Mathematics at St. Jude's

Intent

Mathematics is one of the most important subjects in the curriculum. Maths is a tool which unlocks a wide range of activities and is essential for adult life. It enhances the ability to think in a systematic and logical way. At St. Jude's, we promote the ability to reason mathematically and a sense of enjoyment and curiosity about the subject.

Aims

The national curriculum for mathematics aims to ensure that all pupils:

- Become fluent in the fundamentals of mathematics, including the varied and regular practice of increasingly complex problems over time.
- Reason mathematically by following a line of enquiry, understanding relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- Can solve problems by applying their mathematics to a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. (National Curriculum 2014)

Implementation

We are developing a mastery approach to learning and have implemented the 'Power Maths' scheme as a whole-school approach. The children use their PM textbooks in almost every lesson and this will show a mixture of fluency, reasoning and problem solving. The work completed in PM textbooks is sometimes supplements by additional practice in exercise books. Journaling activities are also used which records the children's learning. We encourage the children to use their journals as a way of evidencing what they know.

As a starting point, children are encouraged to explore a problem themselves to see what they already know. At the beginning of each lesson in our school this exploration is referred to as the 'discovery task'. They may work in pairs of small groups to attempt to solve the problem and will

be encouraged to use concrete apparatus in order to help their learning. Anchor tasks are designed to allow children to show what they already know and give the teacher the opportunity to extend learning. The teacher will lead a discussion with the children in order to organise the findings of the exploration, compare/contrast strategies and guide toward the most efficient strategy. Teachers use questioning throughout every lesson to check understanding. Children are also encouraged to question each other frequently throughout the lesson; this aids the development of independent learners and deepens their understanding.

Guided practice – This is when the children get the chance to practise the concept under the guidance of the teacher. This is often displayed by lots of discussion around the concept/ problem in pairs, small groups or as a whole class. This is where the teacher can support children who are struggling or challenge those who have grasped the concept.

Independent practice – This is when the children work independently to show their understanding of the lesson. After seeing how the children working in the anchor task and guided practice, the teaching will be able to identify those who don't have a firm understanding. Children may then be supported by the teacher/teaching assistant and/or the use of concrete resources. Discussion and feedback – pupils have opportunities to talk to their partners and explain/clarify their thinking throughout the lesson but are expected to complete written work independently (unless working in a guided group with a teacher).

Mathematical Fluency of Number Facts:

- Children from Reception onwards learn their number bonds to 10 and 20.
- Year 2 onwards children learn their times table facts and are expected to have a working knowledge of the 2, 10 and 5 times tables by the time they move on to Key Stage 2.
- By the end of Year 4, they should have a solid working knowledge of all the times tables as well as good recall of key mathematical facts.
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Impact

The impact of our Maths teaching at St. Jude's will be evident in the attainment and progress that pupils make from their varied starting points which are assessed on entry to school. In addition to this:

- Children will become fluent in the fundamentals of mathematics. Through varied and frequent practice with increasingly complex problems over time, pupils will have the

conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

- Children will be able to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, developing an argument, justification or proof using mathematical language.
- Children will solve problems by applying their mathematics in a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering to seek solutions.
- Quickly recall facts and procedures and apply them purposefully in real-life situations.