

## Mathematics- Aims/Intent

*"Mathematics takes us into the region of absolute necessity, to which not only the actual word, but every possible word, must conform."* **Bertrand Russell**

Students at Chiltern Hills Academy will have the opportunity to benefit fully from a broad, balanced mathematics curriculum, which makes a relevant and strong contribution to a general education. This curriculum encourages all students to be open minded at trying new topics in Maths and enjoy the experience of learning to solve problems. The curriculum provides opportunities for all learners to be numerate enough to tackle real world Maths and become fluent in the fundamentals of mathematics through varied and frequent practice, with regular recall to develop and deepen understanding. Enabling students to reason mathematically and be able to explain their ideas, ensures pupils can create relationships and justify using mathematical language.

Our aim is to make the learning of mathematics an enjoyable and exciting process where students experience success and a sense of achievement. We strive to ensure students are prepared for life beyond school by enabling them to reach the level of mathematical qualification they need.

### **We build in opportunities for students to:**

1. Develop fluency - Through mathematics lessons and specifically designed activities, students are given the opportunity to develop fluency in performing key mathematical skills so they become second nature.
2. Reason Mathematically - Students are given opportunities to think logically and flexibly to develop sound mathematical arguments.
3. Solve problems - Students' ability to solve problems is nurtured during lessons through exposure to a variety of strategies and modelling of good practice.

### **Our intent is to provide opportunities for students to:**

1. To set challenging targets with high expectations of all students.
2. To offer a variety of approaches to teaching and learning to engage and motivate students and demand their active participation.
3. To smooth the transition for students between Key Stages and ensure progression in teaching and learning throughout their time at BCC.
4. To explore enrichment opportunities outside the curriculum to enhance students' enjoyment of mathematics.
5. To ensure all students leave numerate and with a qualification in mathematics

## Implementation

### **Key stage 3:**

In Year 7, students new to the school will spend the first half-term acquiring the core skills necessary to be successful at the subject. The Year 7 students will also begin completing the first part of a two year scheme of work which has been written in accordance with the new changes at GCSE level. Each term will end with an assessment which will indicate the progress of students.

In Year 8, students will spend some time in the first half-term studying fractions, decimals and percentages; topics which many students find difficult throughout their school careers. The following five half-terms will be spent completing the second part of the two year scheme of work they began in Year 7. Year 8 will also be monitored with an end of term assessment every half term to ensure progress is being made.

## Edexcel Specification

### **Key stage 4:**

In Years 9, Y10 and Y11 students follow the Edexcel GCSE Mathematics scheme of work; either Higher or Foundation tier. GCSE Maths starts in year 9 and is broadly comprised of four strands - Geometry and Measures, Number and Algebra, Statistics and Probability along with Ratio, proportionality and rates. Students learn how to use and apply mathematics. The exams have an emphasis on problem solving and reasoning elements of Maths. This means there can be more than one way of getting a solution.

### **Key stage 5:**

The Year 12 students studying mathematics study the new maths scheme of work which consists of three exams at the end of Year 13. Students will have internal examinations in Year 12 to ensure that effective progress is being made by all.

The Mathematics department also offers Accounting, leading to an AS/A2 course in Accounting.

## **Impact**

We aim to lay the foundations to prepare every student for further education, employment and everyday life. We strive to provide student with a challenging, thought-provoking and interesting curriculum in engaging lessons. With regular assessments, probing questions and consistency with a range of activities including investigations and problem solving and by working independently, in pairs and small groups we secure and deepen their understanding and confidence. This supports our pupils in achieving their academic goals.

### **Enrichment opportunities-**

UKMT Maths individual challenges, Team challenge, Working with local feeder schools, Parents and students workshop events. Collaboration with primary schools to support transition for KS2 to KS3. Creative enrichment on a Tuesday as part of our extended school day. Maths Ambassadors club for KS3 students, GCSE Statistics for year 10's and Further Maths for year 11 to stretch the more able and A level Further Maths challenge the sixth formers.