

Write your name here

Surname

Other names

**Edexcel
Principal Learning**

Centre Number

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Candidate Number

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**Environmental and Land-based Studies
Level 1
Unit 1: The Natural Environment**

Thursday 12 January 2012 – Morning

Time: 1 hour

Paper Reference

ES101/01

You must have:

Insert (enclosed)

Total Marks

| |
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Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 40.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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PEARSON

Answer ALL questions. Write your answers in the space provided.

1 Look at Figure 1(a) on the insert. It shows a freshwater habitat (pond) in the North-east of England.

(a) Name **two** types of plants that you might find living in or around a freshwater habitat, as shown in Figure 1(a).

(2)

1

2

(b) Figure 1(b) on the insert shows a simple pond diagram of animals that would live in or around the pond in Figure 1(a).

Identify **one** example of each of the following from Figure 1(b):

(i) a bird

(1)

.....

(ii) a mammal

(1)

.....

(iii) an insect

(1)

.....

(iv) a fish

(1)

.....



(c) The words **carnivore**, **herbivore** and **omnivore** are used to describe animals based on what they eat.

Complete the sentences below by placing the correct word in the right sentence.

a carnivore a herbivore an omnivore

(i) A deer does **not** eat meat, which means it is: (1)

(ii) The main diet of a fox is meat, which means a fox is: (1)

(iii) A hedgehog eats meat, berries and plants so it is: (1)

(Total for Question 1 = 9 marks)



2



Figure 2(a)

Look at Figure 2(a). It shows a box that contains equipment which is used to measure weather conditions.

(a) What is the box in Figure 2(a) called?

(1)

Look at Figure 2(b). It shows four pieces of equipment that are used to collect information about the weather.

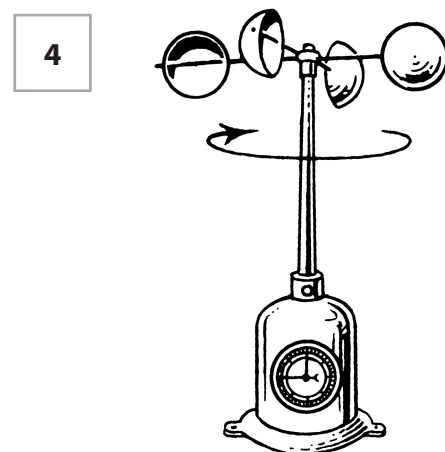
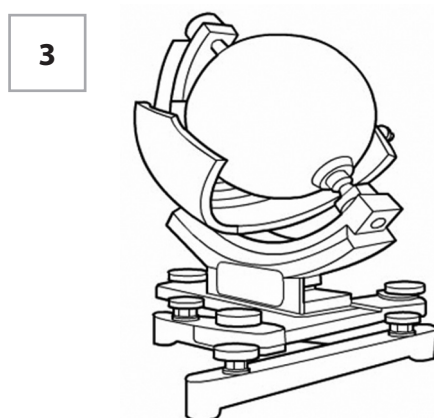
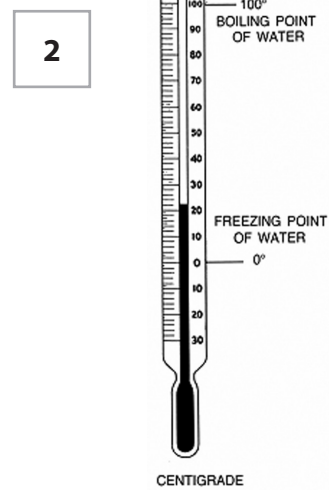
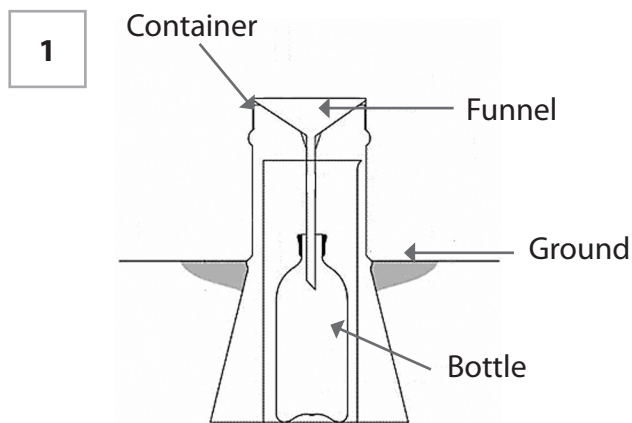


Figure 2(b)



(b) Choose **two** of the pieces of equipment from Figure 2(b).

For each piece of equipment state its number and name, and describe how it works. Write your answers in the table below.

(6)

| Number | Name | Description of how it works |
|--------|------|-----------------------------|
| | | <hr/> <hr/> <hr/> |
| | | <hr/> <hr/> <hr/> |

(c) For a freshwater habitat, such as the pond shown in Figure 1(a), describe how the temperature and rainfall affects:

(i) the plants in summer

(2)

(ii) the animals in winter

(2)

(Total for Question 2 = 11 marks)



3 Look again at Figure 1(a) and Figure 1(b) on the insert.

Ms Thompson, a local scientist, has been surveying the pond for the last 10 years.

She describes the freshwater habitat as having many **ecological niches**.

A simple definition of an ecological niche is:

a part of a habitat occupied by a single plant or animal species.

(a) Study Figure 1(b). Choose **one** animal from the pond and describe its ecological niche.

(3)

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(b) Ms Thompson has asked Foundation ELBS students to help her survey the freshwater habitat.

Describe how they might carry out a survey of:

(5)

(i) the soil in or around the pond

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.....

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.....

.....

(ii) the animals in or around the pond

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(c) (i) Describe **one** method of using Geographical Information Systems (GIS).

(2)

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(ii) Describe **one** other method you could use to present data you have collected.

(2)

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(Total for Question 3 = 12 marks)



4 Environmental surveys tell us about the quality of the water and the number of animals and plants that exist there.

For the past 10 years Ms Thompson has measured the quality of the freshwater habitat (Figure 1(a) pond).

The results of her surveys are shown in Figure 4(a).

A line graph to show the water quality, and the number of plants and animals in the pond over 10 years

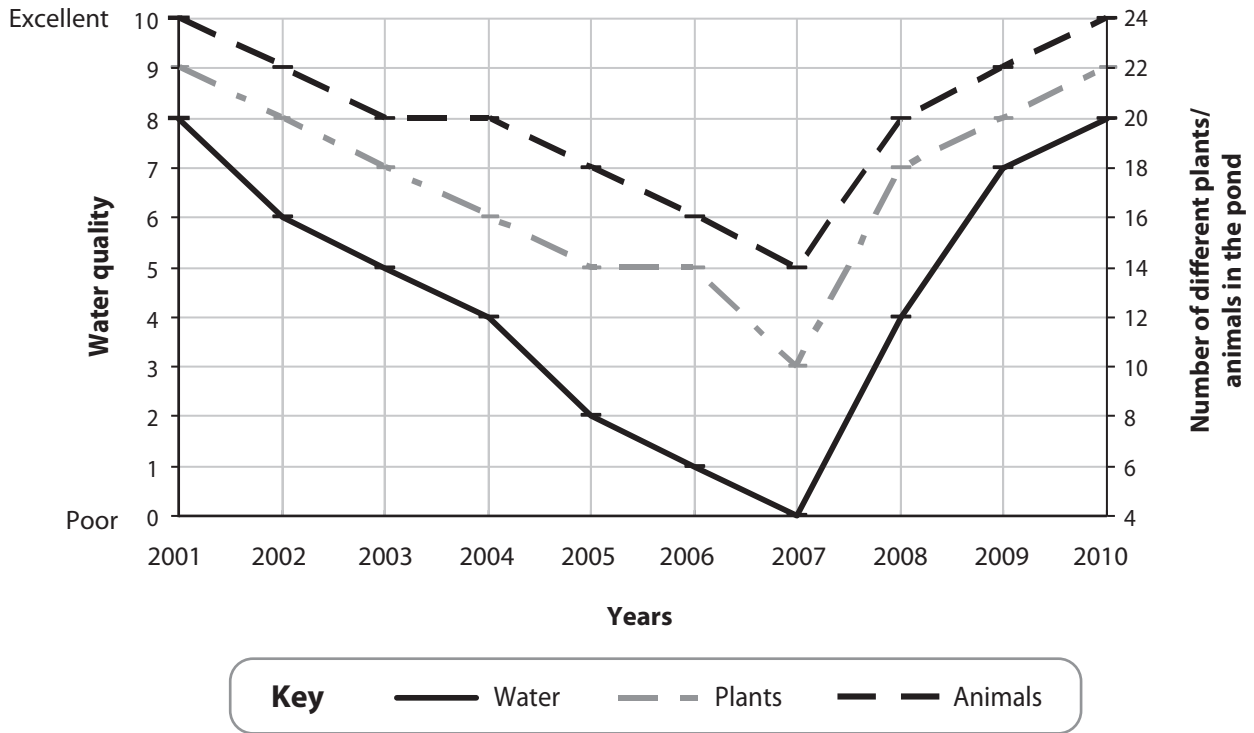


Figure 4(a)

(a) Describe the changes in the habitat from 2001 to 2010.

(4)

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(b) The aim of many environmental surveys is to protect the quality of freshwater habitats.

One of Ms Thompson's surveys showed that the water quality had been affected by pollution.

Suggest what she might do in the future to help protect the habitat of the pond.

(4)

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(Total for Question 4 = 8 marks)

TOTAL FOR PAPER = 40 MARKS





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Environmental and Land-based Studies

Level 1

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Insert

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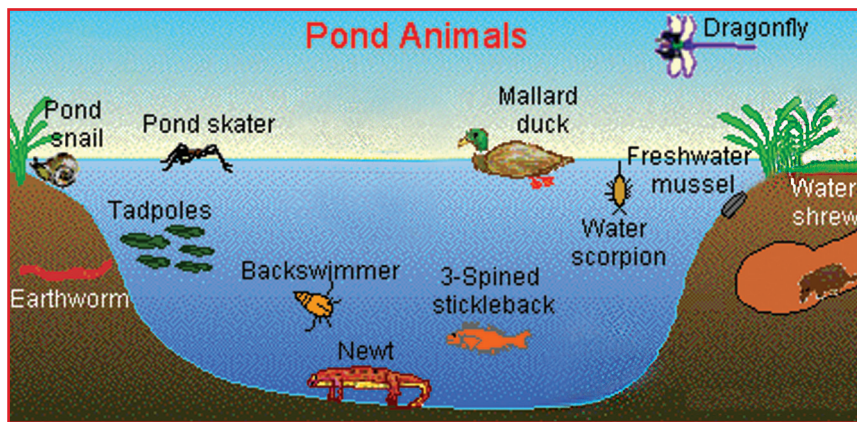


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(Source: © <http://teesvalleybiodiversity.org.uk>)

Figure 1(a)



(Source: © ZoomSchool.com)

Figure 1(b)