Biscovey Nursery and Infants' Academy

Teaching and Learning Principles

Subject: Maths

'With strong roots we learn and grow together'

School Vision:

At Biscovey Nursery and Infants' Academy we aim to ensure that all children can develop the skills they need to become happy and confident learners who, with guidance and support, can reach their full potential.

Our curriculum ensures that we deliver a range of topics across the age phases which develops sequential learning where pupils know more and can do more, ensuring that they are ready for their next stage in education.

Our nurturing ethos endeavours to support all children and their families. Through this approach we are able to work together to ensure that we meet the needs of all learners in our school.

We pride ourselves on delivering beyond the academic curriculum, developing a child's individual character. Our core values run through all areas of school life and learning which allows the whole child to develop into a confident and caring young individual. The Biscovey child shows respect, and through self-belief and courage approaches learning with an inquisitive mind.

'With strong roots we learn and grow together'

Subject Intent:

At Biscovey mathematics is taught through the delivery of a mastery curriculum. We aim to develop children's confidence, competence and independence as mathematicians. This ensures that they are able to use and apply their mathematical skills in everyday life and achieve, regardless of their background.

Through carefully planned lessons we aim to link learning to real life experiences for the children, whilst enabling them to apply their mathematical knowledge to science and other subjects.

As reading is at the centre of everything that we do at Biscovey, children are exposed to mathematical texts and written questions to deepen their mathematical understanding and reasoning skills. In all lessons key mathematical vocabulary is highlighted and modelled explicitly to support and deepen mathematical skills and language development. High-quality questioning, including daily conjecture questions are used to provoke the children's mathematical thinking. Children develop the ability to articulate their thinking and become independent and inquisitive learners who ask thoughtful questions when solving mathematical problems.

Maths lessons and the systematic teaching of number facts enables children to build secure mathematical foundations which can be built upon in the future, whilst enthusing children with a love of mathematics. Mathematics is evident in daily routines, allowing children to make links to their learning. We aim for our children to develop into enthusiastic and confident mathematicians who value mistakes as an opportunity to learn and grow.

Subject Implementation:

At Biscovey Nursery and Infants' Academy we adopt a mastery approach to the teaching and learning of mathematics guided by the White Rose scheme of learning, which is sequential, allowing children to know more and remember more. Teachers maintain the flexibility to adapt the learning and develop their own tasks and learning activities which meet the needs and engage the interests of their individual children and classes.

Each child's mathematics learning journey starts in our Nursery where we use 'Master the Curriculum' as our planning tool. Alongside this, purposefully planned provision allows children to develop their mathematical thinking. In EYFS and KS1 we enrich mathematics learning through hands on and real experiences where the children can apply their learning using a range of manipulatives.

Lessons are delivered interactively in an 'I do, we do, you do' approach, with mathematical discussion and vocabulary as a key feature. Teachers think aloud and model thinking and language, make conjectures and pose carefully considered questions to address misconceptions, developing children's thinking and reasoning skills. Where needed, responses are modelled and scaffolded to develop children's ability to articulate their mathematical thinking. Children are encouraged to develop independence, as well as working collaboratively, to share their ideas and to value those of others.

Fluency is a feature of every lesson and children regularly revisit previously taught content, not only from a previous lesson, but also previous topics to develop the retention and retrieval of key mathematical knowledge. Fluency is enhanced with regular fluency sessions through the Number Sense programme as well as through the use of Times Table Rockstars and Numbots. We believe that this not only increases their confidence, but ultimately enables them to have the rapid recall and flexibility to reason and solve increasingly complex problems accurately and efficiently.

Children learn together in mixed ability classes and are taught the same concepts for the appropriate year group. Ongoing assessment of children within each concept ensures that gaps in children's knowledge and understanding can be addressed. We recognise that different concepts provide different levels of challenge for children, so questions and activities are developed by teachers in a way that is progressive and allows children to continue to be challenged throughout the lesson with high expectations for all.

Mathematics learning walls have a consistent range of number resources displayed and also reflect the current concepts being taught within the classroom. These will often include modelled examples generated interactively with the children, vocabulary to support the children's mathematical talk and relevant resources and images to support the children's current learning. A consistent range of manipulatives are available across year groups which support the implementation of the curriculum and calculation policy. Children have access to these resources at all times and are confident to use them to support their learning.

Alongside the structured mathematic lessons, children are encouraged to apply their mathematical skills throughout daily routines and in different areas of the curriculum. For example;

in PE 'Active Maths' incorporates mathematics and physical education through games; in science children incorporate measuring and data handling skills, and in art children might explore shape and pattern.

Our whole school curriculum begins with immersing children into high-quality text. Other key texts to support the topic are also identified to ensure a breadth of reading opportunities are provided. This will also include mathematics stories and books to integrate learning into cross curricular topics.

Subject Impact:

Our children develop a wide range of mathematical knowledge and skills, which they can apply with increasing confidence and independence, preparing them for the next stage of their education. This is reflected in discussions with the children, the work found in children's books, pupil voice, pupil outcomes, lesson learning walks and discussions with staff.

At Biscovey Nursery and Infants' Academy, we use the White Rose scheme of learning as a guide to ensure that the aims and objectives of the National Curriculum are progressively met in a clear sequence of learning opportunities. Through this scheme we follow a 'small step approach' to learning, where concepts are progressively taught. We believe that this makes learning more manageable for children and helps them to gain a deeper understanding by allowing them time to discuss mathematical ideas, see patterns and make rich connections as a concept unfolds. In Nursery we use 'Master the Curriculum' as this complements White Rose and prepares children for future learning.

Contextual Example:

For example, when learning to about money, children will first learn to recognise and know the value of different coins. They will then learn to count coins, first in pence, then in pounds, then in pounds and pence. Building on their knowledge of coins they will then learn about notes and how to add money together before learning how to give change. By ensuring skills are taught progressively in small steps, children can move confidently on to the next step in their learning with a depth of understanding.