MATHS at St. Alban's

Ofsted say, *'A high-quality mathematics education engineers successful acquisition, consolidation and application of core mathematical knowledge for **all** pupils.'*

Rationale:
Our Mathematics teaching is inspired by the Singapore and Shanghai approach to Mathematics. To support this, we teach a mastery approach using the White Rose Maths Programme and alongside our local Maths Hub.

Embedded within our teaching is the Concrete – Pictorial – Abstract (CPA) approach. This is essential to the mastery approach as it allows all pupils to access the curriculum and achieve success. Manipulatives are always readily available for all children to select and use.

We have a 'low floor, high ceiling' approach with all pupils accessing the same curriculum. Support for SEN and those working towards ARE comes in the form of pre-tutoring, scaffolding and adult support. Work is not differentiated.

Curriculum Intent:
Through our teaching at St. Alban's we aim to ensure that all pupils:

- become fluent in the fundamentals of mathematics, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- 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.

Declarative Knowledge provides our pupils with facts, formulae, concepts, principles and rules. **Sentence stem** - ***'I know that'.***

Procedural Knowledge equips our pupils with a sequence of steps including 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. **Sentence stem** - ***'I know how'.***

Conditional Knowledge gives our pupils the ability to reason and solve problems. Useful combinations of declarative and procedural knowledge are transformed into strategies when our pupils learn to match the problem types that they can be used for. **Sentence stem** - ***'I know when'.***

Implementation:
What does a 'Mastery Approach' look like at St. Alban's?
A mastery approach at St. Alban's means that our pupils acquire a deep, long-term, secure and adaptable understanding of mathematics.

Putting number first - A significant amount of time is spent reinforcing number in order to build competency and ensure children can confidently access the rest of the curriculum.

Depth before breadth – We aim to ensure that pupils acquire depth of knowledge in each topic. Opportunities to revisit previously learned skills are built into later units and through our daily Maths Meetings.

Working together - Children are encouraged to support each other and to work collaboratively to develop their mathematical language in order to demonstrate a secure understanding of mathematical concepts.

Fluency, reasoning and problem solving - Our mathematics curriculum develops all three key areas of the National Curriculum, giving children the knowledge and skills they need to become confident mathematicians.

Impact:
KS2 2023 Maths 87% EXS+ 30% GDS
KS1 2023 Maths 80% EXS+ 23% GDS