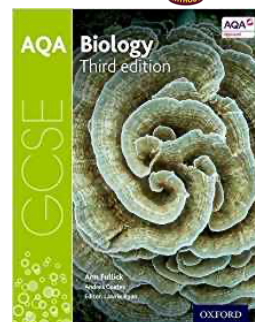




Biology Overview

Term: Autumn
Year: 10
Teacher: Mr Alamgir Islam
Textbook title: AQA GCSE Biology Oxford



What will we be covering this term?

1st Half Term:

Photosynthesis: In this chapter, students will study photosynthesis in both plants and algae. Students will study the adaptations of leaves to achieve maximum efficiency in photosynthesis. Students 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.

Cell structure and transport II- In this chapter, students will also learn about the transport of material into and out of cells by diffusion, osmosis, and active transport.

2nd Half Term:

Cell division: In this chapter, students will learn about the process of cell division and after finishing the chapter should be able to describe the three overall stages of the cell cycle. They will be able to state the genetic material in the nucleus is doubled *before* the cell divides into two.

Along with cell division, students will study cell differentiation, and students should be able to make connections between cell differentiation and the specialised cells and adaptations they studied in *Chapter B1 Cell structure and transport*.

Organisation and digestive system II- By the end of this chapter, students should be familiar with enzyme action and understand that enzymes are proteins with a specific shape including the active site. Students will study the effect of high temperature and extremes of pH on enzymes in changing the active site, which denatures the enzyme. They should be aware of how each part of the digestive system is adapted to provide an optimum pH for each enzyme, including the role of bile in the small intestine.



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
P	Punctuation error

How will my child be assessed this term?

There will be at least 2 assessed pieces this term. In more detail;

1st Assessment: Photosynthesis

2nd Assessment: Cell division: & Organisation and digestive system

At the end of the term there will summative exam that will test their knowledge for what they've covered during the course of the entire term.

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-qcsescience.com/maths-skills-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.qcsescience.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

Who do I contact if I have concerns about my child's progress in this subject?

Please feel free to contact us at the school from 9.00-15:00 if you have any questions or concerns or contact me by email alamgir.islam@alkhairschool.org.uk.



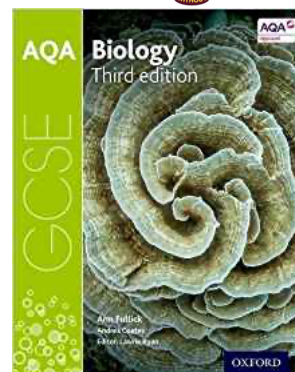
Biology Overview

Term: Spring

Year: 10

Teacher: Mr Alamgir Islam

Textbook title: AQA GCSE Chemistry Oxford



What will we be covering this term?

1st Half Term:

Organising animals and plants: In this chapter, students will learn about the organisation of animals and plants. They should be able to recognise the components of blood, describe their functions, and summarise the process of blood clotting. In studying the heart, students should be able to describe the main structures of the human heart and their functions. Students will study breathing and gas exchange, and should recognise the main structures of the gas exchange system along with their functions. They should know that gas exchange happens in the alveoli and describe adaptations of alveoli.

2nd 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.

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 understand what a vaccine contains and how it works, giving examples, and the concept of herd immunity. Students will also study the treatment of disease by drugs including painkillers and antibiotics.

Teacher's Marking Key:

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How will my child be assessed this term?

There will be at least 2 assessed pieces this term. In more detail;

1st Assessment: Organising animals and plants

2nd Assessment: Communicable diseases & preventing and treating disease

At the end of the term there will be a summative exam that will test their knowledge for what they've covered during the course of the entire term.

How can I help my child in this subject?

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- Revision GCSE Biology: <http://www.gcsescience.com/pe.htm>
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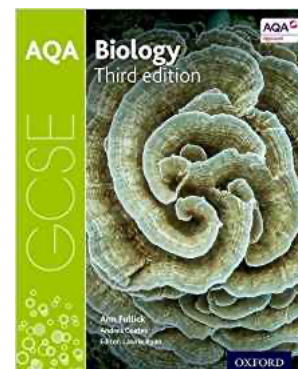
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alamgir.islam@alkhairschool.org.uk.



Biology Overview

Term: Summer
 Year: 10
 Teacher: Mr Alamgir Islam
 Textbook title: AQA GCSE Chemistry Oxford:



What will we be covering this term?

1st Half Term:

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 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.

Respiration: In this chapter students will study respiration, and should be able to recall that this is one of the most important processes in living cells. Students will study the response of humans to exercise, including changes in heart rate, breathing rate, and breakdown of glycogen, all to increase the rate of respiration in muscle cells.

In studying anaerobic respiration, students should be aware of this process in mammalian muscles and be able to write the word equation. Students should be aware that anaerobic respiration occurs in yeast cells and some plant cells.

2nd Half Term:

Human nervous system: In this chapter students have studied the principles of homeostasis and should be able to give some examples and outline the control system involved. They should be able to describe a reflex arc, with detail of synaptic transmission. Students should appreciate that receptors detect a change in a stimulus and not the stimulus itself.

Teacher's Marking Key:

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How will my child be assessed this term?

There will be at least 2 assessed pieces this term. In more detail;

1st Assessment: Non-communicable disease

2nd Assessment: Respiration & Human nervous system

At the end of the term there will summative exam that will test their knowledge for what they've covered during the course of the entire term.

How can I help my child in this subject?

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