



Teaching Mathematics at Doubletrees School.

Context of school

Doubletrees school is a 2-19 provision. We have three learning pathways within school. The pre-formal learning pathway, known as Learning to Learn, where learners follow the Engagement Model. The Bridging to Learn cohort is a semi-formal learning pathway, where learners access the pre-requisites to learning and the early stages of the National Curriculum. The third pathway is our Ready to Learn pathway, where learners access the National curriculum through formal learning opportunities. We have an EYFS and Post 16 provision.

Our learners are complex and diverse and we take a personalised learning approach to our curriculum, making adaptations to ensure that learning is accessible to all.

Intent

We aim to create a learning environment that empowers students to become confident problem solvers, critical thinkers, and lifelong learners in mathematics. Using our core values, we aim to develop mathematical literacy in all students, enabling them to see the relevance of mathematics in their daily lives and future careers

Achieve - we will provide a differentiated learning experience, using a variety of teaching strategies and technologies to cater to the diverse learning needs of students which ensures that they have a solid foundation in mathematical concepts and skills to allow them to achieve when challenged with more complex problem solving tasks.

Belong – we will provide a positive and inclusive learning environment where all students feel valued, respected, and supported. In mathematics, this means creating a culture where students feel comfortable asking questions, taking risks, and making mistakes. We will prioritize building positive relationships with students, promoting a growth mindset, and fostering a sense of belonging and community within the classroom.

Communicate – we will develop students' communication skills through collaborative learning, providing opportunities to share their learning and ideas. In Mathematics, this also includes developing the ability to articulate mathematical concepts and ideas and also to interpret and analyse mathematical representations such as charts and graphs.

Develop – we will create a learning environment that fosters students' personal and academic growth. In mathematics, this means encouraging students to take ownership of their learning, set personal goals, and reflect on their progress. We will provide opportunities for students to engage in metacognitive processes such as self-assessment, self-reflection, and self-regulation.

Enjoy – we will provide a positive and enjoyable learning experience in mathematics. In mathematics, this means promoting a sense of curiosity, wonder, and creativity, while also fostering a love of learning. We will prioritize creating engaging and challenging mathematical tasks that promote student interest, curiosity and enjoyment.

In Summary, we aim to provide a learning environment that empowers students to become confident problem solvers, critical thinkers, and lifelong learners in mathematics. We aim to develop mathematical literacy in all students, enabling them to see the relevance of mathematics in their daily lives and future careers.

Implementation

In the EYFS phase, Maths is taught through one of the 4 Specific areas, namely Mathematical development. This is taught through an embedded 'Continuous Play' provision. The learners are supported to interpret and develop an understanding of number, shape, time, pattern and position. This is to ensure our learners develop a firm grasp of the early mathematical principles and develop the ability to think logically and solve problems. Every child is given the opportunity to succeed and develop at their own individual pace, ready for the curriculum pathway they will follow after leaving the Early Years Class.

After the Early Years our learners move to one of our three pathways.

The Learning to Learn (pre-formal learning pathway) is pre subject specific learning, however the cohort follow the same termly theme as the rest of their phase peers. Learning is focused through the four Areas of Need within their EHCPs, with the area of Cognition and Learning as the most relevant to Mathematics, where an understanding of cause and effect, their sense of time and place within their surroundings and others can be explored and developed using the Engagement Model. Counting, cueing transitions and routines are embedded within this phase, and we use the Routes for Learning curriculum to support the progression of learning within this pathway.

In the Ready and Bridging to Learn Pathways, the learners broadly follow the national curriculum. The curriculum is a spiral design, supporting mastery of each concept and outcome, before progressing to the next step. Where possible and relevant, Maths is revisited and applied outside the classroom, during other sessions and curriculum areas, such as snack time Science and DT, to consolidate and embed learning.

The long term scheme of work is structured to ensure that in key stages 1 and 2, there is a heavy focus on number and counting, aiming to develop the five counting principles as a result. This then facilitates access and achievement in the other strands of Maths, which are introduced alongside this. Place value (including counting) is regularly revisited to embed the fluency of counting and number. Probability and Statistics are contained within the scheme of work and delivered if the learners are working at NC year 2 and above and are able to access, though early sorting and matching activities are contained within Geometry and Measures. As learners progress into Key stage 3, there is a greater breadth of curriculum, which allows further application of the use of number to areas such as measure, money and time. Learners are supported to develop their understanding through the use of practical resources, before applying this in more written, formal form. The use of environments is also crucial to this to support resilience and problem solving skills.

As learners progress into key stages 4&5 there is an increasing focus on the application of the knowledge and skills acquired to real life contexts, such as enterprise activities, accessing the community, developing independence skills. Here, the curriculum is balanced between three general areas: Context for Number, Geometry and Handling data.

For all our learners, we adapt our approaches to support their personal pedagogies, ensuring a more sensory approach for learners who need it, using AAC/visuals to ensure all can access this curriculum. Our approach is one of a Maths rich environment where numbers and concepts are seen everywhere and learners are encouraged to engage with these, enjoy them to support a lifelong love of Maths.

Opportunities to celebrate a love of Maths through enrichment days, such as National Number day, are also taken to ensure that the Maths curriculum is rich, varied and valued.

Impact - Assessment of outcomes (So what difference did it make – Include evidence)

Last year, 2021-22, 99% of our learners made expected or above towards the Cognition and Learning targets of their EHCP outcomes. In key stages 1 & 2, 98% of learners made expected progress, with 53% exceeding expected progress toward the SPTs benchmarks (This is 60% of learners making expected progress, with 25% exceeding expected progress).

In Key stage 3, 73% of learners made expected progress with 9% exceeding expectations.

In Key stages 4 & 5, 98% of learners made expected progress with 81% exceeding these expectations.

This is currently measured through the B-Squared assessment framework, though the Special Partnership Trust has developed their own assessment framework, which better demonstrates sequential learning, especially to support non-subject specialist to deliver high quality Maths lessons. This is currently being trialled alongside the B-Squared assessment framework.
