

Maths at Milestone Academy

Milestone Academy provides high quality maths teaching to help all students to recognise the connection that maths has with their understanding of the world. Students are taught how to reason mathematically and to develop their conceptual understanding to apply knowledge to all areas of the maths curriculum as well as seeing its relevance in other subject areas.

With the recent changes to the maths National Curriculum (2014), and the removal of levels for students, Milestone Academy has worked closely with other SEN schools across Kent to develop a maths curriculum that is progression based and therefore meets individual student needs, consolidate existing knowledge through lateral thinking skills and to extend their maths understanding linearly.

The main aims of the new maths curriculum are to:-

- **Fluency.** For students to practise skills with increasingly complex problems so that conceptual understanding ensures that they are able to recall and apply their knowledge to solve problems.
- **Reason Mathematically.** To follow a line of enquiry conjecturing relationships and generalisations providing a justification for proof using appropriate mathematical language.

- **Solve Problems.** To break down problems into a series of small steps and apply their mathematical knowledge to seek solutions to problems.

The maths curriculum is broken down into specific subject strands with a strong emphasis on number knowledge. Students are encouraged however, to make rich connections across all maths areas to develop their fluency, reasoning and problem solving skills.

Strand	Subsidiary Strands
Number	Number and Place Value Addition and Subtraction Multiplication and Division Fractions
Measurement	Length and height/mass and weight/capacity and volume Time Money
Geometry	2D and 3D shapes Positional and direction
Statistics *	Data and statistics

** Statistics will only be taught to students working within high progression levels.*

The progression approach recognises individual pupil development rather than year groups as Milestone Academy teaching staff recognise the importance of encouraging the student to use mathematical skills to make sense of their world and develop their ability to calculate, reason and solve problems at their appropriate cognitive stage using age appropriate resources and activities.

Use of Manipulatives

It is important for students to be able to make bridges between the abstract nature of maths to develop strong conceptual awareness. A variety of resources are used so that pupils are able to make these links including Numicon. This multi-sensory approach is a proven approach to teaching number skills and has raised achievement across all ability levels.

Speaking and Listening within the Maths Curriculum

The new maths National Curriculum emphasises the importance of spoken language in developing students mathematical vocabulary as well as allowing opportunities to use speaking skills to be able to present a clear justification of proof and reasoning. For those students who are able to engage in discussion with their peers, opportunities for discussion will be built into teaching to support their ability to reason and think mathematically.

Maths at Key Stage 5 (Further Education):

For those students who are working in KS5, the nature of maths teaching is delivered through a broad and balanced functional curriculum whereby pupils are encouraged to use their mathematical skills in practical ways that will help them develop life long skills and support their independence.