

Subject: Mathematics

Subject lead: Mr P Coot

What is provided at KS3 and/or at KS4

At Cloughwood Academy we endorse the purpose and aims of the new Mathematics curriculum, provided by Edexcel – Pearson. The curriculum has taken a huge leap towards ensuring all students have an equal opportunity to improve and achieve at a level particular to each individual student. Each year groups curriculum is split into three sections, each level teaches the same topics but at an appropriate level to the student. The curriculum also enforces the ability to problem solve, which requires a student to use cross-curricular knowledge to understand worded maths questions. The new curriculum is set up to begin preparing students for their GCSE's in year 7 as it gradually increases in difficulty and intensity.

Cloughwood Academy is also aware that the GCSE national curriculum does not suit all students needs and abilities. In response, Cloughwood offers an alternative qualification called Entry Level. This is a much more flexible approach allowing students to take the exam at any given moment and is aimed at students who find mathematics particularly difficult to grasp.

Finally, numeracy interventions are offered to a select number of students to provide them with a recap of a topic before they approach that topic in lesson. This enables a student to feel more comfortable and confident when a new topic is introduced in lesson.

The National Curriculum for mathematics aims to ensure that all pupils:

- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems.
- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. At Cloughwood our aims are to make a new positive start to mathematics and support for children who have had a varied but generally negative experience with education in general.

Why do we teach this subject?

Mathematics contributes to the school curriculum by developing pupils' abilities to calculate; to reason logically, algebraically, and geometrically; to solve problems and to handle data.

Mathematics is important for pupils in many other areas of study, particularly Science and Technology. It is also important in everyday living, in many forms of employment, and in public decision-making. As a subject in its own right, Mathematics presents frequent opportunities for creativity, and can stimulate moments of pleasure and wonder when a problem is solved for the first time, or a more elegant solution to a problem is discovered, or when hidden connections suddenly manifest. It enables pupils to build a secure framework of mathematical reasoning, which they can use and apply with confidence. The power of mathematical reasoning lies in its use of precise and concise forms of language, symbolism and representation to reveal and explore general relationships. These mathematical forms are widely used for modelling situations; a trend accelerated by computational technologies. The subject transcends cultural boundaries and its importance is universally recognised.

What do pupils gain from it/how do they benefit?

A high-quality mathematics education provides a foundation for understanding the world, the ability to reason mathematically, and a sense of enjoyment and curiosity about the subject.

At the end of his mathematical education in this school, each pupil will be able:

- To perform basic numeracy skills
- To perform the basic mathematical skills needed in his chosen career or for entry to higher or further mathematical education
- To understand the mathematics likely to be encountered in daily adult life
- To reason clearly and logically, and to set out a rational argument
- to identify patterns encountered in diverse situations and to extrapolate from these
- to approach problems systematically, choosing appropriate techniques for their solution
- To follow logical instructions clearly expressed
- to experience satisfaction in and enjoyment of his mathematical achievements
- To obtain any formal mathematical qualifications needed for his chosen career
- To obtain his best possible results at KS2, KS3 & KS4, In addition, we hope that pupils will acquire the logical abilities characteristic of a mathematician.

Any statutory requirements?

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