

## Extended Homework Task

### Biology B17 Organising an ecosystem & B18 Biodiversity and ecosystems

#### Aiming for Grade 8

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](http://www.kerboodle.com).

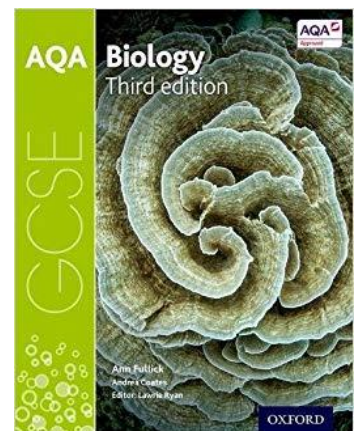
The username is your first initial and surname (no gap).

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 8

## 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
- explain the processes that add and remove carbon from the atmosphere
- describe the conditions needed to produce compost
- compile a report explaining how biogas generators are used to produce methane and explaining the advantages and disadvantages of biogas generators.

## 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 activities to complete. Try to choose the activity that will help you to 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 on it.

### Activity 2 – Biogas generators

You will be writing a report to your local council advising them on whether or not to build a biogas generator.

## Activities:

### 1 The carbon cycle

Draw a labelled diagram of the carbon cycle. You may use your digital textbook, your notes and the internet to help you.

Answer the following questions about the carbon cycle:

- a** Name and write the equations for the processes that introduce and remove carbon from the atmosphere.

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- b** Explain what effect deforestation has on carbon in the atmosphere.

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- c** Explain the effects of increased combustion of fossil fuels and suggest ways that this could be decreased.

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### 2 Biogas generators

Imagine you are advising your local town council on whether or not to build a biogas generator.

Write a summary report to the council which includes:

- a summary of what biogas is and how it is made
- an explanation of the advantages and disadvantages of building a biogas generator
- a conclusion explaining why or why not the council should build a biogas generator.

## B18 Biodiversity and ecosystems

### 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 six 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 biomass
- 6 food security.

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

Complete your work on plain paper.

Try to divide your time equally between the three topics you chose.

#### Topic 1 – pollution

Explain the causes and effects of land, air, and water pollution.

#### Topic 2 – deforestation and peat bog destruction

Explain the causes and effects of deforestation and peat bog destruction.

#### Topic 3 – global warming and the greenhouse effect

Explain the causes and effects of global warming.

#### Topic 4 – Maintaining biodiversity

Explain ways that humans can maintain biodiversity.

**Topic 5 – Biomass**

Explain how biomass is lost along the food chain.

**Topic 6 – Food security**

Discuss the factors that affect our food security and how we can improve food production.