

MockTest 4

Fuuvix

Question 1

After harvesting wheat, farmers separate the grains from the stalks. First, they beat the stalks to loosen the grains (threshing). Then, they toss the mixture in the air so the wind blows away the lighter husks (winnowing).

Which of these is true about threshing and winnowing?

- ☐ A Threshing removes husks, and winnowing removes grains.
- ☐ B Threshing loosens grains, and winnowing removes husks.
- ☐ C Both are done at the same time to save effort.
- ☐ D Winnowing is done before threshing.

Question 2

Flowers that open at night and have a strong smell are usually pollinated by _____.

- ☐ A bees
- ☐ B birds
- ☐ C moths
- ☐ D butterflies

Question 3

Look at these flowers. Which one is most likely pollinated by the wind?

Flower 1: Big, red petals with sweet nectar
Flower 2: Small, green petals with no smell
Flower 3: Bright purple with a landing pad for insects
Flower 4: White with a strong smell at night

- ☐ A Flower 1
- ☐ B Flower 2
- ☐ C Flower 3
- ☐ D Flower 4

Question 4

Which of the following is NOT a main input required for photosynthesis to occur in plants?

- ☐ A Sunlight
- ☐ B Oxygen
- ☐ C Carbon dioxide
- ☐ D Water

Question 5

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

Statement 1: Plants absorb _____ from the soil through their roots to help them grow.

Statement 2: _____ is the process where water evaporates from the leaves of a plant.

Statement 3: Without enough water, plants cannot perform _____, which is essential for making their food.

☐ A nutrients, Transpiration, photosynthesis

☐ B oxygen, Respiration, germination

☐ C carbon dioxide, Photosynthesis, transpiration

☐ D glucose, Evaporation, respiration

Question 6

The green pigment in plant leaves that captures sunlight for photosynthesis is called _____.

☐ A xylem

☐ B stomata

☐ C chlorophyll

☐ D phloem

Question 7

On a hot summer day, a gardener notices that the leaves of her tomato plants are wilting despite the soil being moist. Which of the following best explains why the plants require more water under these conditions?

☐ A Increased transpiration rates due to higher temperatures cause rapid water loss from the leaves.

☐ B Roots absorb less water in hot weather, leading to dehydration.

☐ C Photosynthesis slows down, requiring more water to compensate for energy loss.

☐ D The plant stores excess water in its stems to prevent overheating.

Question 8

Complete the analogy: Root cap is to protection as root hairs are to _____.

☐ A Anchoring

☐ B Absorption

☐ C Storage

☐ D Transport

Question 9

Scenario: A mangrove tree grows in a swamp where the soil is waterlogged and lacks oxygen. The tree develops special aerial roots that grow above the water.

What is the MOST likely function of these aerial roots in this environment?

☐ A To absorb more sunlight for photosynthesis

☐ B To store excess water during high tides

☐ C To take in oxygen from the air for the roots

☐ D To attract insects for pollination

Question 10

In a desert environment, plants like cacti often have _____ root systems to quickly absorb water after rare rainfalls.

☐ A deep taproot

☐ B fibrous

☐ C shallow and widespread

☐ D aerial

Question 11

When a plant wilts, its roots are unable to absorb enough _____ from the soil to maintain turgor pressure in the cells.

- ☐ A oxygen
- ☐ B sunlight
- ☐ C water
- ☐ D carbon dioxide

Question 12

Seeds that are eaten by animals and later pooped out in a new place are dispersed by _____.

- ☐ A wind
- ☐ B water
- ☐ C animals
- ☐ D exploding pods

Question 13

Seeds with wings or parachute-like structures are most likely dispersed by _____.

- ☐ A water
- ☐ B animals
- ☐ C wind
- ☐ D exploding pods

Question 14

A student plants two seeds in a garden. Seed 1 is a dandelion seed with fluffy hairs, and Seed 2 is a maple seed with thin wings. Both seeds are released from the same height on a windy day. Which seed is MOST likely to travel farther away?

- ☐ A Seed 1 (dandelion) will travel farther.
- ☐ B Seed 2 (maple) will travel farther.
- ☐ C Both seeds will travel the same distance.
- ☐ D Neither seed will move in the wind.

Question 15

Which seed has tiny hooks that help it stick to an animal's fur?

- ☐ A Maple seed
- ☐ B Coconut seed
- ☐ C Burdock seed
- ☐ D Dandelion seed

Question 16

Scenario: A seed from a coconut tree falls into the ocean. The seed has a thick, hard shell and is very light inside.

What is the MOST likely reason the coconut seed can float on water?

- ☐ A The seed is heavy and sinks to the bottom.
- ☐ B The seed has air inside and a hard shell that keeps it light.
- ☐ C The seed has wings to help it fly over the water.
- ☐ D The seed sticks to fish that carry it away.

Question 17

Scenario: A seed from a pine tree has a small wing-like structure. When the wind blows, the seed spins and travels far from the tree.

What is the MOST likely reason the pine seed has a wing?

- ☐ A To help the seed stick to animals.
- ☐ B To make the seed taste better for birds.
- ☐ C To help the seed float on water.
- ☐ D To help the seed travel farther in the wind.

Question 18

Characteristic	P	Q
Sheds leaves seasonally?	Yes	No
Has needle-like leaves?	No	Yes
Produces cones?	No	Yes

Study the given table and select the option that correctly identifies P and Q.

- ☐ A P: Oak, Q: Pine
- ☐ B P: Maple, Q: Palm
- ☐ C P: Spruce, Q: Birch
- ☐ D P: Cedar, Q: Redwood

Question 19

Find the 'odd one out' in EACH group and choose the option that lists them correctly for Group 1 and Group 2.

Group 1: Lamina, Petiole, Stipule, Chloroplast
Group 2: Veins, Cuticle, Guard cells, Root hair

- ☐ A Group 1: Chloroplast, Group 2: Root hair
- ☐ B Group 1: Stipule, Group 2: Veins
- ☐ C Group 1: Petiole, Group 2: Guard cells
- ☐ D Group 1: Lamina, Group 2: Cuticle

Question 20

Find the 'odd one out' in EACH group and choose the option that lists them correctly for Group 1 and Group 2.

Group 1: Cactus, Aloe vera, Pine tree, Joshua tree
Group 2: Deep roots, Waxy leaves, Broad leaves, Spines

- ☐ A Group 1: Pine tree, Group 2: Broad leaves
- ☐ B Group 1: Aloe vera, Group 2: Spines
- ☐ C Group 1: Joshua tree, Group 2: Deep roots
- ☐ D Group 1: Cactus, Group 2: Waxy leaves

Question 21

Which of these is NOT a characteristic of coniferous trees?

- ☐ A Needle-like leaves
- ☐ B Produces cones
- ☐ C Sheds all leaves in winter
- ☐ D Typically evergreen

Question 22

The table below shows the water absorption rates (mL/hour) of different root types under the same soil conditions:

Root Type	Water Absorption Rate (mL/hour)
Taproot	120
Fibrous	90
Adventitious	80
Storage Root	50

Which root type is MOST efficient at absorbing water based on the data?

- A Taproot
- B Fibrous
- C Adventitious
- D Storage Root

Question 23

Which of the following plant adaptations is most useful for surviving the hot summers in the plains?

- A Deep roots to reach underground water
- B Brightly colored flowers to attract pollinators
- C Thin leaves to reduce water loss
- D None of the above

Question 24

Desert plants like cacti have thick, waxy stems. What is the primary purpose of this adaptation?

- A To store large amounts of water
- B To reflect sunlight and reduce heat absorption
- C To prevent water loss through evaporation
- D All of the above

Question 25

The _____ is the flat, expanded part of the leaf where most photosynthesis occurs.

- A petiole
- B vein
- C lamina
- D stipule

Question 26

Scenario: A scientist observes that fungi growing on a fallen log in a forest are breaking down the dead wood into simpler substances. The log gradually becomes softer and crumbles over time.

What can you infer about the role of these fungi in the forest ecosystem?

- A The fungi are harming the forest by destroying the log.
- B The fungi are acting as decomposers, recycling nutrients back into the soil.
- C The fungi are competing with trees for sunlight.
- D The fungi are producing oxygen for the forest.

Question 27

How do parasitic plants like dodder obtain their nutrients?

- ☐ A By absorbing water and minerals from host plants
- ☐ B By trapping and digesting insects
- ☐ C By performing photosynthesis in their stems
- ☐ D All of the above

Question 28

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

Statement 1: The _____ is the flat, green part of the leaf that captures sunlight for photosynthesis.

Statement 2: The _____ connects the leaf blade to the stem and transports water and nutrients.

Statement 3: Tiny openings called _____ on the leaf surface allow gases like carbon dioxide and oxygen to enter and exit.

- ☐ A lamina, petiole, stomata
- ☐ B veins, stipules, chloroplasts
- ☐ C petiole, lamina, stomata
- ☐ D stomata, veins, lamina

Question 29

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

Statement 1: Rice is primarily grown in the dry regions of Rajasthan.

Statement 2: Wheat is a major winter crop in northern India.

Statement 3: Millets like bajra and jowar are grown in areas with low rainfall.

Statement 4: Sugarcane is a short-duration crop harvested within 3 months.

- ☐ 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 30

Scenario: A farmer in India sows seeds in rows with equal spacing between them. The farmer also ensures the seeds are planted at a consistent depth.

Which of the following is the most valid inference about the farmer's sowing method?

- ☐ A The farmer is trying to maximize the number of seeds planted per square foot.
- ☐ B The farmer is optimizing conditions for uniform growth and easier maintenance.
- ☐ C The farmer is using a method that requires less water than other sowing techniques.
- ☐ D The farmer is planting seeds that are all of the same type.

Answers - MockTest 4

Fuuvix

Question 1

- B** Threshing loosens grains, and winnowing removes husks.

Explanation:

Threshing is the process of beating stalks to separate grains, while winnowing uses wind to blow away lighter husks. The correct answer explains their order and purpose: threshing comes first to loosen grains, and winnowing follows to clean them. The other options mix up the steps or their purposes.

Question 2

- C** moths

Explanation:

Night-blooming flowers often attract moths because they are active at night and rely on scent rather than bright colors to find flowers. Bees, birds, and butterflies are mostly active during the day.

Question 3

- B** Flower 2

Explanation:

Wind-pollinated flowers are usually small, green, and have no smell or nectar because they don't need to attract animals. Flower 2 fits this description.

Question 4

- B** Oxygen

Explanation:

Option b is correct because oxygen is a byproduct of photosynthesis, not an input. The main inputs are sunlight (a), carbon dioxide (c), and water (d). Oxygen is released during the process, but plants do not require it as a starting material for photosynthesis.

Question 5

- A** nutrients, Transpiration, photosynthesis

Explanation:

Option a is correct because:

- Statement 1: Plants absorb 'nutrients' (like minerals) from the soil through their roots.
- Statement 2: 'Transpiration' is the process of water evaporating from plant leaves.
- Statement 3: Photosynthesis requires water; without it, plants cannot make food.

Other options are incorrect:

- Option b: Plants absorb water, not 'oxygen,' from the soil; 'Respiration' is energy release, not water loss; 'germination' is seed sprouting, not food production.
- Option c: Plants absorb water, not 'carbon dioxide,' from the soil; 'Photosynthesis' is the food-making process, not water loss; 'transpiration' is correct but misplaced.
- Option d: Plants do not absorb 'glucose' from the soil; 'Evaporation' is a general term, not specific to plants; 'respiration' is unrelated to food production.

Question 6

- C** chlorophyll

Explanation:

Chlorophyll is the green pigment in plant leaves that absorbs sunlight, which is essential for photosynthesis. Xylem and phloem are plant transport tissues, while stomata are tiny openings for gas exchange.

Question 7

- A** Increased transpiration rates due to higher temperatures cause rapid water loss from the leaves.

Explanation:

High temperatures increase the rate of transpiration, as stomata open wider to facilitate cooling through evaporation. This leads to greater water loss from the leaves, requiring the plant to uptake more water to maintain turgor pressure and prevent wilting. The other options are incorrect: roots do not absorb less water in heat (they may absorb more), photosynthesis is not directly linked to water demand in this context, and plants do not store water in stems for temperature regulation.

Question 8

B Absorption

Explanation:

The root cap protects the growing tip of the root. Similarly, root hairs are specialized for absorbing water and nutrients from the soil. The analogy highlights the primary function of each structure.

Question 9

C To take in oxygen from the air for the roots

Explanation:

In waterlogged environments like swamps, the soil lacks oxygen, which roots need to survive. Aerial roots grow above the water to absorb oxygen directly from the air, helping the plant breathe. The other options are not primary functions of aerial roots in this context.

Question 10

C shallow and widespread

Explanation:

Desert plants like cacti typically have shallow and widespread root systems to maximize water absorption from brief rainfalls, as water does not penetrate deeply into arid soil.

Question 11

C water

Explanation:

Wilting occurs when roots cannot absorb sufficient water, leading to a loss of turgor pressure in plant cells. Water is the key resource roots absorb to keep plants upright and hydrated.

Question 12

C animals

Explanation:

Some seeds are dispersed by animals when they eat the fruit and later pass the seeds in their droppings, helping the plant grow in new places.

Question 13

C wind

Explanation:

Seeds with wings or parachute-like structures are adapted for wind dispersal, as these features help them float through the air to new locations.

Question 14

A Seed 1 (dandelion) will travel farther.

Explanation:

Dandelion seeds have fluffy hairs that catch the wind easily, helping them float farther. Maple seeds have wings that help them spin and glide, but they usually don't travel as far as dandelion seeds in the wind.

Question 15

C Burdock seed

Explanation:

Option c is correct. Burdock seeds have tiny hooks that cling to fur or clothing.

Option a is incorrect; maple seeds have wings for wind dispersal.

Option b is incorrect; coconuts float in water for dispersal.

Option d is incorrect; dandelion seeds have fluffy parachutes for wind dispersal.

Question 16

B The seed has air inside and a hard shell that keeps it light.

Explanation:

Coconut seeds are adapted to float on water because they have air inside and a hard, lightweight shell. This helps them travel across oceans to new places where they can grow. The other options are incorrect because coconuts do not sink, have wings, or stick to animals.

Question 17

D To help the seed travel farther in the wind.

Explanation:

The wing-like structure on the pine seed helps it catch the wind, allowing it to spin and travel far from the parent tree. This increases the chances of the seed finding a new place to grow without competing with the parent tree. The other options are not correct because pine seeds are not adapted to stick to animals, taste good for birds, or float on water.

Question 18

A P: Oak, Q: Pine

Explanation:

Based on the table:

P: Sheds leaves seasonally (Yes), Has needle-like leaves (No), Produces cones (No) - characteristics of a deciduous tree like Oak or Maple (sheds leaves, broad leaves, no cones).

Q: Sheds leaves seasonally (No), Has needle-like leaves (Yes), Produces cones (Yes) - characteristics of a coniferous tree like Pine (evergreen, needle-like leaves, produces cones).

Option 'a' correctly matches Oak (P) and Pine (Q) based on these characteristics. The other options either misidentify the tree types or do not match all characteristics.

Question 19

A Group 1: Chloroplast, Group 2: Root hair

Explanation:

In Group 1, 'Chloroplast' is the odd one out because Lamina, Petiole, and Stipule are all structural parts of a leaf, while chloroplasts are organelles found within leaf cells.

In Group 2, 'Root hair' is the odd one out because Veins, Cuticle, and Guard cells are all parts of a leaf, while root hairs are structures found on roots.

Question 20

A Group 1: Pine tree, Group 2: Broad leaves

Explanation:

In Group 1, 'Pine tree' is the odd one out because Cactus, Aloe vera, and Joshua tree are all desert plants, while Pine trees typically grow in cooler, non-desert climates.

In Group 2, 'Broad leaves' is the odd one out because Deep roots, Waxy leaves, and Spines are all adaptations for desert plants to conserve water, while broad leaves are more common in plants that do not need to conserve water as much.

Question 21

C Sheds all leaves in winter

Explanation:

Coniferous trees are known for their needle-like leaves, cone production, and being typically evergreen (retaining leaves year-round). The statement 'Sheds all leaves in winter' describes deciduous trees, not coniferous trees. Therefore, this is the correct answer as it does NOT belong to the characteristics of coniferous trees.

Question 22

A Taproot

Explanation:

The 'Water Absorption Rate (mL/hour)' column shows that Taproot has the highest value (120 mL/hour), indicating it absorbs water most efficiently under the given conditions. The other root types have lower absorption rates.

Question 23

A Deep roots to reach underground water

Explanation:

Deep roots help plants access water stored deep underground, which is crucial during hot summers when surface water may evaporate quickly. Brightly colored flowers attract pollinators but do not directly aid in surviving heat. Thin leaves are more common in desert plants, not necessarily plains plants. Therefore, the correct answer is 'Deep roots to reach underground water.'

Question 24

- C** To prevent water loss through evaporation

Explanation:

The thick, waxy coating (cuticle) on desert plants like cacti primarily serves to prevent water loss through evaporation. While some cacti do store water in their stems, this is a secondary function of the stem's thickness, not the waxy coating. Reflecting sunlight is a minor benefit but not the primary purpose. Therefore, the most accurate answer is 'To prevent water loss through evaporation.'

Question 25

- C** lamina

Explanation:

The lamina (also called the blade) is the broad, flat part of the leaf where photosynthesis primarily takes place. The petiole is the stalk, veins transport nutrients, and stipules are small leaf-like appendages at the base.

Question 26

- B** The fungi are acting as decomposers, recycling nutrients back into the soil.

Explanation:

Fungi that break down dead organic material, like the fallen log, are decomposers. They play a critical role in ecosystems by recycling nutrients from dead matter back into the soil, which plants can then use. The observation of the log softening and crumbling indicates decomposition, not harm, competition for sunlight, or oxygen production (which is primarily done by plants through photosynthesis).

Question 27

- A** By absorbing water and minerals from host plants

Explanation:

Parasitic plants like dodder lack chlorophyll and rely on host plants for water and nutrients by penetrating their vascular systems (a). They do not trap insects (b) or perform photosynthesis (c), making 'All of the above' incorrect.

Question 28

- A** lamina, petiole, stomata

Explanation:

Option a is correct because:

- Statement 1: The 'lamina' (or blade) is the flat, photosynthetic part of the leaf.
- Statement 2: The 'petiole' connects the leaf to the stem and transports materials.
- Statement 3: 'Stomata' are the tiny pores that regulate gas exchange.

Other options are incorrect because:

- Option b: 'Veins' transport nutrients but are not the main blade; 'stipules' are small leaf-like appendages, not the connecting stalk; 'chloroplasts' are organelles, not openings.
- Option c: Reverses 'lamina' and 'petiole', making both statements factually wrong.
- Option d: Misplaces all terms—'stomata' cannot be the blade, 'veins' cannot replace the petiole, and 'lamina' cannot function as pores.

Question 29

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

Explanation:

Statement 1 is False: Rice requires abundant water and is mainly grown in states like West Bengal and Punjab, not dry regions like Rajasthan.

Statement 2 is True: Wheat is a Rabi (winter) crop, widely cultivated in northern India.

Statement 3 is True: Millets are drought-resistant and thrive in low-rainfall areas.

Statement 4 is False: Sugarcane is a long-duration crop, taking 10-12 months to mature.

Question 30

- B** The farmer is optimizing conditions for uniform growth and easier maintenance.

Explanation:

Sowing seeds in rows with equal spacing and consistent depth ensures that each plant has equal access to sunlight, nutrients, and space, promoting uniform growth. It also makes tasks like weeding and harvesting easier. The other options are not directly inferable: maximizing seed count might lead to overcrowding, water efficiency depends on irrigation methods, and seed type is unrelated to the sowing technique described.