



Hannah Ball School

Together we Inspire, Aspire and Achieve

Maths Curriculum Intent, Implementation and Impact Statement

Intent

The intention of our Maths curriculum at Hannah Ball School is for children to be excited about Maths. Our key objective is that children gain a solid and deep understanding of mathematical concepts - recognising the power of thinking not just doing, which in turn will allow them to see patterns and make connections. We believe that all children can be successful mathematicians with the right mind-set. Research has shown that knowledge is not fixed and we therefore embed a growth-mindset approach into all our children - through hard work, practice and a willingness to see mistakes as part of their journey -, they can succeed. All children are encouraged to be brave and push boundaries, deepening their understanding further. We are committed to delivering mathematics in innovative ways that link to real-life experiences and where possible, to prepare our children for the future. We aim to see our pupils leave at the end of year 6 with the skills and confidence to solve a range of mathematical problems that require fluency with numbers and reasoning.

Implementation

Teachers promote children's enjoyment of maths and provide opportunities for them to build a conceptual understanding before applying their knowledge to everyday problems and challenges. We ensure that challenge is provided for all children, whatever their understanding level is. Instead of learning mathematical procedures by rote, we want our pupils to build a deep conceptual understanding of concepts that will enable them to apply their learning in different situations.

We are currently working hard to develop and improve the teaching and learning in mathematics. Our planning, lesson delivery, classroom environment and assessment all reflect the Mastery Approach of teaching and learning. The three aims of the National Curriculum (**Fluency – Reasoning – Problem Solving**) should be addressed every day throughout our curriculum. To ensure consistent coverage, teachers follow the White Rose scheme of learning to support their planning. Teachers are also developing their understanding of mastery whilst working within the local Maths Hub.

High quality resources are used in conjunction with White Rose, such as Power Maths, Third Space Learning, NRich and NCETM to support, stretch and challenge all children within the classroom. In addition, the school's calculation policy is used to ensure a coherent approach to teaching the operations across our school.

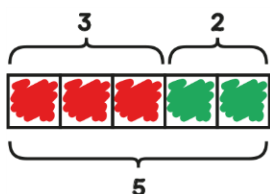
Every lesson is divided into sections that involve plenty of discovery, sharing, thinking together, practice and reflection. Lessons use a **Concrete, Pictorial and Abstract** approach to guide children through their understanding of mathematical processes.

Concrete Step of CPA



Concrete is the “doing” stage. During this stage, pupils use concrete objects to model problems. The CPA approach brings concepts to life by allowing children to experience and handle physical (concrete) objects.

Pictorial Step of CPA



Pictorial is the “seeing” stage. Here, visual representations-pictures and drawings are used to model problems. This stage encourages children to make a mental connection between the physical objects they have just worked with and the abstract pictures, diagrams or models that represent the objects from the problem.

Abstract Step of CPA

$$3 + 2 = \boxed{5}$$

Abstract is the “symbolic” stage, where children use abstract symbols to model problems. Pupils are introduced to the concept at a symbolic level, using only numbers, notation, and mathematical symbols (for example, +, −, ×, /) to indicate addition, multiplication or division.

Teachers use precise questioning in class to test conceptual and procedural knowledge and assess children regularly to identify those requiring intervention. Children’s explanations and their proficiency in articulating mathematical reasoning, with the precise use of mathematical vocabulary, are supported through the use of stem sentences provided by the teacher. Differentiation is achieved by emphasising deep knowledge and through individual support and intervention.

What we expect to see at Hannah Ball

- Each topic covered in greater depth, using a variety of problems, contexts and representations to ensure learning is securely embedded
- A strong focus on number, deepening knowledge, developing fluency, applying and developing reasoning and problem solving skills.
- Use of carefully planned variation to enable pupils to benefit from making links within their and between learning

Impact

Children are developing skills in being able to reason verbally, pictorially and in written form. Across the school, children are becoming more familiar with using sentence stems to help them explain their reasoning, both through spoken and written forms of reasoning. This is an area which will carry on developing as two teachers in the school continue their involvement in the Maths HUB network. As a result of our Maths teaching at Hannah Ball we expect that:

- Our pupils will be engaged and challenged and are confident to use different mathematical concepts.
- Pupils 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.
- Pupils will be able to reason mathematically by following a line of enquiry, develop an argument, justify or prove reasoning using mathematical language.
- Pupils 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.
- Learning is tracked and monitored to ensure all children make good progress and immediate interventions are put in place where progress is not being made.

- Pupils from all backgrounds and abilities achieve well in mathematics, reflected in good progress that reveals a clear learning journey.
- There is a proven track record of test success that reflects the impact of deep learning.
- Learning in Mathematics will ensure children understand how mathematics is essential to everyday life, critical to Science, technology and engineering, and necessary for financial literacy and most forms of employment.
- Pupils confidently selecting readily available concrete manipulative resources that are readily available
- Different representations of calculations
- A range of different activities including practical and use of technology
- Resilient pupils talking positively about maths and making links to real life learning