

Origins of our curriculum

The aim of the Mathematics curriculum across all sites within the Raedwald Trust is to ensure that all learners develop their mathematical fluency, are able to reason using this fluency and apply their knowledge to solve a wide range of practical/functional problems.

As an alternative provision, we believe that all students should have the same opportunities that mainstream students would experience so we cater for students working at Entry Level up to the GCSE Higher Tier. The skills developed within the curriculum also meets the needs of students studying functional skills specifications if applicable.

Students that work within our sites have all experienced a varied education. Many students have experienced interrupted education both short and long term. A large investment of time is spent reviewing and improving gaps in knowledge.

In addition to consolidating subject content from Key stage 3, the statutory areas that are covered across our curriculum are:

- Number
- Algebra
- Ratio, proportion and rates of change
- Geometry and measures
- Probability
- Statistics

Baselining

Many students have missed large gaps in their education due to their medical and/or mental health needs. Students also join us at various points across the academic year. All students will complete a Baseline assessment that we use to understand pupil's confidence and ability. We use this information to capture what the students know and most importantly any gaps in their knowledge. We use this information to inform future planning to ensure students make progress within each area. We track topic understanding from the baseline assessment. The information also helps to inform numeracy targets set on student's Individual learning plan (ILPs). Lessons are adapted to develop their understanding against the numeracy target.

GCSE Mathematics

The Programme of study allows students to gain a wide breadth of the GCSE content. A focus on functional understanding, number and ratio is deliberate to allow students these core skills. The scheme is designed to allow enough time to allow topics to be reviewed to improve memory recall.

The Programme of Study aims to deliver the wide breadth of the demanding GCSE specification but has been refined to address the fractional nature of a placement on NSM pathway. Due to this, identified topics will not be explored in depth. These topics are vectors and volume of cones/pyramids.

For those students identified as performing at Higher GCSE level, we will adapt our lessons for students to extend their knowledge within topics. Students can complete additional topics alongside the main scheme of work. This can be achieved through additional 1-2-1 sessions and targeted resources supported from mainstream school eg use of telepresence robots (AV1) where pupils also attend their mainstream lessons virtually. Through

collaborative work with the dual school it is hoped that students will additionally receive support to aid understanding from mainstream teachers.

***Although the Higher paper is demanding on time and coverage it is achievable through differentiated resources and additional sessions provided by both schools.**

Improving recall

Topics are revisited at the start of lessons that review and recap knowledge from last lesson, last week and last month. The EDI framework used within lessons explicitly focusses on recall of previous knowledge. The framework structure is based around Rosenshine's Principles of Instruction and focusses on students improving their 'sticky memory'. We also ensure that lessons place a high emphasis on fractions, decimals, percentages and ratio as these topics are fundamental topics that are tested within many other topic areas.

The lessons are planned to follow a concentric model that allows us to build up student's skills through constant revisiting and interleaving. In line with the Research Government Review series (2021) lessons are planned with:

- Frequent low stake testing
- Learners are given a variety of tasks that focus on rehearsal of facts, methods and strategies alongside developing their understanding.
- Opportunities for students to develop proof and reasoning skills.

Assessment in Mathematics

We assess pupils for three key reasons:

- a. To find out what they do and do not know so that we can plan next steps in their learning journey.
- b. To understand their patterns of progress.
- c. To make judgements about their progress towards key markers in their education.

Ultimately, good assessment will add value to pupil outcomes by helping teachers and leaders to understand what is having good impact and what needs to be refined or addressed for individual pupils.

Teachers will assess daily learning objectives taught through a RAG rating system which will measure progress over time. Assessment is used to inform future planning and teaching. Pupils who may require extra support are identified quickly. Pupils self-assess each lesson, against the objective, to enable them to develop an understanding of their own knowledge progression.

All teaching will be adapted to support students' individual needs, according to their starting point. We work closely with mainstream settings and through our assessment centre during induction to identify starting points and any specific strengths or difficulties.

Mathematics and the wider curriculum

Cultural Capital

Within the Trust we believe that it is important for all students to develop cultural skills, knowledge and behaviours that will allow them to thrive in society and the world of work. The Mathematics curriculum sets out to develop our learners' cultural capital to make them ready for their next stage in their lives. This is achieved in many ways including teaching real life skills related to reading timetables, budgeting, finance, recipes, speed/distance, etc.

SMSC

Mathematics enables students to make sense of the world around them and we strive to enable each of our students to explore the connections between their numeracy skills and every-day life. Students are provided with opportunities to use their maths skills within real life contexts, applying and exploring the skills required in solving various problems.

Problem solving skills and teamwork are fundamental to mathematics through creative thinking, discussion, explaining and presenting ideas. Students are always encouraged to explain their understanding to each other and support each other in their learning. Through teamwork, students are able to gain confidence which should lead to them becoming independent learners.

British values

The Mathematics curriculum promotes the British values of tolerance and resilience each lesson through problem solving and understanding of complex concepts. Students are encouraged to learn from mistakes and are supported to improve their understanding. Within the statistics modules students are encouraged to evaluate data and look for bias.

Careers

Within lessons pathways for future study of STEAM subjects is promoted. When looking at topics students are encouraged to see how these might be used in the real world and within vocational contexts. Lessons are linked to developing vocational and functional understanding of IT, Construction, Cooking, Sport, Science, Transport planning, Finance, etc. Staff will make every attempt to link mathematics into the vocational interests of individual students.

Reading

Every opportunity is taken within the classroom to allow students to develop their reading. Many forms of text are actively shared with students to prepare them for independence within society including reading menus, timetables, recipes, advertisements, construction plans, etc.

Students are actively encouraged to read and are supported to understand key words. Shared reading and choral reading often occurs when looking at texts as a class.

We explicitly teach key vocabulary each lesson to allow students to make connective learning and recall the meaning behind command words.

Within lessons staff promote high standards of literacy, articulacy and the correct use of standard English.