# **Subject: Biology**

### Year 12



Overview

**Autumn Term** 

Students will study the AS content of the AQA Biology specification, and begin studying the A2 content in the summer term. Students will be taught by two teachers that cover half of the specification each. This simultaneous teaching enables depth and breadth of curriculum coverage. They will build on their GCSE knowledge of biological molecules, cell structure and function, hierarchical organisation of plants and animals, exchange systems in organisms, immunity, DNA and genetic variation, microbiology, environmental biology and field studies. They will also build on their practical skills by completing investigative work that compliments the learning of the theory whilst providing opportunity for students to experience the use of more complex apparatus and techniques. A minimum of 6 of these will be assessed over the year. All work, whether theoretical or practical, is designed to prepare students for the next stage of their life, whether that be further academic study or work, and to enable them to become informed citizens that can make positive contributions to society.

#### Units Studied:

- Biological molecules:
  - Carbohydrates
  - Proteins
  - Nucleic acids & water
- Cell structure
- Cell transport
- Exchange
- Cell recognition

#### **Assessment**

#### A range of:

- mini-tests covering short term recall that are peer assessed in class so students get immediate feedback
- Synoptic tests covering multiple units and longer term recall, teacher assessed, with feedback and self reflection activities.

**Practical Assessments:** 

CP1: Enzymes
CP2: Microscopy

CP3: Water potential in plant tissue CP4: Membrane permeability

## Units studied:

- Mass transport in animals
- Mass transport in plants
- DNA, genes and protein synthesis
- Genetic diversity

#### **Assessment**

- Mid Year mock exam (January)
- mini-tests covering short term recall that are peer assessed in class so students get immediate feedback
- Synoptic tests covering multiple units and longer term recall, teacher assessed, with feedback and self reflection activities.

Practical assessments:

**CP5: Dissection** 

CP6: Aspetic technique

# **Summer Term**

- Biodiversity
- Energy transfers (A2)
- Ecosystems and competition (A2)

#### **Assessment**

- mini-tests covering short term recall that are peer assessed in class so students get immediate feedback
- Synoptic tests covering multiple units and longer term recall, teacher assessed, with feedback and self reflection
- End of year mock exam: two papers and one synoptic essay.

Useful Resources for Supporting Your Child at Home:	Homework:
Revision study plan provided by WHGS	Each unit of work has a homework booklet with a
CGP revision guides	selection of past exam questions. A mark scheme
Online resources subscribe to by WHGS or the department:	is also provided. Students are expected to work
· ·	through this booklet independently answering,
<ul><li>Seneca</li></ul>	self assessing and reflecting, throughout the time
<ul><li>Carousel</li></ul>	period that the unit is being studied.

Useful Resources for Supporting Your Child at Home:	Homework:
Other recommended online resources	Completion of this is checked by the class teacher
https://missestruch.co.uk/	at the end of the unit.
https://www.savemyexams.com/a-level/#aqa	
https://www.physicsandmathstutor.com/biology-revision/a-	
level-aqa/	
www.khanacademy.org	
Reading beyond the spec	
https://www.nature.com/	
https://www.nationalgeographic.co.uk/	
https://www.newscientist.com/	
https://www.ted.com/talks	
https://www.sciencemag.org/podcasts	
https://www.thenakedscientists.com/science-podcasts	