LORD BLYTON PRIMARY SCHOOL

MATHEMATICS

INTENT, IMPLEMENTATION & IMPACT STATEMENT

NATIONAL CURRICULUM INTENT

The national curriculum for mathematics aims to ensure that all pupils:

1. Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately

2. Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

3. Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects. The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

INTENT	UNDERPINNED BY
When teaching mathematics at Lord Blyton, we intend to provide a curriculum which caters for the needs of all individuals and sets them up with the necessary skills and knowledge for them to become successful in not just in school but in their future working lives. We are embedding a mastery approach throughout school from EYFS, so that the teaching and learning is consistent and will support all pupils with their understanding and retention. Pupils are required to explore maths in depth, using mathematical vocabulary to reason and explain their workings. A wide range of mathematical resources are used and pupils are taught to show their workings in a concrete, pictorial and abstract form wherever suitable. They are taught to explain their choice of methods and develop their mathematical reasoning skills. We encourage resilience and acceptance that struggle is often a necessary step in learning. Our curriculum allows children to better make sense of the world around them relating the pattern between mathematics and everyday life.	**The teaching of fluency:** We intend for all pupils to become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. The introduction of additional daily fluency practice will help to achieve this. **The teaching of problem-solving:** We intend for all pupils to solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. The use of low floor high ceiling tasks is key. **The teaching of reasoning:** We intend for all pupils to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language. The expectation for children to explain in full sentences using the correct mathematical terminology is key. **A vocabulary-rich environment:** We intend to create a vocabulary rich environment, where talk for maths is a key learning tool for all pupils. Pre-teaching key vocabulary is a driver for pupil understanding and develops the confidence of pupils to explain mathematically. The ongoing development of the use of stem sentences throughout school will help to achieve these intentions.

IMPLEMENTATION

Teachers reinforce an expectation that all children are capable of achieving high standards in Mathematics.
The large majority of children progress through the curriculum content at the same pace.
Differentiation is achieved by emphasising deep knowledge and through individual support and same day (wherever possible) intervention. There is also the use of a personalised online intervention tool (Doodle Maths) which children can access freely at home or school.

To ensure whole school consistency and progression, the school uses the DfE approved 'Power Maths' scheme (which is fully aligned with White Rose) in Reception and then White Rose from Y1-6. We are part of the DfE funded Maths Hubs programme and are in our fifth year of this programme.

Most new concepts are shared within the context of an initial problem, which children are able to discuss in partners. This initial problem-solving activity prompts discussion and reasoning, as well as promoting an awareness of maths in relatable real-life contexts that link to other areas of learning. Children are encouraged to solve problems each day through the use of concrete resources, pictorial representations and abstract thinking (the C-P-A approach). This helps children tackle concepts in a tangible and more comfortable way.

Teachers use careful questions to draw out children's discussions and their reasoning. The class teacher then leads children through strategies for solving the problem, including those already discussed. Children then progress to their independent work, where each question varies one small element to move children on in their thinking. Children complete intelligent practice independently, usually ending with some reflection where children reveal the depth of their understanding before moving on to more complex related problems. As well as White Rose, Planpanion resources are also used to complement this part of the lesson.

Mathematical topics are taught in blocks, to enable the achievement of 'mastery' over time. Each lesson phase provides the means to achieve greater depth, with children who are quick to grasp new content being offered rich and sophisticated problems, as well as exploratory, investigative tasks, within the lesson as appropriate. There is also the additional 'Flashback Four' sessions which are planned in to ensure children revisit and retain prior learning.

IMPACT

Students can underperform in mathematics because they think they cannot do it or are not naturally good at it. The White Rose scheme addresses these preconceptions by ensuring that all children experience challenge and success in Mathematics by developing a growth mindset.

We therefore hope that as we continue on our sustaining mastery journey:

- We will have teachers and support staff who fully understand and support the pedagogy
- We will have children who are increasingly engaged in maths lessons and talk passionately about the subject, making links with other subjects and with the wider world
- We will observe children tackling mathematical challenges with resilience, confidently using concrete resources and visual representations where appropriate
- We will have children who are more articulate when discussing mathematical concepts
- We will see progress becoming more accelerated due to the way lessons are structured and the impact of immediate, tailored interventions.
- We will have a greater proportion of our reception children achieving age-related expectations within the early learning goals, and a greater percentage of our children achieving the higher standardised scores at the end of each key stage.