



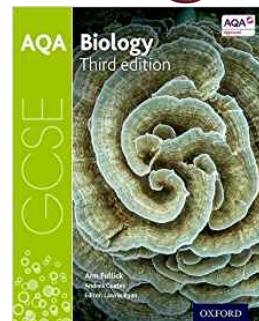
Biology Overview

Term: Autumn

Year: 11

Teacher: Mr Alamgir Islam

Textbook title: AQA GCSE Biology Oxford



What will we be covering this term?

Triple Science;

1st Half Term:

Homeostasis in action: This chapter students will study homeostasis, starting with why and how the body controls its temperature. They should recall the role of the thermoregulatory centre in the brain and be able to describe the body's responses if the body temperature starts to become too high or too low. Students should understand the role and functions of the human kidney, linking with work on diffusion, osmosis, and active transport in B1 *Cells and organisation*. Finally, students have studied treatments for kidney failure. They should understand how dialysis works, and link this with earlier work on diffusion.

Human nervous system: By the end of this chapter, students will be able to describe an electrical impulse accurately. They will study the brain, linking each area with its function. They will also study the structure and function of the human eye and the process of accommodation.

2nd Half Term:

Hormonal coordination: Students will study the role of hormones in plants, and the tropism responses they cause. Higher-tier students should understand the use of plant hormones in agriculture and horticulture.

Communicable disease: Students should be able describe the different pathogens, the symptoms and treatments of a range of different plant diseases, and the different defense mechanisms of the plants.

Preventing and treating disease - Students will study the production and uses of monoclonal antibodies. They should link this work with B2 *Cell division* and B5.9 *Human defense responses*. They should be able to give examples of how monoclonal antibodies are used, as well as their disadvantages.

Combined science:

1st Half Term:

Biodiversity and ecosystems: In this chapter students will study biodiversity and ecosystems, starting with the reasons for and the effects of the human population explosion. Students should understand the effect of different types of pollution including land, water, and air pollution. Students should be able to outline the processes of deforestation and peat destruction. On the topic of maintaining biodiversity, all students should understand how



waste, deforestation, and global warming affect biodiversity, and be able to give examples of some of the actions being taken to stop the reduction in biodiversity.

2nd Half Term:

Photosynthesis - In this chapter, students will study photosynthesis in both plants and algae. They should be familiar with the word equation for photosynthesis, and also the symbol equation. They should be aware that photosynthesis is an endothermic reaction.

Students will study the adaptations of leaves to achieve maximum efficiency in photosynthesis. They will study factors that affect the rate of photosynthesis. They should understand the concept of limiting factors.

Finally, students will consider the use of greenhouses and study how the conditions can be monitored and manipulated to achieve the highest rate of photosynthesis. Higher-tier students should have an appreciation of the economics of increasing the rate of photosynthesis - they should be aware that using a greenhouse is expensive, and weigh it up against the profit gained in increased biomass.

Teacher's Marking Key:

Mark code	Means
SP	Spelling error
//	New paragraph needed
Work underlined	Indicate a word or phrase does not make sense
?	Not clear. Rewrite this section again to improve the expression.
FS	Write in full sentences
EX	Develop your explanation further using scientific keywords.
D	You need to add more detail.
EBI	Even better if
www	What went well
GR	Grammar error
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How will my child be assessed this term?

There will be at least 2 assessed pieces this term.

Tripe Science:

1st Assessment: Homeostasis in action & Human nervous system

2nd Assessment: Plant Hormone and plant disease

Combined Science:

1st Assessment: Biodiversity and ecosystems

2nd Assessment: Photosynthesis



How can I help my child in this subject?

- Ensure homework is complete; you can track students' homework assignments at <https://www.showmyhomework.co.uk>
- Encouragement, praise, ensuring that they do their homework; and checking their student planner.
- Encouraging them to read around the subject.
- Their notes must be in order; discipline is essential.

Resources

Useful Websites

For independent study the following websites are recommended:

- Maths skills in GCSE Biology: <https://www.my-gcsescience.com/mathskills-gcse-biology/>
- AQA specification: <https://filestore.aqa.org.uk/resources/biology/specifications/AQA-8461-SP-2016.PDF>
- BBC Bitesize: http://www.bbc.co.uk/schools/gcsebitesize/science/add_aqa/
- Revision GCSE Biology: <http://www.gcsescience.com/pe.htm>
- Assessment resources: <https://www.aqa.org.uk/subjects/science/gcse/biology-8461/assessment-resources>
- GCSE exam questions organised by Topics & difficulty: <https://www.savemyexams.co.uk/gcse-biology-aqa/>

Communications

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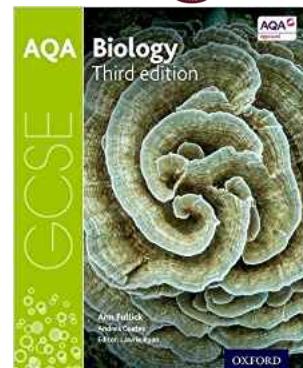
Biology Overview

Term: Spring

Year: 11

Teacher: Mrs Alamgir Islam

Textbook title: AQA GCSE Chemistry Oxford



What will we be covering this term?

Triple Science:

1st Half Term:

Biodiversity and ecosystems: In this chapter students have studied biodiversity and ecosystems, starting with the reasons for and the effects of the human population explosion. Students should understand the effect of different types of pollution including land, water, and air pollution. Students should be able to outline the processes of deforestation and peat destruction. Finally, students should be familiar with biotechnological methods of food production including the production of mycoprotein and the use of genetically modified organisms.

2nd Half Term:

Variation and evolution: This chapter students will learn about the causes of variation in terms of genetic, environmental, or a combination of both. They should link environmental variation with the effect of alcohol on a fetus in B7.5 Alcohol and other carcinogens. In studying evolution by natural selection, students will study the role of mutation in variation, understand the theory of evolution by survival of the fittest and natural selection, and be able to give examples.

Combined Science:

1st Half Term:

Communicable diseases: In this chapter, students will see how the concept of health (as a state of physical and mental well-being) is affected by communicable (infectious) diseases. They will look at the different pathogens that can cause communicable disease, including bacteria, viruses, and protists, and how these can be spread between organisms – both animals and plants. As part of this, they will look at the development of simple hygiene methods to prevent the spread of pathogens as well as the isolation of individuals who are infected, the destruction of or control of vectors, and the use of vaccination. Students should be able describe the different pathogens, the symptoms and treatments of a range of different animal and plant diseases, and the different defence mechanisms of the human body and plants.



2nd Half Term:

Preventing and treating disease: In this chapter, students will study the prevention of disease by vaccination. They should know how the immune system works and what is meant by an antigen. They should appreciate that the shapes of antigens and antibodies are complementary. They should understand what a vaccine contains and how it works, giving examples, and the concept of herd immunity.

Students will study the treatment of disease by drugs including painkillers and antibiotics. They should understand that painkillers such as aspirin and paracetamol treat the symptoms and not the cause of disease. They should be aware that antibiotics are drugs used to cure bacterial infections.

Non-communicable disease: In this chapter, students will study non-communicable diseases and should understand what is meant by risk factors for a disease. They will analyse the impact of disease at several different levels.

Students should be aware of the risks of diseases from smoking, linked to work on the heart and blood vessels in B4 *Organising animals and plants*.

Students will study alcohol and health, and will understand the effect of alcohol on the brain and liver, and of drinking alcohol during pregnancy. Finally, students will learn about the carcinogenic effects of ionising radiation.

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How will my child be assessed this term?

There will be mock exams, these will include;

Biology Paper 1 - 1 hour 45 minutes

Biology Paper 2 - 1 hour 45 minutes



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Chemistry Overview

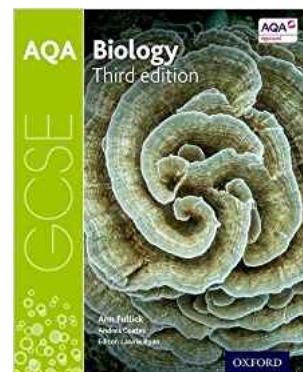
Term: Summer

Year: 11

Teacher: Mr Alamgir Islam

Textbook title: AQA GCSE Biology Oxford:

What will we be covering this term?



During this term, pupils would be revising for their GCSE exams and practising past paper questions.

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