

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 2
Unit 5: Plants and Animals and their Role in Society

Friday 7 June 2013 – Morning
Time: 1 hour

Paper Reference

ES205/01

You must have:

Resource Booklet (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 50.
- 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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Answer ALL questions. Write your answers in the space provided.

Some questions must be answered with a cross . If you change your mind about an answer, put a line through the box and then mark your new answer with a cross .

1 Study Figure 1 below.

For most ecosystems the major source of energy is sunlight. The only way sunlight can get into the ecosystem is through photosynthesis.

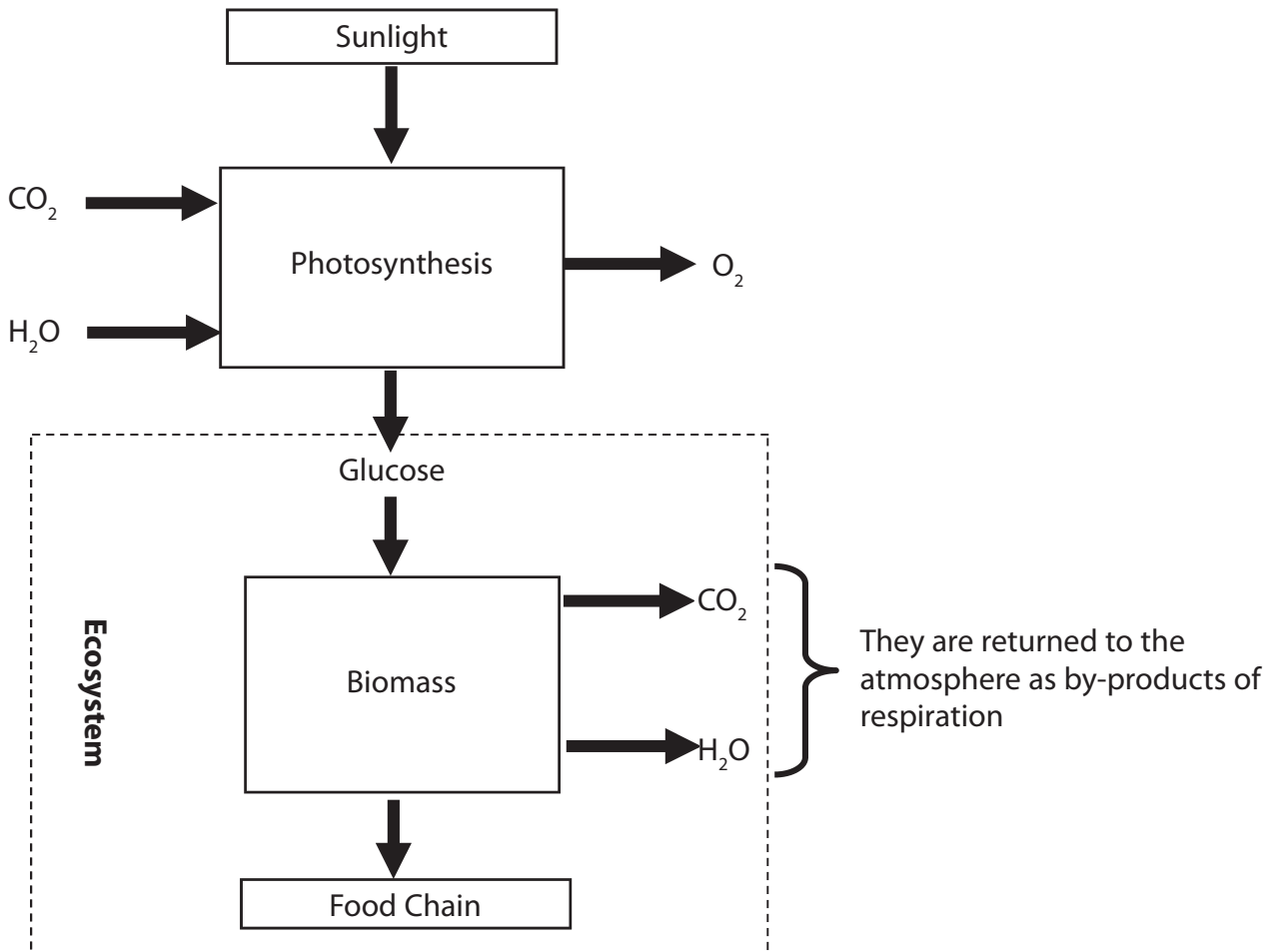


Figure 1

(a) Using the information above put a cross next to the correct statement.

(i) Sunlight is important for most ecosystems because:

(1)

A	it is the only source of energy	<input checked="" type="checkbox"/>
B	it enables plants to absorb water	<input checked="" type="checkbox"/>
C	it is the major source of energy	<input checked="" type="checkbox"/>
D	oxygen is released into the atmosphere	<input checked="" type="checkbox"/>

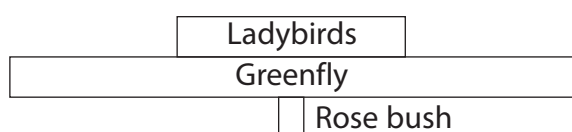


(ii) Photosynthesis requires:

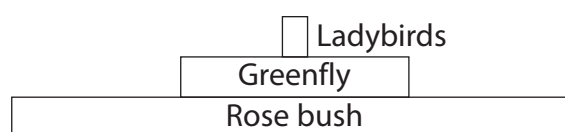
(1)

A	CO ₂ , sunlight and glucose	<input type="checkbox"/>
B	sunlight, CO ₂ and H ₂ O	<input type="checkbox"/>
C	O ₂ , CO ₂ and H ₂ O	<input type="checkbox"/>
D	O ₂ , sunlight and H ₂ O	<input type="checkbox"/>

(b) Study the two diagrams below representing a pyramid of number and a pyramid of biomass.



Pyramid of number



Pyramid of biomass

Give **one** reason for the difference between the two pyramids.

(2)

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(c) Identify **one** possible further trophic level to the pyramid of biomass.

(1)

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(Total for Question 1 = 5 marks)



- 2 Study Figure 2(a) in the Resource Booklet. Column A shows plants (A – D). Column B shows what they produce (1 – 4).

Using Figure 2(a), complete the table in Figure 2(b) by matching the plant to the numbered product.

You may use each item only once.

Plant	A	B	C	D
Product				

Figure 2(b)

(Total for Question 2 = 4 marks)

- 3 For **one** of the following statements, explain why:

- A. English seaside resorts often plant tropical palm trees along the seafront.
- B. most maize grown in the UK is used as animal feed rather than for human consumption.
- C. Wimbledon tennis courts use a different turf from that used on garden lawns.
- D. vegetable oil is increasingly used as biodiesel fuel.

Statement

Explanation

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(Total for Question 3 = 3 marks)



4 (a) Name **two** reptiles likely to be found in a zoo.

(2)

1

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(b) Describe **one** way in which keeping wild animals in zoos can help wildlife conservation.

(3)

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(Total for Question 4 = 5 marks)



5 Study Figure 5(a) below showing the approximate number of pets and farm animals in the UK (human population 62 million).

Number of pets in millions		Number of farm animals in millions	
Fish	40	Poultry	150
Cats and dogs	16	Sheep	31
Rabbits, guinea pigs, hamsters, turtles, tortoises	3	Cattle	10
Birds (indoor)	1	Pigs	4.5
Horses, ponies	0.3		

Figure 5(a)

(a) Using examples you have studied and Figure 5(a), give your views on how important the pet industry is compared to the farm animal industry in the UK.

(6)

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(b) Describe the differences between the three plant production systems identified below.

Orchids grown in a **protected** production system

Oil seed rape grown in an **outdoor extensive** production system

Raspberries grown in an **intensive** production system

(6)

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(c) Study Figure 5(c) in the Resource Booklet. It shows the effects of industrialisation on habitats, especially wild plants.

Choose **one** of the four examples and explain **either** the positive **or** the negative effects of industrialisation on wild plants.

(4)

Example chosen

Explanation of effects

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(Total for Question 5 = 16 marks)



- 6 Study Figure 6(a) in the Resource Booklet. It shows a floodplain that is presently pastureland. There is a controversial proposal to build a new housing estate on a floodplain such as is shown in 6(b) and 6(c).

The ELBS Diploma students of the secondary school have been asked to survey the impact of building this new estate.

- (a) Explain why it is important to conduct surveys when controversial proposals affect the environment.

(2)

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(b) Using your knowledge of previous environmental surveys and the table below, describe the stages in the students' survey.

(9)

Question	Response
How will the survey be planned?	
What techniques will be used?	
How will the data be recorded?	



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Column A



A – Cotton



B – Oak tree



C – Willow



D – Straw

Column B



1 – Thatched roof



2 – Textiles



3 – Fencing



4 – Furniture

Figure 2(a)

(Source: Image D by Annie Owen/Alamy)



1 – Acid rain



2 – Algal bloom



3 – Derelict factory



4 – Landfill regeneration

Figure 5(c)



Figure 6(a)



Figure 6(b) – Housing estate built on a floodplain



Figure 6(c) – Secondary school