The Intent, Implementation and Impact of Our Maths Curriculum at Fairfields

At Fairfields, our primary intent is to have an engaging and inspiring curriculum with high academic ambition for all pupils. Our mathematics curriculum is one which is accessible to all through a progressing scheme that supports and builds on previously acquired knowledge and skills. Our curriculum maximises the development of every child's ability and academic achievement, by delivering daily lessons that are creative and engaging we ensure that they know more and remember more.

The 2014 National Curriculum for Maths aims to ensure that all children:

- Become fluent in the fundamentals of Mathematics
- Are able to reason mathematically
- Can solve problems by applying their Mathematics

At Fairfields, our curriculum is based on the National Curriculum and Herts ESSENTIAL maths. The maths sequences—from the ESSENTIAL scheme - support the delivery of a spiral curriculum, in which learning is built upon step by step, sequence by sequence and year on year. The materials ensure progression and coverage throughout all year groups. We strive to ensure that children are taught to become competent mathematicians by embedding the skills and processes necessary to enable children to use and apply their Maths learning in a variety of contexts.

HFL Essentials Maths links the concrete experiences of children in the classroom with pictorial and abstract representations (written).

Concrete Manipulatives

Objects that are moved physically by the pupil, such as counters, multilink and place value counters. Concrete resources help children make sense of abstract ideas.

Pictorial

At this stage, children translate the concrete experience into jottings and pictures; for example, drawing Diennes equipment or tens frames.

Abstract

Ultimately, children are expected to record their mathematical thinking and working in a compacted form of notation. This would include long and short division and multiplication. Explicit individual steps may not be visible. The informal and expanded methods expose all the intermediate steps.

Implementation

At Fairfields, our approach to the teaching of mathematics develops children's ability to work both independently and collaboratively as part of a team. We recognise that in order for pupils to progress to deeper and more complex problems, children need to be confident and fluent across each yearly programme of study.

Our learning sequences are designed to cover the National Curriculum statements and key concepts, through small learning steps with a mastery approach. They aim to develop both conceptual understanding and procedural fluency. Our learning sequences include the following:

- A brief, daily review of prior knowledge at the beginning of each lesson and time to introduce new subject specific vocabulary.
- The delivery of carefully modelled teaching - with concrete resources and pictorial representations - in order to develop deep understanding in mathematics. Once secure, the children are asked to solve problems where they only have the abstract i.e. numbers or other symbols. Building these steps across a lesson or sequence can help children better understand the relationship between numbers and the real world, and therefore helps secure their understanding of the mathematical concept they are learning.
- The children actively participate through purposeful questioning, whole class discussions, talk partners and by using their own resources to demonstrate their thinking.
- Regular recording opportunities encourage children to represent and internalise their learning, Children may be encouraged to use models, drawings, symbols and concrete resources to demonstrate this.

- Speaking frames are used to support the development of the language of mathematics. They enable the children to articulate their thinking using accurate vocabulary, and support core skills such as conjecturing and generalising to investigate and problem solve.
- 'Destination questions' ensure that children have exposure to a variety of different question types and any potential misconceptions at each stage of their learning. They allow teachers to check that the children are secure in their understanding, before moving on to the next step. They also help to map each child's learning journey against age-related expectations. Opportunities are built-in for children to think deeply and develop explicit reasoning and problem-solving skills, so that they can confidently apply their learning to new contexts.
- Teachers use questioning to elicit feedback from all children to expose and address any misconceptions in learning. All misconceptions are addressed through supported practice, to enable all children to succeed.

Teachers use a range of tools to support children in knowing more and remembering more in maths. These include working walls, knowledge organisers, vocabulary displays and steps to success. Over the course of the year, children will revisit and recall previous learning to identify any gaps and develop efficiency, accuracy and flexibility.

Impact

Throughout each lesson formative assessment takes place and feedback is given to the children through marking and next step tasks to ensure they are meeting the specific learning objective. Teachers then use this assessment to influence their planning and ensure they are providing a mathematics curriculum that will allow each child to progress. The teaching of maths is also monitored on a termly basis through book scrutinies, learning walks and lesson observations. Each term children from Year 2 and above complete a summative assessment to help them to develop their testing approach and demonstrate their understanding of the topics covered. Key Stage 1 use a combination of adapted Herts Essential Maths tests and previous SATs papers (Year 2). Key Stage 2 use Herts Essential Maths tests and previous SATs papers (Year 6.) The results

from both the formative assessment and summative assessment are then used to determine children's progress and attainment.

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.