

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 so meeting 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.

School Mission Statement:

Biscovey Nursery and Infants' Academy has developed a curriculum and approach to learning with the following principles at the heart:

- For children to know how to be treated and how to treat others.
- For children to be happy, confident learners
- For children to reach their full potential
- A nurturing ethos which supports children and their families.

Subject Intent:

Engaging: Our aim is that our children develop into enthusiastic and confident mathematicians who value mistakes as an opportunity to learn and grow. We want them to develop the ability to articulate their thinking and become independent and inquisitive learners who ask thoughtful questions to find answers to mathematical problems.

Enriching: Our maths curriculum has mastery at the heart and aims to support children to make rich connections across mathematical ideas. It aims to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. We intend for our pupils to enjoy and value maths in everyday life and be able to apply their mathematical knowledge to science and other subjects. We aim for our children to leave our school equipped with the required mathematical skills to continue onto the next stage of their education and to thrive in later life.

Unique: Our maths curriculum is designed to support teachers to plan carefully constructed activities which meet the needs of all learners whilst enabling them to stay together on the same concept as a whole class. It offers teachers the flexibility to spend more time on a concept that a class is struggling to master, or move on if concepts are grasped quickly. This ensures that teaching and learning is led with the children at its heart and not dictated by a scheme.

To ensure curriculum quality we have addressed the following:

- Clear small steps of progression carefully mapped to the national curriculum aims and objectives for each year group
- A progressive calculation policy which underpins the curriculum objectives
- Consistent use of visual images and concrete resources to deepen children's understanding of mathematical concepts
- Clear and focused opportunities for assessment and monitoring

Subject Implementation:

At Biscovey Nursery and Infants' Academy we adopt a mastery approach to the teaching and learning of maths guided by the White Rose scheme of learning. 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.

Lessons are delivered interactively in an 'I do, we do, you do' approach, with mathematical talk and vocabulary a key feature. Teachers think aloud and model this, make conjectures and pose carefully considered questions to address misconceptions to develop 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 and 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 additional fluency sessions and 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.

Maths 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 maths lessons, children are encouraged to apply their mathematical skills in different areas of the curriculum. For example in PE 'active maths' incorporates maths into physical activities and games; in science children incorporate measuring and data handling skills, and in art children might explore shapes and patterns.

Our whole school topic curriculum begins with the immersing children into a 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 maths stories and books to integrate maths into cross curricular topics.

Subject Impact:

Our children develop a wide range of mathematical knowledge and skills preparing them for the next stage of their education. This is reflected in discussions with the children, the work found in children's books and through ongoing teacher assessments.

		2017	2018	2019
KS1	EXS+	77%	81%	72%
	GDS	23%	26%	19%
KS2	EXS+	--	--	--
	GDS	--	--	--

Skills Progression:

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 are able to follow a 'small step approach' to learning, where concepts are progressively taught. We believe that this makes the 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.

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

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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 are able to move confidently on to the next step in their learning with a depth of understanding.

Teaching and Learning Expectations:

- Evidence of fluency, problem solving and reasoning
- Interactive lessons with rich mathematical vocabulary and discussion
- Opportunities for all children to be challenged
- A clear 'I do, we do, you do' approach with effective teacher modelling
- Access to and use of appropriate manipulatives
- A variety of images and representations used to support understanding

Working Walls/Displays:

Maths learning walls have a consistent range of age appropriate number resources displayed and they 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 always have access to these resources and are confident to use them to support their learning.

Monitoring/Assessment:

At Biscovey Nursery and Infants' we use a range of assessment strategies to enable accurate assessment of children's progress and attainment. We also assess children prior to teaching a new concept to ensure that children have retained prior skills and knowledge and are ready to move onto the next steps in their learning. This careful assessment at key points of the children's learning journey ensures that teachers are planning effectively to meet the needs of the individuals in their class with work matched to ability.

- White Rose Block Assessments
- PUMA Assessments
- Mock SATs/SATs
- Pupil Conferencing
- Learning Walk/Lesson Observations
- Book Looks
- Moderation