



Mathematics at Bibury C of E Primary School

Intent

At Bibury we intend that that our pupils can:

- **Recall and apply knowledge rapidly** with a good degree of accuracy so that they know and remember more. It is our intention that all children will have maths fluency (Maths Skills) lessons as part of their daily experience. The ability to rapidly recall number facts is promoted at our school and children are supported at school and at home to achieve this level of fluency. Children and Parents are provided with a termly KIRF (Key Instant Fact Recall) sheet to take home with ideas about how these facts can be learnt. These skills are also incorporated into Maths Skills lessons daily in school.
- **Reason mathematically** by developing a proof or justifying an answer using their mathematical understanding. It is our intention that all children, including SEN, be exposed to reasoning problems as part of their daily maths lesson. Children are taught how to explain the deeper mathematics using concrete resources, pictorial models and precise mathematical vocabulary at all key stages. Children are taught how to use precise maths vocabulary in their reasoning using the P E A approach.
- **Solve problems** by breaking these down into smaller, simpler steps. It is our intention that all children including those with SEN, be exposed to problem solving as part of their daily maths lesson.
- **Have a growth mind set** towards Maths. At our school we promote the view that everyone can do maths and we promote these learning behaviours actively. Our Try it, Use it and Prove it lesson structure ensures that all children have the opportunity and support to deepen their knowledge and demonstrate that understanding.

Implementation

We follow the 'small steps' planning structure laid out by White Rose Maths although this is adapted in Year 2 and Year 6 to ensure full coverage of the curriculum is achieved before the SAT examinations. White Rose planning ensures that we have progression both across the year and between year groups. EYFS, Year 1 and Year 2 follow the single year long term

plan from White Rose Maths. Lower Key Stage 2 follow the mixed age planning from White Rose and Upper Key Stage 2 follow the mixed age plan too. In addition to the resources from White Rose Maths, teachers also use resources from Can Do Maths where applicable.

Daily maths lessons are approximately 45 minutes long and consist of the following structure.

Try it – basic practice of the skill, using concrete and pictorial representations where applicable.

Use it – the same skill is presented in different ways using different representations to develop the varied fluency practice required for solid understanding. At this level children will also be presented with common misconceptions to deepen their understanding.

Prove it – Children will be presented with reasoning or problem solving questions where they need to apply the skill they have been learning. These problems may consist of missing numbers, prove it type questions, real life problems or multi-step problems.

We expect the children to use the **P E A approach** to answer some of their Prove it questions. The P E A approach often poses a question. eg Colin thinks that..... Amir says

P – make your point – is the person wrong or right

E – explain your answer using precise mathematical vocabulary and explanations. Children may demonstrate their understanding by taking photographs of concrete representations of the problem or by drawing the pictorial models to support their explanation. Children will either tackle the PEA question independently or as part of a group depending upon age and ability.

A - The correct answer is ...

Questions and support materials are differentiated to ensure all children can access the lesson and that there is sufficient challenge for the higher attainers.

In addition to the maths lesson children build fluency and rapid recall in two distinct fluency lessons. Children complete a 3 minute maths or Quick Number quiz each morning. This develops mental calculation speed and resilience in test situations.

Children at Bibury School also have fluency lessons (Maths Skills Lessons) before the main Maths lesson. These last 15 – 20 minutes - children consolidate counting, number and calculation skills, have pre-teaching or intervention depending on their needs.

After every unit, children are assessed on that unit's work using White Rose Maths End of Unit Tests. This is in addition to the teachers daily AfL assessments made during each lesson.

At the start of each year children complete two assessments; GL assessment for the previous year and a Ready to Progress Test. Both these tests are used to obtain a standardised score and to identify gaps that need intervention or extra support in class.

At Bibury School we encourage the development of mathematical skills at home as well as at school. Homework can be set weekly using Mathletics, a website which is linked to the White Rose Maths Scheme we follow. Children can practise skills here and they are rewarded with certificates during celebration worship.

Children from Year 2 – 6 are also enrolled on Time Tables Rock Stars, a website designed to improve their times tables knowledge. In addition to these websites, all children are given KIRFS (Key Instant Recall Facts) each term. Each child is assessed and given a list of KIRFS to practise at home and at school. The children are expected to practise at home weekly and they are assessed throughout the term as part of the maths lesson.

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 Mastery approach of 'try it, use it, prove it' addresses these preconceptions by ensuring that all children experience challenge and success in Mathematics by developing a growth mindset. Using the PEA approach to answer reasoning questions challenges the children to use and explore precise maths vocabulary in their explanations. Regular and ongoing assessment informs teaching, as well as intervention, to support and enable the success of each child.