3 Green plants are found at the start of all food chains.

3 (a) Complete the sentences.

3 (a) (i) The source of energy for green plants is radiation from the ..... .

(1 mark)

3 (a) (ii) Green plants absorb some of the light energy that reaches them for a process called ..... .

(1 mark)

3 (b) Draw a ring around the correct answer to complete each sentence.

3 (b) (i) This process transfers light energy into

chemical
sound
electrical

energy.

(1 mark)

3 (b) (ii) The process uses the gas

carbon dioxide.
oxygen.
water.

(1 mark)

3 (b) (iii) The process produces carbon-containing compounds called

carbohydrates.
minerals.
salts.

(1 mark)

3 (c) The amount of living material (biomass) at each stage in a food chain is less than at the previous stage.

The diagram shows a food chain.

oak tree ⟶ **caterpillar** ⟶ **blue-tit** ⟶ **hawk**

Give **two** ways in which biomass is lost in this food chain.

Tick (✓) **two** boxes.

As carbon dioxide from the caterpillar ☐

As food eaten by the hawk ☐

As oxygen from the oak tree ☐

As faeces (droppings) from the blue-tit ☐

(2 marks)

7

Turn over for the next question

1 (b) **Table 1** shows three food chains, **A**, **B** and **C**.

Table 1

	Food chain
A	plants → sheep → human
B	plants → grasshoppers → frogs → trout → human
C	plants → human

1 (b) (i) In which food chain, **A**, **B** or **C**, will the greatest proportion of biomass and energy of the plants be passed to humans? ☐

[1 mark]

1 (b) (ii) Give reasons why the food chain that you chose in part **(b)(i)** passes on the greatest proportion of biomass and energy to humans.

[3 marks]

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.....

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6

Turn over for the next question