# MockTest 9

**Fuuvix**

**Question 1**

Priya sees two farms near her village. One farm has pipes with tiny holes near the roots of plants, and the other farm has pipes that spray water high in the air like rain. Which farm is most likely using drip irrigation?

A. The farm with pipes spraying water high in the air.

B. The farm with tiny holes near the roots of plants.

C. Both farms are using drip irrigation.

D. Neither farm is using drip irrigation.

**Question 2**

Complete the sentences below by choosing the best set of words.

Statement 1: Brightly colored flowers with sweet nectar often attract _____ like bees and butterflies.
Statement 2: Flowers that bloom at night and have a strong smell are usually pollinated by _____.
Statement 3: Flowers with long tubes are adapted for pollination by _____ with long tongues or beaks.

A. insects, bats, birds

B. birds, moths, wind

C. wind, bats, insects

D. bees, birds, water

**Question 3**

During photosynthesis, plants use sunlight to convert carbon dioxide and water into glucose and oxygen. Which of the following correctly identifies the MAIN outputs of photosynthesis?

A. Glucose and carbon dioxide

B. Oxygen and water

C. Glucose and oxygen

D. None of the above

**Question 4**

Scenario: A plant is placed in a dark room with no sunlight for several days, but it still receives water and carbon dioxide.

What is the MOST likely effect on the plant's ability to produce food?

A. The plant will produce more food than usual.

B. The plant will stop producing food entirely.

C. The plant will produce food at the same rate as before.

D. The plant will switch to absorbing food from the soil.

**Question 5**

Which of the following is NOT a direct result of sunlight being absorbed by plants?

A. Production of glucose through photosynthesis

B. Release of oxygen into the atmosphere

C. Absorption of water through the roots

D. Conversion of light energy into chemical energy

**Question 6**

Which of the following statements accurately describes the relationship between photosynthesis, transpiration, and cellular respiration in plants?

- **A** Photosynthesis produces glucose and oxygen, transpiration regulates water loss, and cellular respiration breaks down glucose for energy.
- **B** Photosynthesis releases carbon dioxide, transpiration absorbs water, and cellular respiration produces oxygen.
- **C** Photosynthesis occurs only in roots, transpiration occurs in leaves, and cellular respiration happens in stems.
- **D** Photosynthesis and cellular respiration are the same process, while transpiration is unrelated.

**Question 7**

Scenario: A plant with aerial roots grows in a humid rainforest where the soil is often waterlogged.

What is the MOST likely function of these aerial roots?

- **A** To absorb sunlight for photosynthesis.
- **B** To store excess water during dry seasons.
- **C** To anchor the plant to trees and absorb moisture from the air.
- **D** To produce flowers for reproduction.

**Question 8**

Scenario: A plant's roots are damaged by a garden tool, reducing their ability to absorb water.

What is the MOST likely effect of this root damage on the plant?

- **A** The plant will grow taller to reach more sunlight.
- **B** The plant's leaves will wilt due to lack of water.
- **C** The plant will produce more flowers to compensate.
- **D** The plant's roots will grow thicker immediately.

**Question 9**

Which of the following is the primary function of prop roots in plants like mangroves?

- **A** To absorb more sunlight for photosynthesis.
- **B** To store excess water during droughts.
- **C** To provide additional support in unstable, muddy soil.
- **D** To attract pollinators with their unique shape.

**Question 10**

Seeds that are spread by exploding pods are dispersed by _____.

- **A** water
- **B** wind
- **C** animals
- **D** force

**Question 11**

Seeds with thick, hard shells are most likely found in environments with many _____.

- **A** birds
- **B** insects
- **C** rodents
- **D** fish

**Question 12**

Seeds that are spread by animals often have a tough outer shell to survive passing through the animal's _____.

A wings

B roots

C digestive system

D leaves

**Question 13**

Seeds that are carried by animals often have bright colors or tasty fruits to attract _____.

A wind

B water

C animals

D rocks

**Question 14**

The seed coat helps keep the _____ safe until it is ready to grow.

A leaf

B flower

C embryo

D root

**Question 15**

Which seed is most likely to float and travel by water?

A A small, heavy seed with a smooth shell

B A light seed with a fluffy parachute

C A seed with a thick, hard coat

D A seed with a spongy or air-filled covering

**Question 16**

Which of these shows the correct order of how a burr seed sticks to an animal's fur?

A 1. Burr seed falls to the ground. 2. Animal walks by. 3. Seed sticks to fur.

B 1. Animal walks by. 2. Burr seed sticks to fur. 3. Seed falls off later.

C 1. Seed sticks to fur. 2. Animal walks by. 3. Seed falls to the ground.

D 1. Seed falls off later. 2. Animal walks by. 3. Burr seed sticks to fur.

**Question 17**

Complete the analogy: A dandelion seed is carried by the wind as a coconut seed is carried by _____.

A Animals

B Water

C Birds

D Insects

**Question 18**

Which of these is the 'odd one out' when thinking about how fungi obtain nutrients?

A Decomposing dead leaves

B Absorbing nutrients from living tree roots

C Breaking down wood in a fallen log

D Producing food using sunlight

**Question 19**

Which of these is the 'odd one out' when considering adaptations of plants growing in plains?

A Deep taproots

B Broad, flat leaves

C Thick waxy cuticle

D Flexible stems

**Question 20**

Which of the following is NOT a characteristic of floating aquatic plants?

A Roots anchored in the substrate

B Leaves that float on the water surface

C No connection to the bottom of the water body

D Free-floating stems

**Question 21**

Why do some aquatic plants, like hydrilla, have thin and flexible stems?

A To absorb more sunlight for photosynthesis.

B To store extra water during dry seasons.

C To withstand water currents without breaking.

D To attract fish for pollination.

**Question 22**

Why do many plants in the plains have deep root systems?

A To absorb more sunlight for photosynthesis.

B To store extra water during rainy seasons.

C To anchor firmly in the soil and access groundwater.

D To attract earthworms for better soil nutrients.

**Question 23**

Decide if each statement about how desert plants survive is True (T) or False (F). Choose the option that shows the correct answers for all statements:

Statement 1: Desert plants often open their stomata during the day to absorb carbon dioxide.
Statement 2: Spines on cacti help reduce water loss by shading the plant.
Statement 3: Some desert plants can stay dormant for years until it rains.
Statement 4: All desert plants have green leaves to perform photosynthesis.

A 1-T, 2-T, 3-T, 4-T

B 1-F, 2-T, 3-T, 4-F

C 1-T, 2-F, 3-F, 4-T

D 1-F, 2-F, 3-F, 4-F

**Question 24**

Which adaptation helps aquatic plants like water lilies float on the surface of ponds?

A Thick, waxy leaves to prevent water absorption

B Air-filled spaces in their stems and leaves

C Deep roots that anchor them to the pond floor

D Needle-like leaves to reduce surface area

**Question 25**

Which of these plants is commonly used as a natural insect repellent?

A Rosemary

B Citronella

C Mint

D None of the above

**Question 26**

How do submerged aquatic plants, such as eelgrass, obtain carbon dioxide for photosynthesis?

A By absorbing $CO_2$ directly from the air

B By absorbing dissolved $CO_2$ from the water

C By breaking down organic matter in the soil

D All of the above

**Question 27**

What is the function of the veins in a leaf?

A To provide structural support

B To transport water and nutrients

C To absorb sunlight

D None of the above

**Question 28**

Decide if each statement about Fungi is True (T) or False (F). Choose the option that shows the correct answers for all statements:

Statement 1: Fungi are plants because they grow in soil and cannot move.
Statement 2: Fungi help decompose dead organisms, recycling nutrients back into the ecosystem.
Statement 3: All fungi are harmful to humans and cause diseases.
Statement 4: Fungi can form symbiotic relationships with plant roots, helping them absorb water and nutrients.

A 1-T, 2-T, 3-T, 4-T

B 1-F, 2-T, 3-F, 4-T

C 1-T, 2-F, 3-F, 4-F

D 1-F, 2-F, 3-T, 4-F

**Question 29**

Scenario: Farmers in India store grains in large metal or plastic containers with tight-fitting lids after drying them thoroughly. They also add neem leaves or ash to the containers.

What can you infer about the purpose of adding neem leaves or ash to the grain storage containers?

A To improve the taste of the grains.

B To prevent insects and mold from spoiling the grains.

C To make the grains grow faster when planted.

D To change the color of the grains for better market appeal.

**Question 30**

A gardener wants to grow new strawberry plants using vegetative reproduction. Which part of the strawberry plant is most commonly used for this purpose?

**A** The roots, because they store nutrients needed for new growth.

**B** The leaves, since they can develop into new plants when buried in soil.

**C** The flowers, as they produce seeds that grow into identical plants.

**D** The runners (stolons), which grow horizontally and form new plantlets at nodes.

# Answers - MockTest 9

**Fuuvix**

**Question 1**

B The farm with tiny holes near the roots of plants.

**Explanation:**

Drip irrigation uses pipes with tiny holes to deliver water directly to the roots of plants. This saves water and helps plants grow better. The farm with pipes spraying water high in the air is using a sprinkler system, not drip irrigation.

**Question 2**

A insects, bats, birds

**Explanation:**

Option a is correct because:

- Statement 1: Brightly colored flowers with sweet nectar attract 'insects' like bees and butterflies, which are common daytime pollinators.
- Statement 2: Night-blooming, strong-smelling flowers are often pollinated by 'bats', which rely on scent and are active at night.
- Statement 3: Long-tubed flowers are adapted for 'birds' (e.g., hummingbirds) with long beaks or tongues.

Other options are incorrect:

- Option b: 'Birds' are incorrect for statement 1 (they prefer tubular flowers); 'moths' are plausible for statement 2, but 'wind' is incorrect for statement 3 (wind-pollinated flowers lack long tubes).
- Option c: 'Wind' is incorrect for statement 1 (wind-pollinated flowers are dull and lack nectar); 'bats' are correct for statement 2, but 'insects' are incorrect for statement 3 (insects lack long tongues for deep tubes).
- Option d: 'Bees' are correct for statement 1, but 'birds' are incorrect for statement 2 (they are diurnal), and 'water' is incorrect for statement 3 (water pollination is rare and unrelated to tube length).

**Question 3**

C Glucose and oxygen

**Explanation:**

The main outputs of photosynthesis are glucose (a type of sugar/food for the plant) and oxygen. Carbon dioxide and water are inputs, not outputs. Therefore, 'Glucose and oxygen' is the correct answer. 'None of the above' is incorrect because option c is definitively correct.

**Question 4**

B The plant will stop producing food entirely.

**Explanation:**

Photosynthesis requires sunlight as a key energy source. Without sunlight, the plant cannot convert carbon dioxide and water into glucose (food). Therefore, the most direct effect is that food production stops entirely. The other options are incorrect because plants cannot produce food without sunlight, nor can they absorb food from the soil.

**Question 5**

C Absorption of water through the roots

**Explanation:**

The production of glucose, release of oxygen, and conversion of light energy into chemical energy are all direct results of photosynthesis, which requires sunlight. However, the absorption of water through the roots is a separate process (osmosis and root pressure) and does not directly depend on sunlight. Thus, 'Absorption of water through the roots' is the correct answer.

**Question 6**

A Photosynthesis produces glucose and oxygen, transpiration regulates water loss, and cellular respiration breaks down glucose for energy.

**Explanation:**

Photosynthesis converts light energy into chemical energy (glucose) and releases oxygen. Transpiration is the process of water movement through a plant and its evaporation, primarily from leaves. Cellular respiration breaks down glucose to release energy (ATP), using oxygen and releasing carbon dioxide. These processes are interconnected but distinct.

**Question 7**

C To anchor the plant to trees and absorb moisture from the air.

**Explanation:**

In humid rainforests, aerial roots help plants anchor to trees (epiphytic growth) and absorb moisture and nutrients from the humid air, as waterlogged soil may lack oxygen. The other options are incorrect: aerial roots do not absorb sunlight, store water (unlike succulent roots), or produce flowers.

**Question 8**

B The plant's leaves will wilt due to lack of water.

**Explanation:**

Roots are responsible for absorbing water from the soil. If they are damaged, the plant cannot take up enough water, leading to dehydration. Wilting is the most direct and visible effect of water deficiency in plants. The other options are unrelated to root damage or are biologically implausible (e.g., roots cannot thicken immediately).

**Question 9**

C To provide additional support in unstable, muddy soil.

**Explanation:**

Option c is correct. Prop roots grow above ground to stabilize the plant in soft or waterlogged soils.

Option a is incorrect; roots do not perform photosynthesis—leaves do.

Option b is incorrect; while some roots store water, prop roots are specialized for support, not storage.

Option d is incorrect; roots are not involved in pollination, which is typically facilitated by flowers.

**Question 10**

D force

**Explanation:**

Some plants, like touch-me-nots, have pods that burst open to shoot seeds away. This is called dispersal by force or explosion.

**Question 11**

C rodents

**Explanation:**

Seeds with thick, hard shells are often adapted to environments with rodents, which gnaw or bury seeds. The shell protects the seed from being eaten or damaged.

**Question 12**

C digestive system

**Explanation:**

Seeds dispersed by animals often have tough shells to survive digestion, allowing them to be excreted in a new location.

**Question 13**

C animals

**Explanation:**

Bright colors or tasty fruits help seeds attract animals, which eat them and later spread the seeds in new places. This is a key adaptation for animal-dispersed seeds.

**Question 14**

C embryo

**Explanation:**

The seed coat protects the embryo, which is the baby plant inside the seed. This keeps it safe from harm until conditions are right for germination.

**Question 15**

D A seed with a spongy or air-filled covering

**Explanation:**

Option d is correct because seeds that float in water often have air pockets or spongy coverings to help them stay afloat.

Option a is incorrect because heavy, smooth seeds sink in water.

Option b is incorrect because fluffy parachutes help seeds travel by wind, not water.

Option c is incorrect because thick coats protect seeds but don't help them float.

**Question 16**

B 1. Animal walks by. 2. Burr seed sticks to fur. 3. Seed falls off later.

**Explanation:**

The correct order is: first, the animal walks by (1), then the burr seed sticks to its fur (2), and later, the seed falls off (3). This is how burr seeds use animals to travel to new places.

**Question 17**

B Water

**Explanation:**

Dandelion seeds are light and have fluffy structures to be carried by the wind. Similarly, coconut seeds are large and float in water, allowing them to be carried by ocean currents to new places.

**Question 18**

D Producing food using sunlight

**Explanation:**

Fungi are heterotrophs, meaning they cannot produce their own food through photosynthesis like plants. The first three options describe fungi obtaining nutrients by decomposing organic matter (saprophytic) or forming symbiotic relationships (like mycorrhizae). The last option, 'Producing food using sunlight,' is a characteristic of plants, not fungi, making it the odd one out.

**Question 19**

C Thick waxy cuticle

**Explanation:**

Deep taproots, broad flat leaves, and flexible stems are common adaptations of plains plants to access water, maximize sunlight absorption, and withstand wind. A thick waxy cuticle is an adaptation for reducing water loss, typically seen in desert plants, not plains plants, making it the odd one out.

**Question 20**

A Roots anchored in the substrate

**Explanation:**

Floating aquatic plants, such as duckweed or water hyacinth, have leaves that float on the water surface and stems that are free-floating. They do not anchor their roots in the substrate (bottom of the water body), unlike fixed aquatic plants (e.g., water lilies). Therefore, 'Roots anchored in the substrate' is the correct answer because it describes fixed plants, not floating ones.

**Question 21**

C To withstand water currents without breaking.

**Explanation:**

Option c is correct. Thin and flexible stems help aquatic plants like hydrilla bend with water currents, preventing damage.

Option a is incorrect; leaf adaptations (e.g., broad surfaces) help with sunlight absorption, not stem flexibility.

Option b is incorrect; aquatic plants don't need to store water as they are submerged.

Option d is incorrect; pollination in aquatic plants typically relies on water, not animal attraction.

**Question 22**

C To anchor firmly in the soil and access groundwater.

**Explanation:**

Option c is correct. Deep roots help plains plants stay anchored in loose soil and reach water sources underground.

Option a is incorrect; roots do not absorb sunlight—leaves do.

Option b is partially true but misleading; roots primarily absorb water, not store it (that's more common in desert plants).

Option d is incorrect; while earthworms improve soil, roots don't evolve specifically to attract them.

**Question 23**

B 1-F, 2-T, 3-T, 4-F

**Explanation:**

Statement 1 is False: Desert plants usually open their stomata at night to avoid water loss during the hot day.

Statement 2 is True: Spines provide shade and reduce air flow, which helps conserve water.

Statement 3 is True: Some plants remain dormant until rain triggers growth.

Statement 4 is False: Not all desert plants have green leaves; some use stems for photosynthesis.

**Question 24**

B Air-filled spaces in their stems and leaves

**Explanation:**

Option b is correct. Aquatic plants like water lilies have air-filled spaces (aerenchyma) in their stems and leaves, providing buoyancy.

Option a is incorrect; waxy leaves repel water but do not aid floating.

Option c is incorrect; deep roots anchor plants but are unrelated to floating.

Option d is incorrect; needle-like leaves are adaptations for reducing water loss in deserts, not floating.

**Question 25**

B Citronella

**Explanation:**

Citronella is well-known for its insect-repellent properties and is often used in candles and sprays to keep mosquitoes away. Rosemary and Mint have other uses but are not primarily known for repelling insects. Therefore, the correct answer is 'Citronella'.

**Question 26**

B By absorbing dissolved CO2 from the water

**Explanation:**

Submerged aquatic plants like eelgrass cannot access atmospheric CO2 directly because they are underwater. Instead, they absorb dissolved CO2 from the water through their leaves. Breaking down organic matter (option c) is not how they obtain CO2 for photosynthesis. Thus, the correct answer is option b.

**Question 27**

B To transport water and nutrients

**Explanation:**

Veins in a leaf primarily function to transport water (via xylem) and nutrients (via phloem) throughout the leaf. While they do provide some structural support, this is not their primary function. They do not absorb sunlight (chlorophyll in the lamina does this). Therefore, 'To transport water and nutrients' is the correct answer.

**Question 28**

B 1-F, 2-T, 3-F, 4-T

**Explanation:**

Statement 1 is False: Fungi are not plants; they belong to their own kingdom and obtain nutrients differently (e.g., decomposing organic matter).

Statement 2 is True: Fungi play a key role as decomposers in ecosystems.

Statement 3 is False: While some fungi cause diseases, others are beneficial (e.g., yeast in bread, penicillin).

Statement 4 is True: Mycorrhizal fungi form mutualistic relationships with plant roots.

**Question 29**

B To prevent insects and mold from spoiling the grains.

**Explanation:**

Neem leaves and ash have natural insect-repellent and antifungal properties. The scenario describes storing grains in airtight containers after drying them, which already helps preserve them. Adding neem leaves or ash further protects the grains from pests and mold, which is a common problem in grain storage. The other options are not supported by the scenario; taste, growth speed, and color changes are not relevant to storage methods.

**Question 30**

D The runners (stolons), which grow horizontally and form new plantlets at nodes.

**Explanation:**

Option d is correct. Strawberries primarily reproduce vegetatively through runners (stolons), which are specialized stems that grow horizontally and produce new plantlets at nodes.

Option a is incorrect; while roots store nutrients, they are not the primary structure used for vegetative reproduction in strawberries.

Option b is incorrect; strawberry leaves do not typically develop into new plants.

Option c is incorrect; while flowers produce seeds, this is sexual reproduction, not vegetative reproduction.