St Leonard's CE Primary School
Mathematics Policy

Approved by:	**QofE Committee**
Date:	**November 2024**
Next review due by:	**October 2029**

Intent:

At St Leonard's CE Primary School, we are following a mastery approach in the learning and teaching of mathematics. The main aim of such an approach, and development of a curriculum model that values 'going deeper', is to ensure that our children develop a secure knowledge of mathematical concepts, so that those pupils beginning their education at school are able to access age-appropriate ideas and do not see gaps open in their learning over time. Integral to this is the school's vision for mathematics which, '…rejects the idea that a large proportion of people 'just can't do maths,'' [and aligns with the] 'belief that by working hard at maths they can succeed.' *NCETM* https://www.ncetm.org.uk/teaching-for-mastery/

Planning allows for longer time being spent on each topic as mastering a topic is an integral part of children's learning. This enables children to broaden their knowledge and skills during their learning experiences. Split inputs have been introduced to ensure that all children make good progress in lessons from their starting point.

As a result of this approach being taken, it is likely that those undertaking learning walks and/or monitoring lessons will see more whole-class teaching with pupils progressing through the curriculum content at broadly the same rate. Split inputs are provided to move groups of children on so that they are able to:

- Grasp concepts and methods, e.g. through more varied use of practical equipment and work set at their stage of learning– in the case of lower attainers
- Be challenged through exposure to greater depth in their learning sooner within a lesson, e.g. through tackling more complex problems in different contexts - in the case of higher attainers/rapid graspers, practise and consolidation play a central role in pupils' learning experiences. The pace in lessons may be varied for different learners, ensuring deep understanding of mathematical concepts through use of small-steps. Further challenge is provided to all children through use of problem solving, which may or may not be linked with a real-life context.

Implementation:

All of the above decisions taken in terms of curriculum design and learning/teaching are inextricably linked to necessary Continuing Professional Development (CPD) for teaching staff. School leaders ensure a range of CPD is made available for staff, which means that increasing consistency is gained across Nursery to Year 6.

In terms of assessment, and in order for the mastery approach to work, we understand the particular need for children to achieve key objectives for their current stage of learning. Such assessment links with day-to-day Assessment for Learning, which informs teachers about the elements of learning pupils need to develop further. In lessons, teachers use precise questioning to check conceptual and procedural knowledge. They formatively assess how misconceptions can be used as growth points in learning, whilst also diagnosing who requires intervention, meaning that all children are expected to keep up rather than catch-up. Assessment gathering is kept meaningful and is viewed as a diagnostic tool whereby collated information is used purposefully when planning pupils' next-steps. Through such assessment, teachers are able to provide work appropriate to the child to move their learning on within each lesson.

Through their lessons, teachers aim to promote connections within and across National Curriculum domains, so that children are taken deeper with their learning over time and recognise the interconnectedness of concepts. It is also intended that pupils revisit concepts, for example, multiplication within area when presented as an array model, which means that pupils absorb learning within their long-term memory.

It should be noted that varied use of practical resources, structures and representations, plus questioning that requires deeper reasoning is used to ensure all children are supported/challenged appropriately. A progression in key representations and structures, leading to understanding of sometimes complex and abstract concepts, has been defined and is exemplified in the school's calculation policy. This in turn supports the delivery of consistent approaches and equity of access for learners.

Number Sense will be used in EYFS, KS1 and KS2 to support the teaching of number fluency at an appropriate level and progression.

Impact:

The attainment and progress of pupils' learning is tracked by class teachers and senior leaders, so that swift catch up and pre-teach programmes can be put into place, including for children who have not always experienced a mastery approach in mathematics.

In cases where children's learning is most effectively being deepened, the following descriptors can be seen in their learning:

Depth:

- describe in their own words;
- represent it in a variety of ways (e.g. using concrete materials, pictures and symbols – the CPA approach;
- explain it to someone else;
- make up their own examples (an non-examples of it;
- see connections between it and other facts or ideas;
- recognise it in new situations and contexts;
- make use of it in various ways, including new situations

Greater Depth:

- solve problems of greater complexity (i.e. where the approach is not immediately obvious), demonstrating creativity and imagination;
- independently explore and investigate mathematical contexts and structures, communicate results clearly and systematically explain and generalise the mathematics.

Please see the school's Marking and Feedback policy which allows children's levels of independence to be evident, support is given as needed and children are challenged as necessary.

Taking into account ACME's, 'Professional learning for all teachers of mathematics' (2016) report, whereby it is stated, 'Highly-effective teachers of mathematics have a positive disposition towards the subject and are comfortable in exploring mathematical ideas with their learners. Teachers with such dispositions are more likely to engage in professional learning and develop their practice.'