The Intent, implementation and Impact of our Maths Curriculum

Traditionally, Maths has been taught by memorising key facts and procedures, which tends to lead to superficial understanding that can easily be forgotten. At Brington, we believe that children should be able to select which mathematical approach is most effective in different scenarios.
All pupils can achieve in mathematics! There is no such thing as a 'Maths person', that is the belief that some pupils can do maths and others cannot. A typical Maths lesson will provide the opportunity for **all** children, regardless of their ability, to work through Fluency, Reasoning AND Problem Solving activities.

Intent

Maths is a journey and long-term goal, achieved through exploration, clarification, practice and application over time. At each stage of learning, children should be able to demonstrate a deep, conceptual understanding of the topic and be able to build on this over time.
There are 3 levels of learning:

- **Shallow learning:** surface, temporary, often lost
- **Deep learning:** it sticks, can be recalled and used
- **Deepest learning:** can be transferred and applied in different contexts

The deep and deepest levels are what we are aiming for by teaching maths using the Mastery approach and our P.A.D (Prime, Advancing, Deep) learning tasks.

Implementation

Multiple representations for all!
Concrete, pictorial, abstract
Objects, pictures, words, numbers and symbols are everywhere. The mastery approach incorporates all of these to help children explore and demonstrate mathematical ideas, enrich their learning experience and deepen understanding. Together, these elements help cement knowledge so pupils truly understand what they've learnt.
All pupils, when introduced to a key new concept, should have the opportunity to build competency in this topic by taking this approach. Pupils are encouraged to physically represent mathematical concepts. Objects and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols.
Concrete – children have the opportunity to use concrete objects and manipulatives to help them understand and explain what they are doing.
Pictorial – children then build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems.
Abstract – With the foundations firmly laid, children can move to an abstract approach using numbers and key concepts with confidence.

Impact

· Quick recall of facts and procedures
· The flexibility and fluidity to move between different contexts and representations of mathematics.
· The ability to recognise relationships and make connections in mathematics

A mathematical concept or skill has been *mastered* when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.