**Stalyhill Infant School**

**Mathematics Vision and Aims**

At Stalyhill Infant School we empower our children with a 'CAN DO' attitude in mathematics. We encourage children to develop their knowledge and understanding of mathematics and aim for all pupils to enjoy and achieve in mathematics and become confident mathematicians.

**We aim that all pupils:**

- Become fluent in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Can solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios.
- Can reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.

**Our beliefs:** We believe that ability within Mathematics is not fixed. We are developing the mindsets of children and adults alike to develop a Growth Mindset and a 'We Can' attitude to Mathematics. We believe that through quality first teaching and intelligent practice, children learning together and immediate intervention that all children have the potential to 'go deeper' and broaden their understanding of mathematical concepts.

**Our definition of Mastery:** At Stalyhill Infant School we have a core set of principles and beliefs for achieving mastery in mathematics. This includes a belief that all pupils are capable of understanding and doing mathematics. Pupils are neither **'born with the maths gene'** or **'just no good at math.'** With good teaching, appropriate resources, effort and a 'can do' attitude all children can achieve and enjoy mathematics. Mathematics is mathematics and the key ideas and building blocks are important for everyone.

Mastery is not just being able to memorise key facts and procedures and to answer test questions accurately and quickly. Mastery involves knowing why as well as knowing that and knowing how. It means being able to use one's knowledge appropriately, flexibly and creatively and to apply it in new and unfamiliar situations.

For all maths concepts teachers need to ensure that children are "challenged through being offered rich and sophisticated problems." After developing fluency, children need to show that they can apply their knowledge in mathematics and then move on even further to prove they have mastered the concept.

Our Mathematics in Mastery curriculum: In Years 1-2 we have developed our curriculum to allow teachers and learners to achieve a secure and deep understanding of each Mathematical Concept. It is designed to give us the opportunity to address key points individually, ensure that children have a secure and deep understanding of those points, before offering the opportunity to 'go deeper' within them. In Early Years and where appropriate in Year 1 the principles of the EYFS Framework will be followed, and there will be the opportunity to 'Explore Maths' and develop their understanding of Mathematical concepts through play.

**Mastery teaching and learning:** In every Mathematics lesson you will see the following:

- 'Quality first' teaching; tailored to meet the needs of the learners in each class, and immediate intervention to address gaps in learning where necessary,
- Resilient learners with Growth Mindsets and a 'We Can' attitude to Mathematics, whatever their previous level of attainment,
- Teachers using high-quality questioning to explore children's understanding and develop it further,
- Teachers making use of misconceptions to further understanding of key concepts,
- Teachers using a range of methods to explore key Mathematical concepts which appeal to pupils' different styles of learning, employing concrete/pictorial/abstract representations of Mathematical concepts,
- Learners being given the opportunity, through careful planning, to 'linger longer' on and 'go deeper' in mathematical concepts,
- Pupils learning together
- Development of fluency, reasoning and solving.

**Planning, learning and teaching:**

Stalyhill Infant School follows the mastery math lesson style of CONCRETE-PICTORIAL- ABSTRACT (based on the Shanghai/Singapore approach to Mastery in Mathematics) to ensure children have a true understanding of a

concept.  Teachers also ensure that knowledge, reasoning and problem solving are incorporated in all weekly planning.

Alongside the mastery approach, we ensure that reasoning is at the core of every lesson. The children know they need to explain why their answer is correct and how they worked it out. After we are certain that they have truly mastered a concept, the children then apply their knowledge to problem solving activities.