

Yarborough Academy Mathematics Policy



Maths Philosophy

At Yarborough Academy we want our children to love Maths and to understand the numerous possibilities of real life application within their daily lives. We believe that children at the early and primary phases should be taught the basic mathematical skills of solving problems, reasoning and fluency that will enable them to become confident mathematicians in further education and in everyday life. We use the Numicon approach at Yarborough Academy with concrete, pictorial and abstract elements forming an integral part of all mathematics lessons. Alongside this we use a range of pedagogical approaches to support how these basic skills are applied in a variety of contexts. We firmly believe we give the children the time and support to apply skills, deepen understanding and make mistakes in a safe environment by supporting each individual as they learn, grow and succeed.

Aims

The aims for teaching mathematics at Yarborough Academy are:

- to promote enjoyment and curiosity of learning through practical activity, exploration, investigation and discussion in contexts with a real life purpose.
- to develop an appreciation and love of mathematics.
- to understand the importance of mathematics in everyday life.
- to develop children's ability to move between concrete, iconic and symbolic representations fluently and confidently.
- to promote confidence and competence with understanding and using numbers and the number system;
- to develop the ability to solve problems through decision-making and reasoning in a range of contexts, and other curriculum areas;
- to develop a practical understanding of the ways in which information is gathered and presented;
- to explore features of shape and space, and develop measuring skills in a range of contexts;
- to enable children to select and use a range of mathematical tools effectively.
- to equip children with the mathematical language needed to understand problems and explain their methods and reasoning.
- to promote and provide opportunities for children to develop the core learning skills of confidence, determination, curiosity, aspiration, teamwork, independence, communication and focus.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The curriculum is designed to enable pupils to make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.

Classroom processes

Each year group follows a long-term plan which is linked to the Numicon programme to ensure progression throughout the school. Mathematics is primarily taught through Mini Maths Missions throughout the school. Mini Maths Missions work like projects in which the children are hooked into learning through a real life mission. The children then learn the maths skills necessary to be able to complete the mission in a real life context. However at times, some areas of maths are covered or revisited through skills sessions. Mini Maths Missions have a discrete daily slot and alongside this a daily slot is also given to fluency sessions which explicitly teaches and explores number facts.

Teaching and learning style

Yarborough Academy is a Numicon Affiliate organisation and the pedagogy behind the Numicon approach understands that children learn best when moving from using concrete maths apparatus, pictorial representations (jottings, pictures, drawings etc.) and then abstract (signs and symbols). This is offered to the children alongside a number rich environment and is presented to the pupils in different ways, and so uses a variety of teaching styles in mathematics, adapting to the needs of the children as necessary and appropriate. During Mini Maths Missions we encourage children to ask as well as answer mathematical questions. We develop their ability to independently select and use appropriate concrete apparatus to support their conceptual understanding and build procedural fluency. They have the opportunity to independently access and use a wide range of resources to support their learning. We develop the children's ability to represent problems using visualisation skills, jottings and pictorial representations. Mathematical dictionaries are used where appropriate.

We aim for children to achieve mastery of the key areas and domains in Maths, narrowing the gap between the most and least able learners. We ensure that all mathematical opportunities are designed to provide exploration and depth in key concepts rather than moving pupils on to different content. 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 will always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly will be challenged through being offered rich and sophisticated problems before being moved on to new content. Those who are not sufficiently fluent with key ideas will consolidate their understanding, through support from Teachers or Teaching Assistants, before moving on. We achieve this through a range of strategies, such as the use of differentiated work, booster programmes and SEN intervention programmes.

Early Years Foundation Stage

In the Foundation Stage children are initially introduced to mathematics through daily routines including register, snack time, number rhymes, number of the week and stories. There is also planned mathematics within the children's exploration time. As the children progress through the Early Years the staff plan small group activities from the Numicon Firm Foundations handbook progressing towards whole class maths sessions in the Summer Term. The children work towards the objectives set out in the Early Learning Goals. We give all the children ample opportunity to develop their understanding of number, measurement, pattern, shape and space, through varied concrete and practical activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

Maths Learning Environment

We aim to create a rich and stimulating number rich Maths environment that promotes learning and independence through Mini Maths Mission Working Walls in each classroom. Maths Working Walls and resource areas in the classroom will:

- Support the children with their Maths.
- Contain information relevant to current teaching (key vocabulary, models/images, Toolkits etc).
- Include Maths resources clearly labelled and accessible for the children.
- Be clear/large enough for children to read.

Home/school links

We aim to raise the profile and understanding of our approach to Maths with parents, and they are encouraged to be actively involved in supporting children's learning in school in a number of ways: Weekly newsletters outlining current learning and how this can be supported at home, access to MyMaths to support current learning and access to TT Rockstars.

Assessment for learning

Learning, achievement and progress will be assessed and tracked in alignment with the academies assessment policy.

The role of the Subject Leader

The Mathematics Lead Teacher will:

- Provide a strategic lead and direction for Mathematics in the school;
- Provide support and advice to staff in the delivery of the Mathematics programme of study;
- Remain informed about current developments in the subject by attending INSET sessions and being involved in independent research and reading;

- Disseminate relevant information to staff;
- Deliver INSET sessions to staff, to support staff development;
- Monitor and evaluate the quality of the teaching and learning of Mathematics;
- Monitor standards in the subject, through planning and work scrutiny, statistics, quality of teaching and pupil assessments;
- Order and maintain resources to enhance effectiveness of Maths teaching within the school;
- Consider with staff and work with SLT members in the evaluation and planning of actions included within the School Development Plan.

The Class teacher will:

- Be responsible for the teaching of Maths as set out in the policy.
- Provide planning and reviews for the Head Teacher and Maths lead to have access to.
- Provide samples of maths work to the Maths lead when required.
- Assess children's work in order to detail future planning.

Special needs provision, including gifted and talented

At our school we teach mathematics to all children, whatever their ability and individual needs. Mathematics forms part of the broad and balanced education to all children. Through our mathematics teaching we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of disadvantaged and vulnerable children, including those pupils who generate Pupil Premium, those with special educational needs, those with disabilities, and those learning English as an additional language. We ensure learning is differentiated to meet the needs of all of our pupils and we take all reasonable steps to achieve this. Whole school provision mapping helps to target specific groups of children that may have misconceptions or need gaps filling within their Mathematics learning. When this is the case interventions are drawn up with the class teachers and delivered before them being reviewed.

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