Maths Curriculum Statement

At Herrick Primary School, we are currently adopting a Mastery Approach to mathematics.

The emphasis is on developing pupils' mathematic skills and master them alongside ensuring they are fluent in their knowledge of times tables and the four mathematical operations: addition, subtraction, multiplication and division. Various methods and strategies are introduced as they progress throughout the school and a greater emphasis is placed on children's reasoning skills once the basics are embedded.

What do want our children to achieve?

Our objective is to support children become mathematicians that can represent concepts in multiple ways, can communicate solutions using mathematical language and can independently apply the concept to new problems.

What do we use to deliver the mastery approach?

As a school, we have decided to develop a mastery approach for children from EYFS to Year 6. To support our development we follow White Rose Maths scheme of work.

How do we teach mastery Maths?

We teach children with concrete, pictorial and written/abstract examples of mathematical strategies. Teaching for mastery supports National Curriculum objectives, but spends more time reinforcing number and place value before progressing to more difficult areas of mathematics.

The Concrete Pictorial Abstract (CPA) approach is a system of learning that uses physical and visual aids to build a child's understanding of abstract topics.

Pupils are introduced to a new mathematical concept through the use of concrete resources (e.g. fruit, Dienes blocks etc). When they are comfortable solving problems with physical aids, they are given problems with pictures – usually pictorial representations of the concrete objects they were using.

Then they are asked to solve problems where they only have the abstract i.e. numbers or other symbols. Building these steps across a lesson can help pupils

better understand the relationship between numbers and the real world, and therefore helps secure their understanding of the mathematical concept they are learning.

Concrete - children should have the opportunity to use concrete objects to help them understand what they are doing.

Pictorial - alongside this children should use the pictorial representations. These representations can then be used to help reason and solve problems

Abstract - both concrete and pictorial representations should support

We have four non-negotiables for every lesson

-All sessions to use concrete material
- All children to speak in full sentences using mathematical vocabulary
- All children are encouraged to use images, doodles and pictorials to represent their understanding
- In all sessions, children will be asked to reason and justify their thoughts and answers in order to promote a deeper level of learning

What does a unit for work look like?
Pupils will typically begin a unit with a Problem. They are encouraged to record what they have understood through a WDIKA Page (What Do I Know Already) which is used by teachers to check and assess understanding.

What is a Bar Model?
Linked to the written responses, the children use a bar model by creating pictorial representations and record any jottings that will assist in obtaining the required level of reasoning and outcomes. A Bar Model is a pictorial representation of a problem or concept where bars or boxes are used to represent the known and unknown quantities. Bar models are most often used to solve number problems with the four operations – addition and subtraction, multiplication and division.