the 'Let's Learn' section where methods are discussed and the main learning is introduced. There will then be a 'Guided Practice' activity where children get to try their learning on a few carefully selected questions. This also provides opportunity for staff to monitor the children carefully and identify children that may not have grasped the concept and will therefore need further intervention within the lesson. Finally there is the workbook element of the lesson where children work independently to practice their learning. Lessons may be supplemented with a range of challenge activities from a number of different sources.

Arithmetic is taught twice a week with a 15 minute taught session at the start of the day. Children also get to practice their arithmetic skills daily through the Early Morning Maths questions when they first arrive at school. To develop fluency, each Maths No Problem! lesson starts with a short familiar activity where children practice basic skills.

To support parents, school has hosted a number of open mornings/afternoons where parents have been invited into school to try out certain elements of the scheme. To develop this further, it is hoped that parents will be invited to come and join a Maths lesson with their children on a particular date. There are also a number of supporting documents and clips on the school website which parents can access in order to provide the best possible support to their children at home.

We are also part of a Maths Hub project where we will work with a number of other schools to develop our delivery and work on strategies to improve fluency across the school.

In 2021/2022, we have also embarked on the Mastering Number programme, in conjunction with the NCETM, which has a clear focus on number sense and fluency in Early Years and Key Stage 1. We have extended this into Year 3 as another direct response to the disruption caused by the Covid pandemic over the past couple of years.

### **Impact**

The school has a supportive ethos and our approaches support the children in developing their collaborative and independent skills, as well as empathy and the need to recognise the achievement of others. Children can underperform in Mathematics because they think they can't do it or are not naturally good at it. The Maths No Problem scheme addresses these preconceptions by ensuring that all children experience challenge and success in Mathematics by developing a growth mind-set. Since introducing the scheme, we have seen a significant shift in the attitude towards Maths from the children in our school. Children look forward to their Maths lessons and they like the fact that they can discuss their Maths much more than previously. Lessons are significantly more engaging than they were prior to the change and there is much more of a focus on problem solving and reasoning. Practical resources are being used more effectively within lessons to support the teaching and learning. Monitoring activities show that the standard of teaching and learning in Maths is incredibly high across the school.