Mathematics
Subject Statement

Ethos and Intent
Our aim of teaching mathematics at our school is to ensure that all children become fluent in the fundamentals of mathematics and can then apply these to real life situations. This includes quick recall of number bonds and times tables through varied and frequent practice with conceptual understanding. All children are taught to develop efficient strategies for mental and written calculations which is clearly outlined within our school calculation policy.

Mathematics is important in everyday life and, with this is mind, the purpose of Mathematics at Alveley Primary School is to develop an ability to solve problems, to reason, to think logically and to work systematically and accurately. All children are challenged and encouraged to excel in Maths. New mathematical concepts are introduced using a 'Concrete, Pictorial and Abstract' approach, embedded in a variety of models and examples (known as the mastery approach). Experiencing hands-on learning when discovering new mathematical strands allows them to have clear conceptual models and images to aid their understanding. Arithmetic and maths fluency is practised daily to ensure key mathematical concepts are embedded and children can recall this information to see the links between topics in Maths.

Implementation
At Alveley Primary, we recognise that for children to progress to deeper and more complex problems, children need to be confident and fluent across each yearly objective. Basic Maths skills are taught daily. Focusing on key mathematical skills including place value, the four operations and fractions. We follow the 'mastery approach' to learning, supporting pupils to develop a deep understanding of mathematical concepts, Examples, representations and models are carefully selected to expose the structure of mathematical concepts and emphasise connections, enabling pupils to develop a deep knowledge of mathematics. As a mixed age school, we use our planning to ensure that the 'Ready to Progress' document is implemented in full, with small steps carefully sequenced for each year group.

We develop 3 forms of knowledge to deepen children' understanding, declarative, procedural and conditional:

- **Declarative knowledge** is static in nature and consists of facts, formulae, concepts, principles and rules.
  All content in this category can be prefaced with the sentence stem 'I know that'.
- **Procedural knowledge** is recalled as a sequence of steps. The category includes methods, algorithms and procedures: everything from long division, ways of setting out calculations in workbooks to the familiar step-by-step approaches to solving quadratic equations.
  All content in this category can be prefaced by the sentence stem 'I know how'.
- **Conditional knowledge** gives pupils the ability to reason and solve problems. Useful combinations of declarative and procedural knowledge are transformed into strategies when pupils learn to match the problem types that they can be used for.
  All content in this category can be prefaced by the sentence stem 'I know when'.

We also build planned obsolescence into our curriculum; with methods of calculation being superseded at appropriate times to allow for more formal and complex methods to be taught, building on prior concepts.

Impact
Through moderation of planning, lessons and books, we can be sure that engaged children progress in all year groups through challenging stimulus.
Formative assessment takes place daily and teachers adjust planning accordingly to meet the needs of their class. Teachers discuss learning with pupils who, in turn, can all talk about Maths and their learning and the links between Mathematical topics daily. Summative assessment takes place at the end of each term with children's progress and attainment tracked and monitored to ensure all children make good progress. If progress is not being made, support is immediate, and steps provided to ensure all children achieve and make progress.

SEND
Maths is a fully inclusive subject at Alveley and we are committed to the Special Educational Needs and Disability Code of Practice. In following the 'mastery approach' to mathematics, we are careful to ensure that SEND pupils needs are met, allowing them to succeed in maths. Adaptive learning in mathematics often does not present itself as 'differentiated work', therefore we are not putting a ceiling on pupils' learning. It may instead present as same day interventions following a lesson, increased fluency work, increased adult support in lesson or amended expectation of work quantity.