Subject on a page:

Maths

At Southbroom St James Academy we believe Maths is: a mastery subject and approach that should bring about a deep, sustainable conceptual understanding for all.

Southbroom St James Academy

Intent - we aim to…

Endeavour to create a healthy and enthusiastic attitude towards maths through a high quality and engaging mathematics curriculum.

Provide children with mathematical teaching that promotes maths as a tool for life and that in life they are able to communicate mathematically with a secure understanding.

Children grow to notice number and develop their procedural fluency and conceptual understanding in tandem in order to support the development of the other.

All children in all year groups are increasingly required to reason, problem solve and discuss their mathematical understanding in lessons.

Ensure maths is a transferable skill and that children are utilising maths across the wider curriculum.

Develop a consistent mastery approach to maths teaching in order to close any gaps and to target the highest number of children attaining the expected standard or higher.

Implementation - how do we achieve our aims?

Fluency

In KS2, fluency is prioritised to enable children the quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics. Multiplication facts are be prioritised so when coupled with an understanding of commutativity and fluency in the formal written method for multiplication, they enable pupils to multiply any pair of numbers.

Small Steps

Children have access to lessons that present the necessary small steps of learning; to ensure **all** children are able to access the ARE gateway and follow lessons through well thought out small, manageable progression points.

Guided Practice

Children are provided in each lesson with the opportunity to watch their teacher model how to solve a problem. Children are encouraged to ask questions until they are able to understand. Then, the teacher turns over the task to them. Guided practice is showing learners how to complete a task or problem and then turning over the practice to them.

Independent Practice

All lessons will provide children with the opportunity to complete independent practice. Pupils complete their own learning with no adult navigation. Teachers use this time to check all learning and offer immediate feedback so that children correct errors / reframes instruction if a misconception arises. Extension is offered to those children who have met the learning intention. This is seen through opportunities for the children to showcase their deep understanding of the mathematical concept.

Key Skills Practice

Children in KS2 are provided with regular opportunities at the start of each lesson to revisit and practice key skill essential to their mastery of the maths curriculum and understanding of number. This focuses on a strengthened understanding and appreciation of number sense and place value.

Addition **Multiplication** **Place Value** **Measurement**

Subtraction **Division** **Fractions/ Decimals** **Geometry**

Implementation - [continued]

Strong vocabulary development

In KS2, high expectation on both the teacher's and children's use of mathematical vocabulary and answering in full sentences ensure children are able to make links with mathematical concepts and have the tools to talk and discuss mathematical principles and make generalisations.

Problem solving & reasoning

In KS2, children are provided with daily opportunities 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. Children are also challenged to reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.

Pictorial representation

In KS2, children are also provided with regular opportunities to progress their understanding to the drawing of pictorial representations or quick sketches of objects. By doing this, they are no longer manipulating the physical resources, but still benefit from the visual support the resources provide. Pictorial recording is key to ensuring that children can make the link between a concrete resource and abstract notation. Without it, children can find actually visualising a problem difficult. The most common methods of representing the pictorial stage is through bar modelling or part-part-whole which is often used in more complex multi step problem solving.

Concrete Manipulatives

In KS2, every lesson have appropriate choices of manipulative available; these are important tools in helping children to think and reason in more deep and meaningful ways. All children, regardless of ability, benefit from the use of practical resources in ensuring understanding goes beyond the learning of a procedure. Practical resources promote reasoning and discussion, enabling children to articulate and explain a concept.

Impact - how will we know we achieved our aims?

- Children are engaged and have an enthusiastic attitude towards maths in lessons.
- Children know more and remember more resulting in skills which allow them to communicate mathematically with a secure understanding.
- Children's understanding of number and mathematical understanding helps them make good progress, with a high percentage achieving age-related expectations.
- Children reason, problem solve and discuss their mathematical understanding in all lessons with increasing confidence and success.
- Children use maths in other subject areas and as a result their skills are enhanced & understanding of the maths as a tool for life increased.
- A high number of children achieve the expected standard or higher, and through target intervention, those who find maths challenging are helped to catch up.