Test A

Unit 1 Evaluation

Name: _____ Class: _____ Date: _____

Mark the correct answers with a ✔.

Look at the images and answer questions 1–3.

1

2

3

1 What characteristics do all three have in common?

I. All consist of cells.

II. All reproduce.

III. All require energy.

A. I.

B. III.

C. I and III.

D. I, II and III.

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2 How do these organisms obtain energy?

A. Digestion.

B. Nutrition.

C. Absorption.

D. Feeding.

3 Which organisms are heterotrophic?

A. 1.

B. 1 and 2.

C. 2 and 3.

D. 1, 2 and 3.

4 How do autotrophic and heterotrophic organisms differ?

A. Heterotrophs feed on other organisms.

B. Heterotrophs transform inorganic material into organic material.

C. Heterotrophs get energy only from plants.

D. Autotrophs get energy only from animals.

5 Which of the following organisms is an autotroph?

A. A spider.

B. A fungus.

C. A shark.

D. A bamboo plant.

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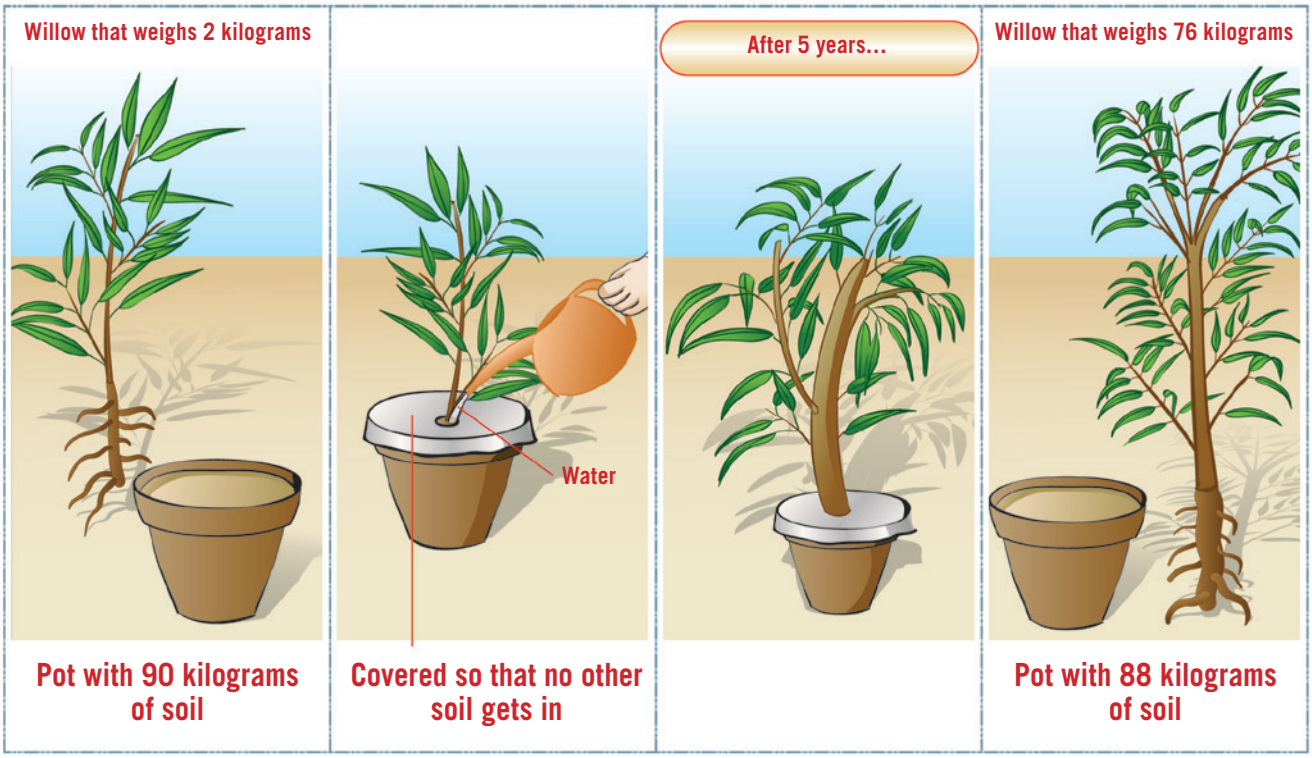
Study Van Helmont's experiment and answer questions 6 and 7.



6 What hypothesis was Van Helmont attempting to prove with his experiment?

A. Plants get their nourishment from the air.

B. Plants get their nourishment from photosynthesis.

C. Plants get their nourishment only from water.

D. Plants get their nourishment from minerals in the soil.

7 Which variables were not controlled in this experiment?

I. Sunlight.

II. The presence of air.

III. The amount of water.

A. I.

B. III.

C. I and II.

D. I, II and III.

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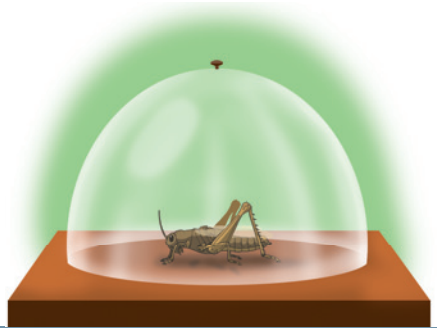
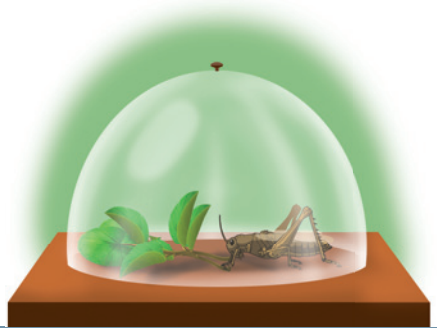
8 In which situation would the grasshopper survive longer and why?

Situation A	Situation B
	

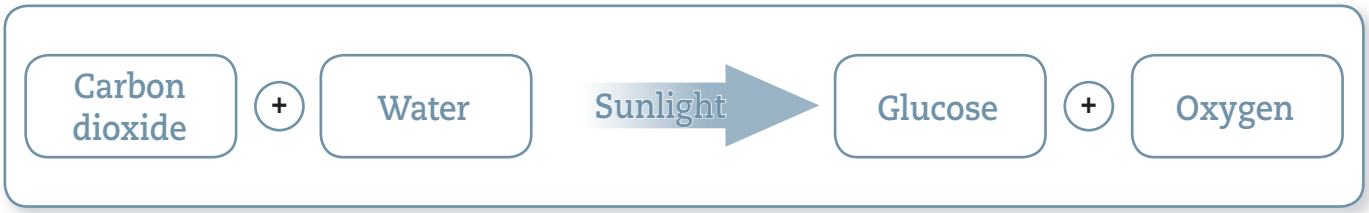
A. In Situation B, because the plant releases oxygen into the environment.

B. In Situation B, because the plant introduces carbon dioxide into the environment.

C. In Situation A, because the plant in B absorbs all the available oxygen.

D. In both situations the grasshopper will survive the same amount of time.

Study the photosynthetic chemical reaction and answer questions 9–12.



9 What would happen if there were no carbon dioxide?

A. Photosynthesis would stop because it requires this gas.

B. The plant would carry out this process normally because of the presence of water.

C. The glucose would produce carbon dioxide.

D. The oxygen would produce carbon dioxide.

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10 What would happen if the light came from a lightbulb instead of the sun?

A. Photosynthesis would not take place because it requires energy from the sun.

B. Photosynthesis would take place normally because light energy is present.

C. Photosynthesis would take place because carbon dioxide and water is present.

D. Photosynthesis would take place, but its products would be changed.

11 Which of the following nutrients is obtained from the photosynthetic process?

A. Water.

B. Soil.

C. Glucose.

D. Carbon dioxide.

12 Which of these living things benefit from the oxygen produced by photosynthesis?

I. Plants.

II. Insects.

III. Mushrooms.

A. II.

B. I and II.

C. I and III.

D. I, II and III.

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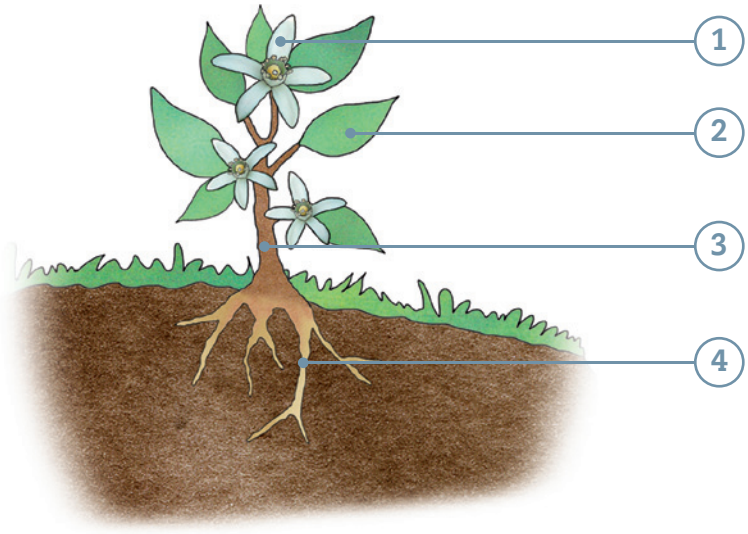
Study the image and answer questions 13 and 14.



13 Which part of the plant absorbs water for photosynthesis?

A. 1.

B. 2.

C. 3.

D. 4.

14 What would happen to the plant without structure 2?

A. It would not be able to take in water from the soil.

B. Glucose production would be affected.

C. Release of oxygen into the environment would increase.

D. Capture of carbon dioxide from the air would increase.

15 Which factors affect photosynthesis?

I. Temperature.

II. The amount of light.

III. The amount of water.

A. II.

B. I and II.

C. II and III.

D. I, II and III.

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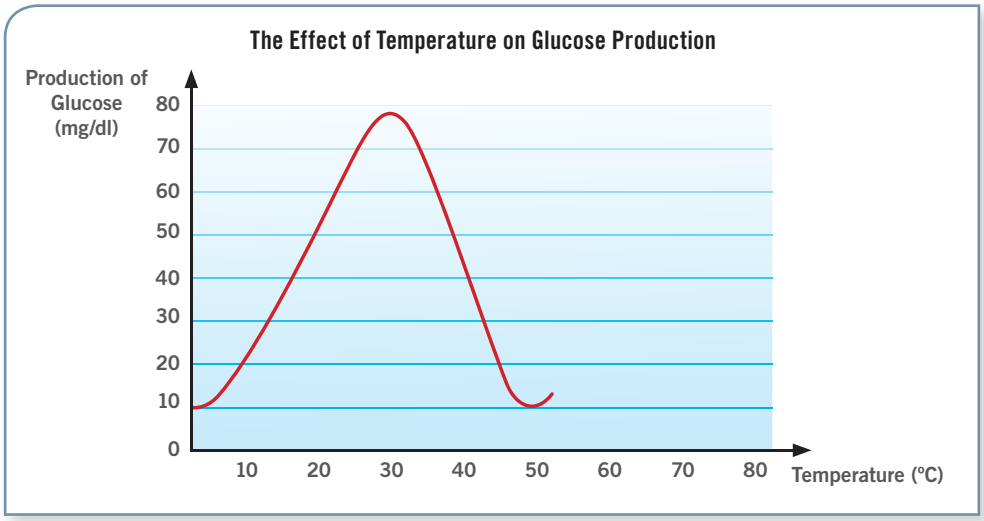
16 The graph shows how glucose production varies with temperature for a certain plant. What is the optimal temperature for this plant to perform photosynthesis?



A. 10 °C.

B. 30 °C.

C. 50 °C.

D. 70 °C.

17 Which level of organization includes all the other levels?

A. An individual.

B. A population.

C. A community.

D. An ecosystem.

18 Which of these factors in an ecosystem is abiotic?

A. Water.

B. Animals.

C. Fungi.

D. Plants.

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19 How do a community and an ecosystem differ?

A. A community consists of only abiotic elements.

B. An ecosystem includes biotic and abiotic elements.

C. A community includes biotic and abiotic elements.

D. An ecosystem includes only biotic elements.

20 Which animals are all herbivorous?

A. Pig, bee, rabbit.

B. Dolphin, snail, zebra.

C. Butterfly, zebra, giraffe.

D. Praying mantis, bee, snail.

21 How are carnivores and herbivores similar?

A. Both produce their own nutrients.

B. Both feed on other animals.

C. Both feed on other plants.

D. Both feed on other living things.

22 Which is a secondary consumer?

A.

B.

C.

D.

23 Which trophic level is connected to all the others?

A. Producer.

B. Decomposer.

C. Primary consumer.

D. Secondary consumer.

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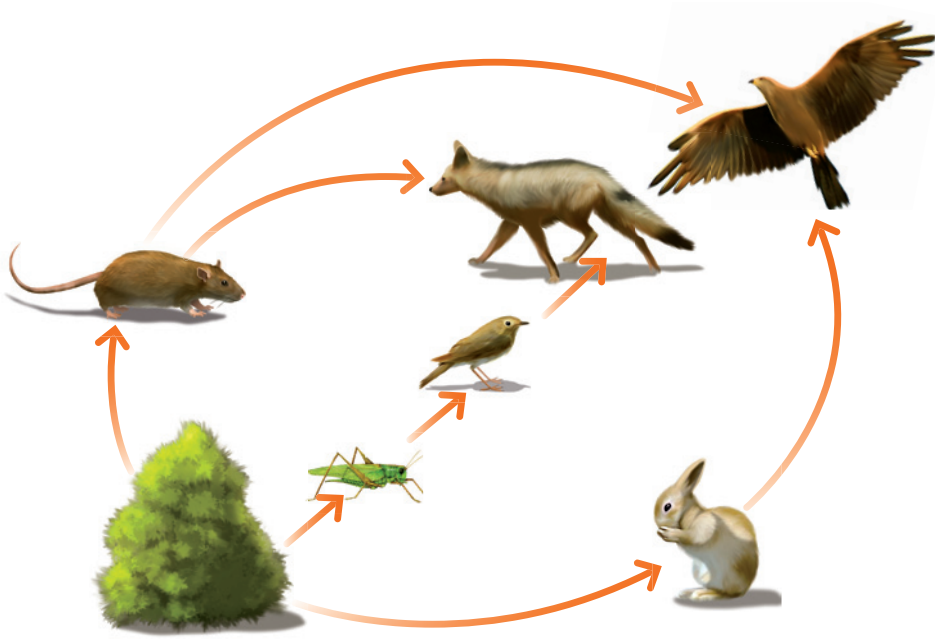
Look at the image and answer questions 24–27.



24 Which is a chain in the food web?

A. bush – rat – rabbit – eagle

B. grasshopper – rabbit – eagle

C. bush – rat – fox

D. bush – rabbit – fox

25 Which gets the most energy from the bush?

A. The bird.

B. The rabbit.

C. The fox.

D. The eagle.

26 What would happen to the bird if the grasshopper disappeared?

A. It would decrease in numbers or disappear.

B. It would increase in numbers.

C. It would feed on the bush.

D. Nothing would happen.

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27 Which organism is necessary for the existence of all the others?

A. The fox.

B. The grasshopper.

C. The bush.

D. The rabbit.

28 Which natural phenomena can affect food webs?

I. Volcanic eruptions.

II. Floods.

III. Droughts.

IV. Earthquakes.

A. I and II.

B. I and III.

C. I, II and III.

D. I, II, III and IV.

29 Which human activities negatively affect food chains?

A. Agriculture and pesticide use.

B. Use of pesticides and bans.

C. Indiscriminate hunting and bans.

D. Indiscriminate hunting and the creation of nature reserves.

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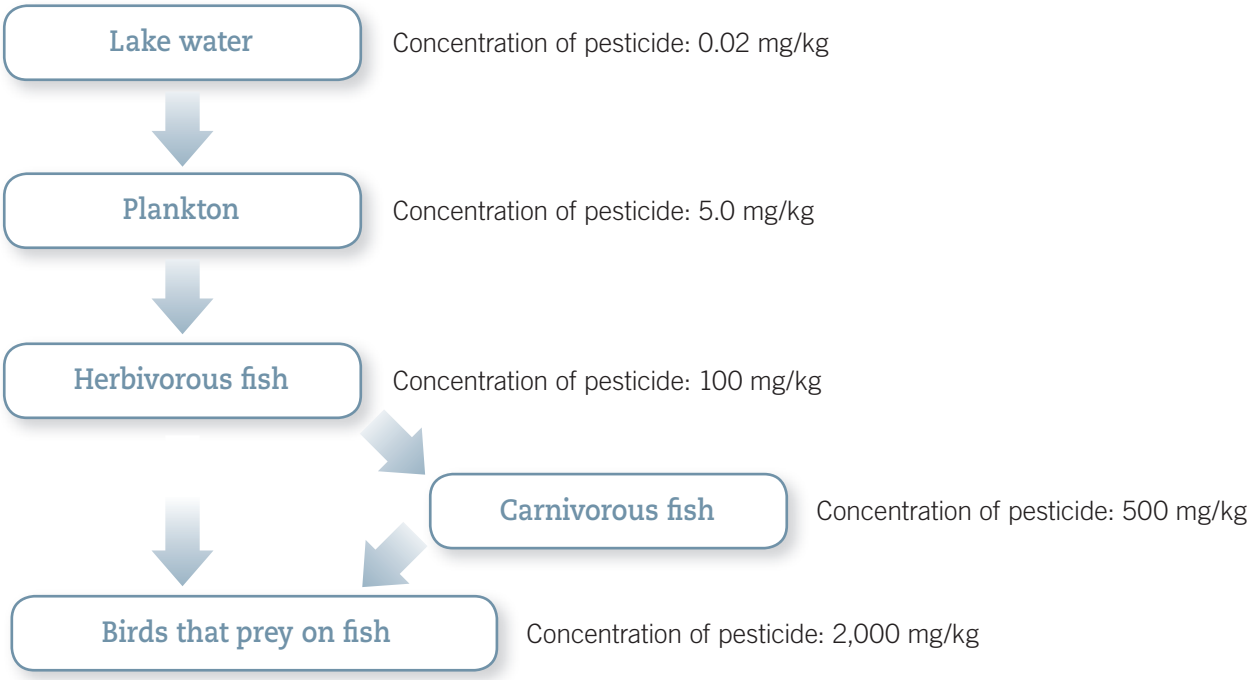
30 In research on a trophic chain, scientists measured the amount of pesticide in the water and organisms. The results are shown below.



According to the information, which conclusion is correct?

A. In the lowest trophic levels, the highest concentration of pesticide was detected.

B. The lake water has the highest concentration of pesticide.

C. The concentration of pesticide remained the same throughout the different trophic levels.

D. In the highest trophic levels, the highest concentration of pesticide was detected.

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31 Draw arrows representing the flow of energy and matter in the food web. Use a dotted line - - - → for energy (and vary the thickness of the lines according to how much energy is transferred) and a straight line for matter ⟶.

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Test B

Unit 1 Evaluation

Name: _____ Class: _____ Date: _____

Mark the correct answers with a ✔.

Look at the images and answer questions 1–3.

1

2

3

1 What characteristics do all three share?

I. All consist of cells.

II. All require energy.

III. All produce their own energy.

A. II.

B. III.

C. I and II.

D. I, II and III.

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2 Some organisms get energy through heterotrophic means. What is this process called?

A. Nutrition.

B. Digestion.

C. Absorption.

D. Feeding.

3 Which organisms are autotrophs?

A. 1.

B. 2.

C. 1 and 2.

D. 1, 2 and 3.

4 What do autotrophs and heterotrophs have in common?

A. Both produce their own nutrients to get energy.

B. Both generate organic matter from inorganic matter.

C. Both generate inorganic matter from organic matter.

D. Both require energy to perform their vital functions.

5 Which organism is a heterotroph?

A. A fungus.

B. An oak tree.

C. Marine algae.

D. Bamboo.

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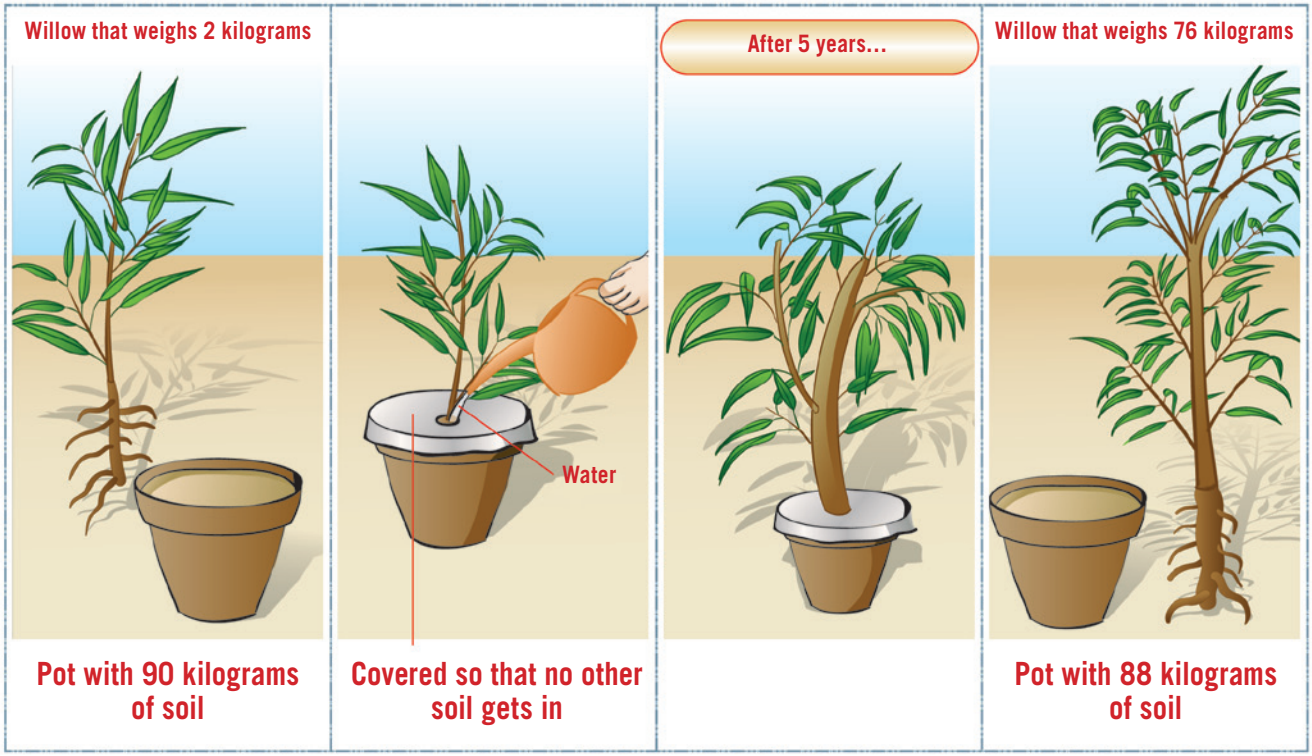
Study Van Helmont's experiment and answer questions 6 and 7.



6 What did Van Helmont conclude from his experiment?

A. Plants produce organic material from sunlight.

B. Plants produce organic material from water.

C. Plants produce organic material from minerals in the soil.

D. Plants produce organic material from air.

7 Which variables were not controlled in this experiment?

I. The amount of water.

II. The temperature.

III. Sunlight.

A. I.

B. II.

C. III.

D. II and III.

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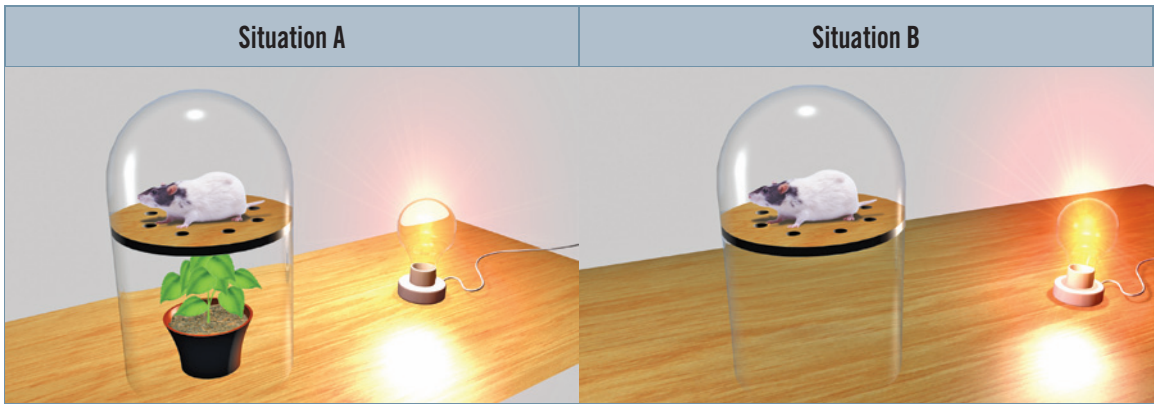
8 In which experiment would the mouse survive for less time and why?



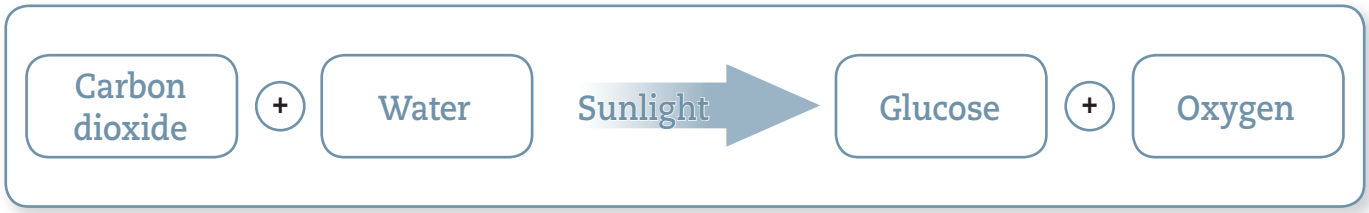
A. In Situation B, because there is not a plant releasing oxygen into the environment.

B. In Situation A, because the plant is introducing carbon dioxide into the environment.

C. In Situation A, because the plant is absorbing all the available oxygen from the environment.

D. In both situations the mouse will survive for the same amount of time.

Study the photosynthetic reaction and answer questions 9–12.



9 What would happen if there were an excess of carbon dioxide?

A. Photosynthesis would stop, and there would be less glucose and oxygen.

B. Photosynthesis would stop because of the excess of this gas.

C. There would be more glucose, oxygen and air.

D. There would be more glucose and oxygen up to a certain point.

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10 What would happen if oil were used instead of water?

A. Photosynthesis would not take place because it requires water.

B. Photosynthesis would take place but with less effect.

C. Photosynthesis would take place because oil is a liquid, too.

D. Photosynthesis would not take place because oil is incompatible with carbon dioxide.

11 What gas is obtained through photosynthesis?

A. Water.

B. Oxygen.

C. Nitrogen.

D. Carbon dioxide.

12 Which living things benefit from the oxygen produced by photosynthesis?

I. Plants.

II. Animals.

III. Mushrooms.

A. II.

B. I and II.

C. I, II and III.

D. None of these.

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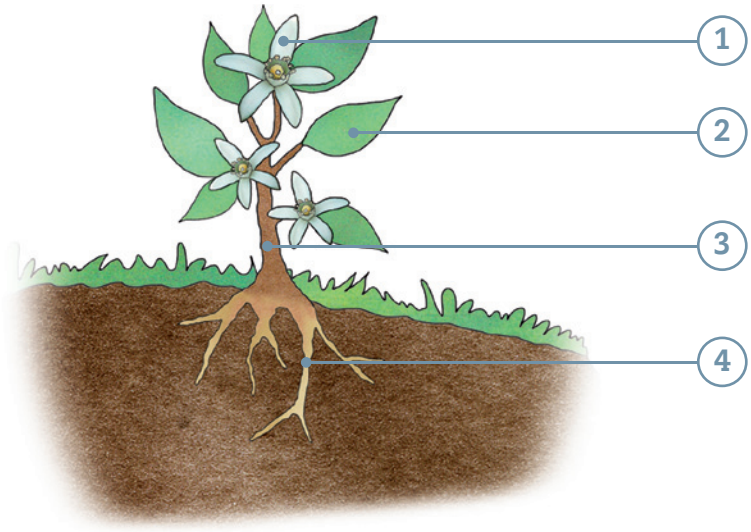
Study the image and answer questions 13 and 14.



13 Which structure absorbs carbon dioxide for photosynthesis?

A. 1.

B. 2.

C. 3.

D. 4.

14 What would happen to the plant without structure 4?

A. It would not be able to absorb water from the soil.

B. It would increase glucose production.

C. Release of oxygen into the environment would increase.

D. Capture of carbon dioxide from the air would increase.

15 Which factors affect the process of plant photosynthesis?

I. Nutrients from the soil.

II. The amount of light.

III. The amount of water.

A. II.

B. I and II.

C. II and III.

D. I, II and III.

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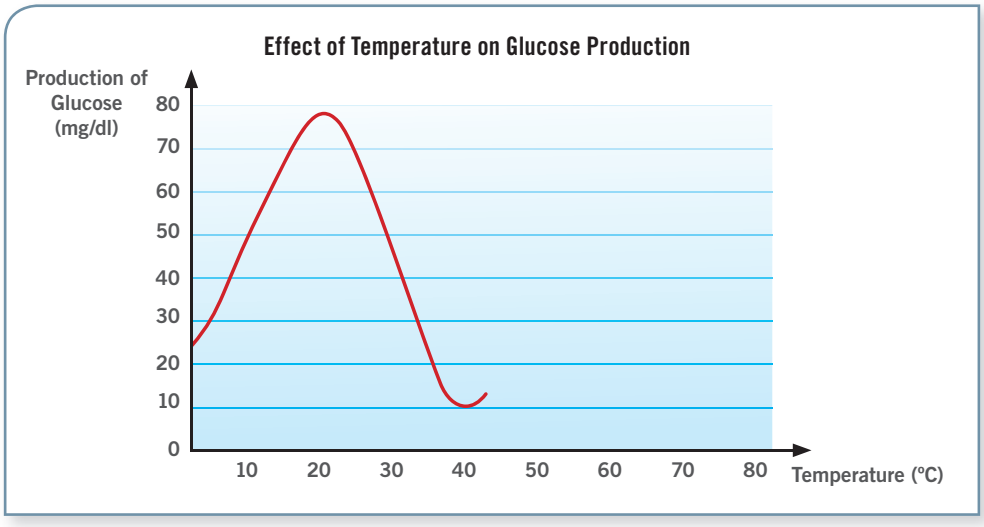

A. 10 °C.

B. 20 °C.

C. 40 °C.

D. 70 °C.

17 Which level of organization includes all the other levels?

A. An individual.

B. A population.

C. A community.

D. An ecosystem.

18 Which of these factors in an ecosystem is biotic?

A. Water.

B. Light.

C. Temperature.

D. Fungi.

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19 What do a population and an ecosystem have in common?

A. Both include abiotic elements.

B. Both include biotic elements.

C. Both include different animal species.

D. Both include different plant species.

20 Which animals are all herbivorous?

A. Rabbit, snail, giraffe.

B. Leopard, giraffe, zebra.

C. Brown bear, dolphin, butterfly.

D. Great white shark, zebra, bat.

21 How are carnivores and herbivores similar?

A. Both produce their nutrition.

B. Both feed on plants.

C. Both feed on animals.

D. Both feed on other living things.

22 Which is a primary consumer?

A.

B.

C.

D.

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23 Which parts of a food chain do decomposers act on?

I. Producers.

II. Primary consumers.

III. Secondary consumers.

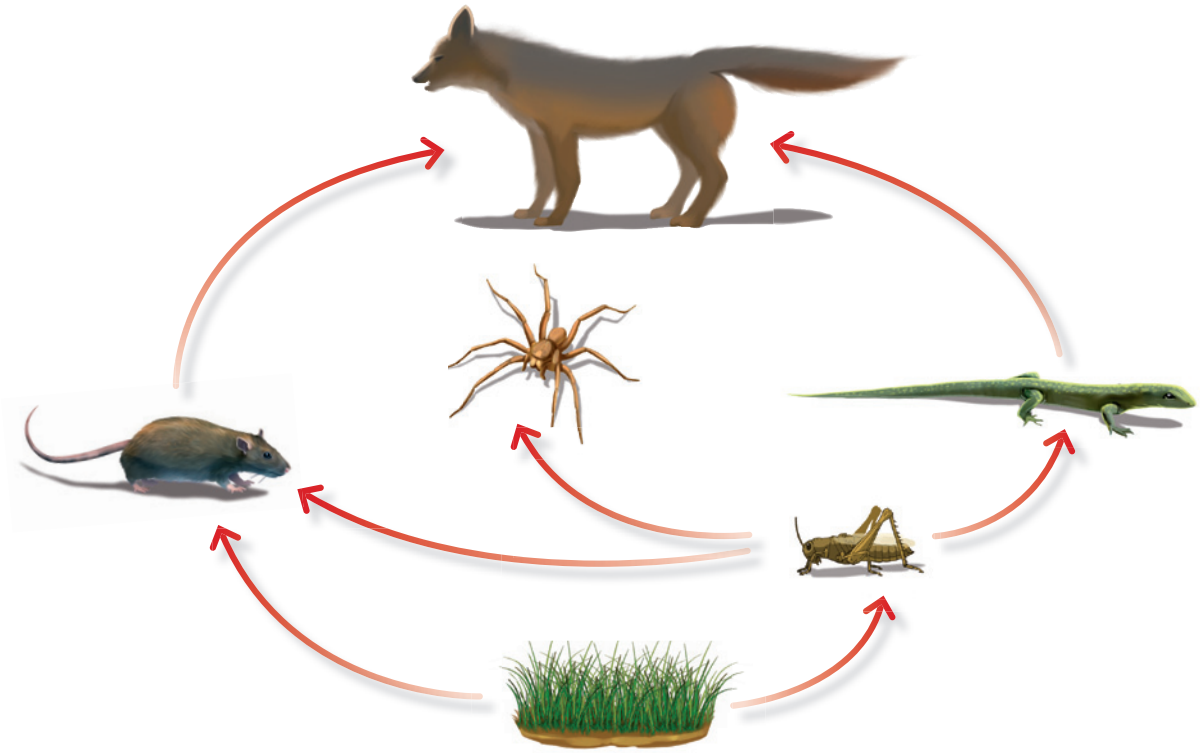
A. I.

B. III.

C. II and III.

D. I, II and III.

Look at the image and answer questions 24–27.



24 Which is a chain in the food web?

A. grass – grasshopper – rat – fox

B. grass – grasshopper – spider – fox

C. grasshopper – spider – rat – fox

D. grass – spider – lizard – fox

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25 Which animal gets the most energy from the grass?

A. The grasshopper.

B. The spider.

C. The fox.

D. The lizard.

26 What would happen to the rat if the fox disappeared?

A. It would decrease in numbers.

B. It would increase in numbers.

C. It would die.

D. Nothing would happen.

27 Which organism is key to the existence of all the others?

A. The fox.

B. The spider.

C. The grass.

D. The grasshopper.

28 Which natural phenomena can affect food webs?

I. Volcanic eruptions.

II. Glacial periods.

III. Droughts.

IV. Floods.

A. I and II.

B. I and III.

C. I, II and III.

D. I, II, III and IV.

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29 Which human activities negatively affect food chains?

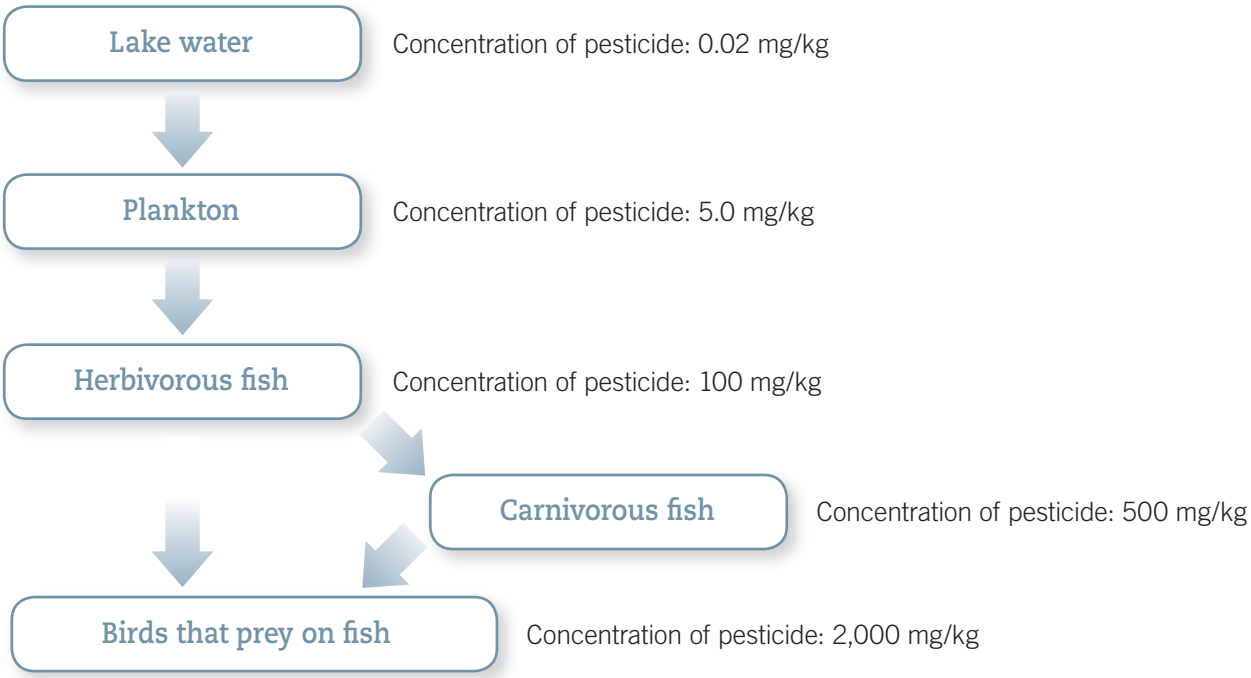
A. Indiscriminate hunting and controlling deforestation.

B. Introduction of species and indiscriminate hunting.

C. Introduction of species and controlling hunting.

D. Indiscriminate hunting and the creation of nature reserves.

30 In research on a trophic chain, scientists measured the amount of pesticide in water and in organisms. The results obtained are shown below.



According to the information, how is the pesticide distributed throughout the trophic chain?

A. Advancing through the levels, the concentration of pesticide increases.

B. Advancing through the levels, the concentration of pesticide decreases.

C. Advancing through the levels, the concentration of pesticide stays the same.

D. No pesticide was found in the organisms.

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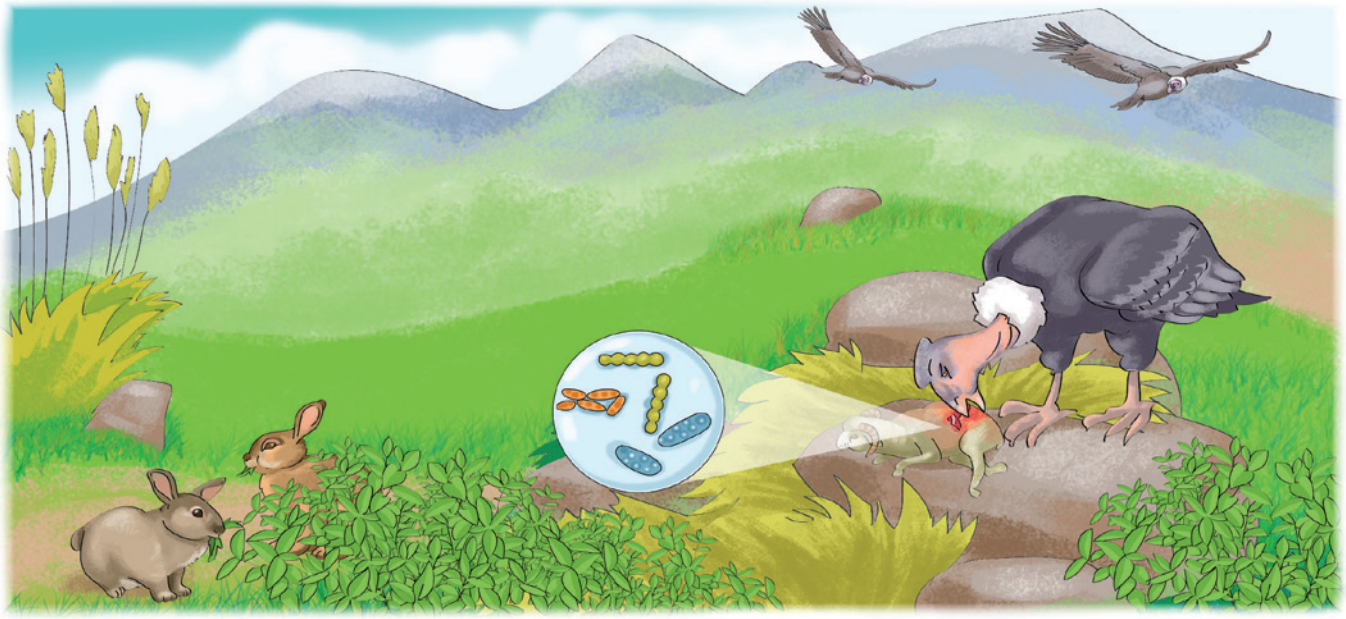
31 Draw arrows representing the flow of energy and matter in the food web. Use a dotted line - - - → for energy (and vary the thickness of the lines according to how much energy is transferred) and a straight line for matter ⟶.



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