

Extended Homework Task

Biology B17 Organising an ecosystem & B18 Biodiversity and ecosystems

Aiming for Grade 6

Name

Please hand in a completed printed version at the end of the topic

The online text book access to support this homework can be accessed through your Kerboodle account at www.kerboodle.com.

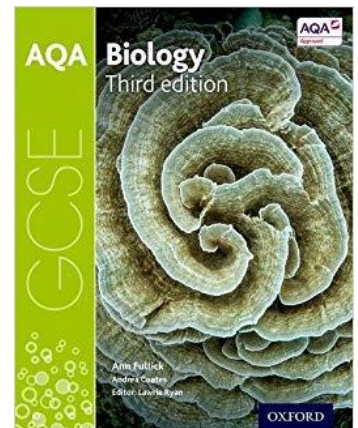
The username is your first initial and surname (no gap).

If you have not accessed the book before the password will be the same as your username. If you have logged on before you will have changed the password to your own choice.

Click onto the science 9-1 tile and then onto the digital book.

Resources to support this homework can be found in the online student book

- **Organising an ecosystem pages 276 – 283**
- **Biodiversity and ecosystems pages 286 - 309**



B17 Organising an ecosystem – Aiming for Grade 6

Aims

The aim of this homework is to help you revise the main topics in Chapter 17, Organising an ecosystem.

Learning outcomes

After completing this activity, you should be able to:

- identify the producers, consumers, predators, and prey in a food chain
- describe the processes that add and remove carbon from the atmosphere
- describe the conditions needed to produce compost
- design a poster to describe how biogas generators are used to produce methane.

Task

There are two activities to choose from. Each activity will help you to revise different material from Chapter B17, *Organising an ecosystem*. Choose one activity to complete. Try to choose the activity that will help you revise the material that you are **least confident** with.

Activity 1 – The carbon cycle

You will be drawing a diagram of the carbon cycle and answering questions about it.

Activity 2 – Biogas generators

You will be designing a poster to show how biogas generators work.

Activities:

1 The carbon cycle

Use the digital textbook and your own notes to help you draw a diagram of the carbon cycle. Label it with the following labels:

combustion	photosynthesis	respiration	decomposition
eating	fossilisation		

Answer the following questions about the carbon cycle:

- a** Write the word equations for the processes that introduce carbon to the atmosphere.

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- b** Write the word equation for the process that removes carbon from the atmosphere.

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- c** Explain what effect deforestation would have on carbon in the atmosphere.

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- d Suggest ways that we can decrease the amount of carbon entering the atmosphere.
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2 Biogas generators

Use A4 paper to design a revision poster about how biogas generators work. You can use the digital textbook to help you.

Remember to include the following in your poster:

- What the components of biogas are
- A description of how biogas is made
- Arguments for and against the use of biogas generators.

B18 Biodiversity and ecosystems – Aiming for Grade 6 (Triple)

Aims

The aim of this homework is to help you revise the main topics in this Chapter 18, Biodiversity and ecosystems.

Learning outcomes

After completing this activity, you should be able to:

- produce a visual revision aid which summarises the key points about biodiversity
- explain how human activity affects diversity.

Task

You are going to create a series of revision visual summaries about biodiversity.

There are five topics your revision visual summaries could be on:

- 1 pollution
- 2 deforestation and peat bog destruction
- 3 global warming and the greenhouse effect
- 4 maintaining biodiversity
- 5 food security.

Choose **three** of these five topics to create visual summaries about. **Try to pick topics that you feel you need extra revision in.**

Complete on plain paper. You can use the digital textbook to help you.

Try to divide the time spent on each topic equally

Topic 1 – pollution

Subdivide this section into land pollution, water pollution, and air pollution.

Include the causes and effects of the different types of land, water, and air pollution.

Topic 2 – deforestation and peat bog destruction

Write down the causes and effects of deforestation.

Write down the causes and effects of peat bog destruction.

Topic 3 – global warming and the greenhouse effect

Describe the causes and effects of global warming. Remember to include some information on the greenhouse effect.

Topic 4 – Maintaining biodiversity

Describe the ways that humans can maintain biodiversity.

Topic 5 – Food security

Describe the factors that affect our food security.

Suggest some ways that we can increase our food production. Remember to include some sustainable methods.