

Curriculum Intent, Implementation and Impact

Subject: Separate Sciences GCSE (AQA Biology; AQA Chemistry; AQA Physics)

Year group: 10

Periods per fortnight: 13

INTENT:

Vision: Engagement, Discovery and Success

Mission Statement:

In the Buckingham School Science Department, lessons are fun and **engaging**. Students are encouraged to develop the curiosity they need to **discover** new concepts for themselves. Lessons are planned with students' **engagement** in mind and, where possible, we will use practical activities. Questioning is encouraged, in particular 'why?' and 'how?'. Students' effort and hard work are rewarded. Students are aware of how their learning is progressing and are proud of their **success**. At the end of the course students are well prepared for a career in science should they wish, and are able to use the scientific skills they have acquired in whatever they choose to do in the future.

In year 10, students cover aspects of biology, chemistry and physics. The lessons are taught using a range of different techniques, including practical and written tasks.

The school virtues are encouraged throughout the teaching of the topics and embedded into schemes of learning.

Ambition – Science careers are discussed as part of the 'big-picture' section of our teaching. Students are taught how what they are doing applies to the outside world.

Confidence – Students develop the confidence to carry out practical tasks and written work. Success is rewarded within the department and students are encouraged to learn from their mistakes.

Respect – Students are taught to be respectful of each other and of their environment. Students' opinions are given equal weighting and students are given the chance to have their views heard.

Empathy – Within science empathy is a very important skill. It is important to be able to put yourself into someone else's shoes in order to see how a particular scientific advancement might affect them. We often refer to other people's beliefs and ethics within the curriculum.

Resilience – Resilience is very important within science. Students are encouraged to discover new ideas for themselves, make hypotheses and potentially make mistakes. Mistakes are as important in science as being correct. Students develop these skills by being encouraged to come up with their own ideas and then test them.

Integrity – Integrity in science is developed by encouraging key scientific principles of objectivity, clarity and reproducibility. Scientific studies must be carried out without bias and this is a key skill we address in our teaching of the practical aspect of the course.

Curiosity – We develop curiosity through the discovery aspect of the lessons. Students are encouraged as much as possible to discover new concepts for themselves through practical tasks. They should make their own conclusions about the world around them.

We try to meet the need of all learners within the department by setting our expectations as high as possible, challenging our students with questions and tasks that deepen their understanding of the world around them, at the same time as support is offered to students who need a different path to achieve their full potential.

IMPLEMENTATION:

Term	Topics studied	Extended Learning opportunities	How parents could support students
Students are taught all topics on a rotation throughout the year	C3 – Quantitative Chemistry B3 – Infection and Response C4 – Chemical Changes P3 – Particle Model C5 – Energy Changes B4 – Bioenergetics C6 – Rate and Extent of Chemical Changes P4 – Atomic Structure B5 – Coordination and Control C7 – Organic Chemistry	<p>Homework is given regularly with tasks posted on Google Classroom.</p> <p>Homework tasks range from assignments, worksheets, web-based activities and revision tasks.</p> <p>Assessments</p> <ul style="list-style-type: none"> • End of Unit Tests completed at the end of each topic, followed by DIRT lessons to review and improve achievement. • 6 Mark questions completed per topic, reviewed and improved. • Lessons start with five recall questions to check prior learning. • Majority of lessons contain an example exam question and mark scheme for exam practice. • Mock Examinations. These will include GCSE exam-style questions on the topics studied during GCSE (only papers 1 topics – please see specification for details). 	<p>Check that students complete any homework set and meet deadlines</p> <p>Support with learning key scientific vocabulary</p> <p>Encourage students to revise regularly, preferably following a revision timetable (Revision Guides are also available from Reprographics)</p> <p>Encourage students to explore learning platforms like BBC Bitesize and Seneca Learning</p>

IMPACT:

By the end of year 10 students will have a broad knowledge of scientific concepts and skills. This will be evident through their in-class assessments, exercise book work and mock exam results. Students will also be displaying the school virtues within their science lessons, as well as being **engaged**, develop a love for **discovery** and shown **success** in their curriculum.

Students will be assessed through end of topic tests, end of year mock exams, and other in-class activities as previously stated.