

Curriculum Rationale

Subject

Maths

Key Stage 4

Intent

*"No employment can be managed without arithmetic, no mechanical invention without geometry."
Benjamin Franklin*

Maths is incredibly important in our lives, we use mathematical concepts, as well as the skills we learn from doing maths problems, every day. The laws of mathematics govern everything around us, and without a good understanding of them, one can encounter significant problems in life.

LeAF Studio's Maths department's aim is that no student will leave LeAF Studio without the mathematical skills needed to be successful with whatever path they choose. At LeAF Studio we teach all the skills that students need to achieve success in examinations as well as the skills to be successful within our everyday lives.

Our students at the end of Year 11 will sit the Edexcel Pearson's GCSE Maths paper. We use this exam board as they have comprehensive support network that supports both teachers and students alike. We follow their SOW, this ensures that throughout the different Key Stages students learn all the key skills needed to achieve. The Edexcel Pearson's SOW offers three different pathways to allow students to be supported or stretched and challenged in their learning.

Throughout Year 9 we also develop our student's problem solving skills through functional skills lessons, these cover many different aspects of maths in the real world. At Key Stage 4 we focus on exam technique.

Implementation

*"The book of nature is written in the language of Mathematics."
Galileo*

We teach our students through a variety of methods and approaches. We regularly use group and pair activities as well as taking time to incorporate many opportunities for independent learning. Activities include use of mini white boards, printed resources, online resources, abstract problems alongside clear modelling and questioning. Taking full advantage of the resources we have in the department. All lessons are differentiated to ensure all students are supported and challenged as necessary.

We assess students on what they have been learning. In year 9 students will complete an assessment each half term. At Key Stage 4 we assess each half term using a GCSE exam paper. Assessment information is used to inform planning, in particular DIRT lessons.

At Key Stage 4, our Foundation students study 20 Units and the Higher 19, these Units build on the key skills learnt at Key Stage 3, while ensuring that our students have covered the full GCSE specification. We aim to complete the GCSE course in Year 11 before the PPEs, so that we then can then focus on revising key topics, and exam technique.

Impact

“I have had my results for a long time: But I do not yet know how I am to arrive at them.”
Carl Friedrich Gauss

We expect that our students will gain a confidence in their own mathematical interest and develop a curiosity for maths that will encourage some of our students to study the subject as part of their post 16 studies.

We expect our students to achieve their Target grades at the end of Year 11.

We also expect our students throughout their time at LeAF Studio to develop an understanding and also the skills needed to use maths and solve problems in their daily lives. Through use of pair and group work our students will be able to work with others. Through their study of patterns they will learn about other cultures. Through our work with careers they will have knowledge of what and how maths is used in the world of work, including a focus on their individual specialism. Through problem solving they will build their resilience.