

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 in 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; enabling all children to experience hands-on learning when discovering new mathematical strands and allows them to have clear conceptual models and images to aid their understanding. Arithmetic and basic math skills are 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 largely follow the White Rose schemes of learning to ensure that the coverage for the year is completed. As a mixed age school, we use these plans to ensure that all objectives are covered for each year group and that we are planning to the three key types of knowledge to deepen children's understanding.

- Our maths curriculum follows the key strands from the National Curriculum – **Number and place value, the four calculations, fractions, decimals and percentages, measurement, geometry (position and direction and shape), and statistics**. UKS2 additionally learn **algebra**.

We develop 3 forms of knowledge to deepen children's 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. Wherever possible, the curriculum is not narrowed for pupils, with the hope that through clear differentiation or targeted support and scaffolding, pupils will be able to work towards age-appropriate learning goals, regardless of the nature of their additional need.