

Science Department

Mock Exam

Term 3 - 2023/2024

Grade: 5

Copy Number (4)

Levels (Bloom's Taxonomy)	Difficulty level	Symbol	Percentage
Remember	Easy- Medium	E,M	20
Understand	Easy- Medium	E,M	20
Apply	Easy- Medium-Difficult	E, M, D	20
Analyze	Easy- Medium-Difficult	E, M, D	20
Evaluate	Difficult	D	10
Create	Difficult	D	10

Part 1

20 Questions- Multiple choice

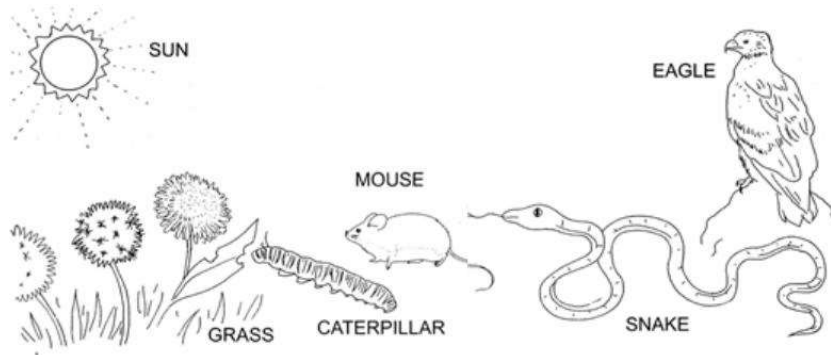
Q1.

Water is carried from the roots through the **stem** by tissues called

- a. phloem
- b. xylem
- c. transpiration
- d. stomata

Q2.

The picture shows living things in an ecosystem. Which organism is a **producer**?



- a. grass
- b. snake
- c. mouse
- d. sun

Q3.

What is the main function of **stomata** in plants?

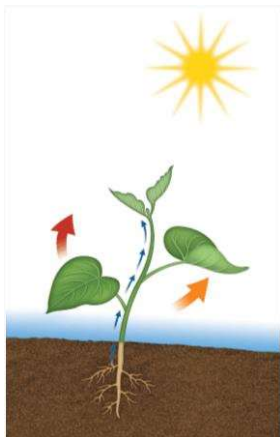


- a. To absorb nutrients from the soil.
- b. To store water for the plant.
- c. To carry out the gas exchange
- d. Help the plant grow taller.

Q4.

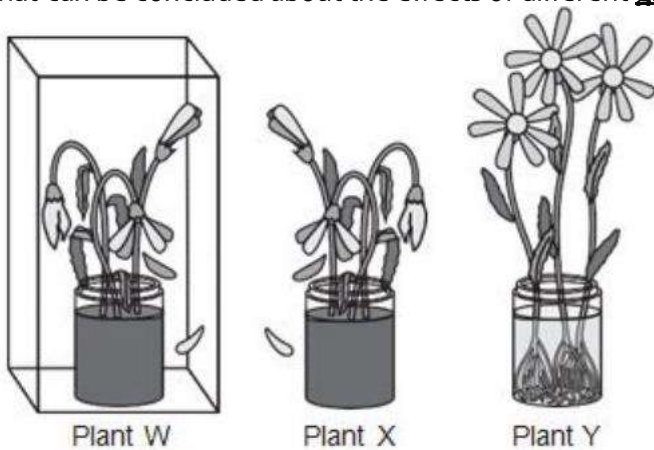
Which statement is **NOT** true about **invasive species**?

- a. It is a native species
- b. It harms the environment

c.	It spreads quickly
d.	It damages the economy and human health
Q5. An earthworm in a forest ecosystem breaks down plant matter in the soil. This job is their.....	
a.	habitat
b.	predator
c.	prey
d.	niche
Q6. Plants need energy to acquire the nutrients they need to survive. The different parts of a plant's structure work together to keep the plant healthy. Which two functions do the leaves of a plant serve in obtaining the nutrients needed for survival ?	
	
a.	Leaves take in sunlight and oxygen.
b.	Leaves take in water and give off oxygen.
c.	Leaves take in sunlight and carbon dioxide.
d.	Leaves take in water and give off carbon dioxide.
Q7. Grace and Linda investigate the effects of three growing conditions on plants. They place each of three plants that are the same size and type into its own container. The containers are the same size and shape. 1. <u>Plant W</u> is given soil and water and is put in a clear plastic box where all of the air is removed. 2. <u>Plant X</u> is given soil and left out in the open, but it does not receive water. 3. <u>Plant Y</u> is placed in water and left out in the open, but it does not receive soil.	

The diagram shows how the plants look after a few days.

What can be concluded about the effects of different **growing conditions** on plants W, X, and Y?



What can be concluded about the effects of different growing conditions on plants W, X, and Y?

- a. The plants get their material for growth from soil
- b. The plants get their material for growth from soil and water
- c. The plants get their material for growth from air and water
- d. All of the above

Q8.

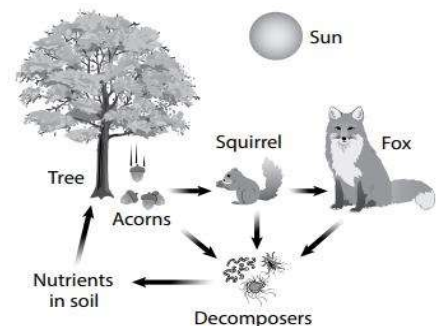
Which of these would you be doing if you are interacting with the **hydrosphere**?

- a. swimming
- b. Rock climbing
- c. Riding in an airplane
- d. Eating apple

Q9.

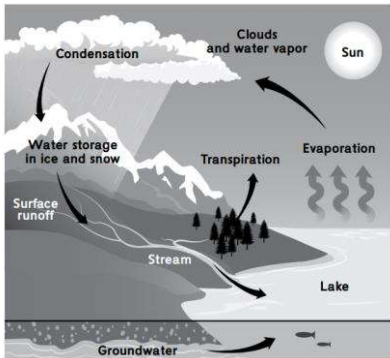
A student drew a model to show how **matter** moves in an ecosystem, as shown.

Which statement is supported by the student's model?



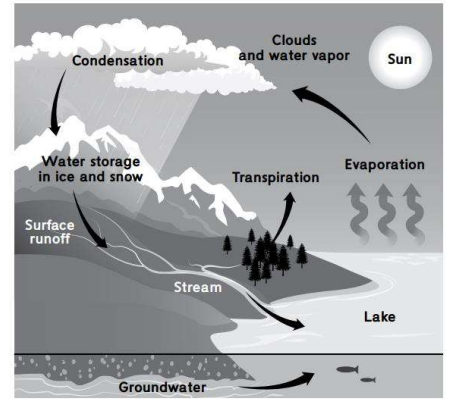
- a. Organisms get gases and water from the ecosystem.
- b. Matter transfers among organisms and the ecosystem.

c.	Organisms release heat energy back into the ecosystem
d.	Both energy and matter are recycled in an ecosystem.
Q10. Organisms that are <u>eaten by other animals</u> are called ____. 	
a.	herbivores
b.	carnivores
c.	predator
d.	prey
Q11. <u>Decomposers</u> are important to the health and balance of an ecosystem because they: 	
a.	Prey on overpopulated animals
b.	Breakdown plant and animal matter
c.	Are food for plants
d.	Produce oxygen for living
Q12. How do <u>decomposers</u> help plants?	
a.	They help with photosynthesis.
b.	They provide oxygen.
c.	They hold water.
d.	They enrich the soil.
Q13. Which of the following is NOT part of Earth's <u>geosphere</u>?	
a.	mountains
b.	soil

c.	rivers
d.	volcanoes
Q14. In the given desert ecosystem, which of <u>Earth's systems</u> interact with each other? 	
a.	geosphere and hydrosphere only
b.	hydrosphere and atmosphere only
c.	atmosphere and biosphere only
d.	All of Earth's systems interact with each other.
Q15. Which part of the <u>water cycle</u> includes water vapor gas changing to a liquid? 	
a.	condensation
b.	evaporation
c.	precipitation
d.	transpiration
Q16. This model of the <u>water cycle</u> can be used to explain how <u>Earth's systems interact</u>. How do the <u>biosphere and hydrosphere</u> both contribute to the water cycle? 	
a.	They form liquid water.
b.	They cause surface runoff.
c.	They add water vapor to the air.
d.	They move water through the soil.

Q17.

This is a model of the water cycle. Which of them is **NOT** an interaction between hydrosphere and biosphere.



- a. Fish living in the ocean
- b. Flowing water carries rocks and soil.
- c. Providing water for plants
- d. Plants and animals stay alive with fresh water

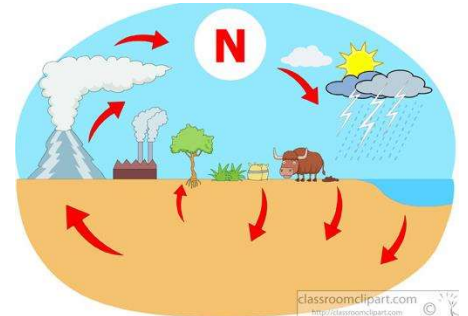
Q18.

How do animals get nitrogen that is stored in the soil?

- a. Animals do not take in the nitrogen stored in the soil.
- b. Bacteria change the nitrogen into a gas that the animals breathe.
- c. The animals can eat the soil and absorb the nitrogen through their digestive system.
- d. Plants absorb the nitrogen from the soil and animals can eat the plants.

Q19.

In the nitrogen cycle, nitrogen cycles between _____.



- a. the air, organisms, and the soil
- b. water and plants
- c. the air and sunlight
- d. rocks, air, and the soil

Q20.

Solid and molten rock are part of the

- a. Atmosphere

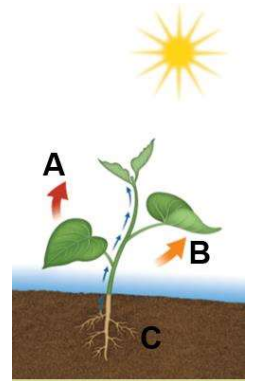
b.	geosphere
c.	biosphere
d.	hydrosphere

Part 2

10 Questions- Written questions

Q1.

The structure of a plant, including its roots and leaves, helps it make the energy it needs to obtain nutrients to survive.



1.a Name the gas needed by plants to make their food.

1.b What is the function of the roots?

1.c Why should plants be planted with some space between one another?

Q2.

Ameer investigated how the amount of sunlight affects **plant growth**. He calculated the average growth of three plants A, B and C. Assume that each plant was provided 20 mL of water per day.

	Amount of Sunlight Per Day	Height in Week 1	Height in Week 2	Height in Week 3	Average
Plant A	4 hours	1 cm	3 cm	6 cm	3.3 cm
Plant B	8 hours	1.5 cm	4 cm	8 cm	4.5 cm
Plant C	16 hours	1 cm	2 cm	3 cm	2.0 cm

2.a Which condition favored the most growth?

2.b Which plant has the least growth? What can you infer from those results.

2.c What happens to the growth of plant C, if It is provided with 60 ml of water per day?

Q3.

The foxes and the rabbits in a **forest ecosystem** interact and affect each other population.



3a. What would happen to the population of rabbits if the fox population increased in a forest ecosystem?

3b. How do biotic factors in the forest ecosystem interact with the abiotic factor?

3c. What would happen if the plant population in the forest decreased?

Q4.

Look at the image of a forest ecosystem.



4a. Identify two biotic and two abiotic factors from the above picture.

Biotic factor.....

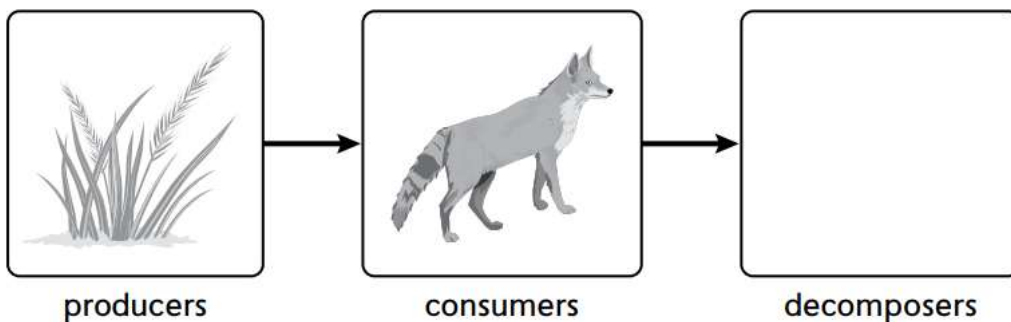
Abiotic factor.....

4b. In the forest ecosystem tiger is a predator. What happens if the tiger is removed from the ecosystem?

4c. Identify the producers from the above picture. Explain why they are called producers.

Q5.

Review the diagram.



5a. Which of the following organisms should be added to the diagram to represent a decomposer?
Moss, mushroom, predator, prey.

5b. **Fungi** is a **decomposer**. What is the difference between fungi and plants?

5c. Decomposers are important to the health and balance of an ecosystem because they.....

Q6.

Decomposers are not shown in the ecosystem diagram and not listed in the table. The steps labeled W, X, Y, and Z are about how decomposers affect the **flow of matter** in the **desert ecosystem**, but they are not in the correct order.

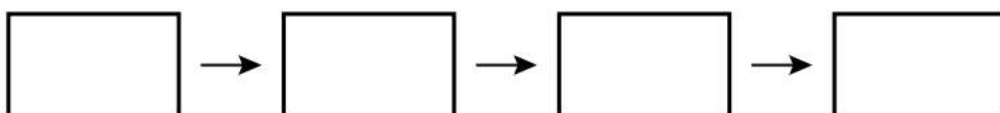
W: Plants take up nutrients from the soil.

X: The hawk dies.

Y: Decomposers release nutrients into the soil.

Z: Decomposers break down the hawk into nutrients.

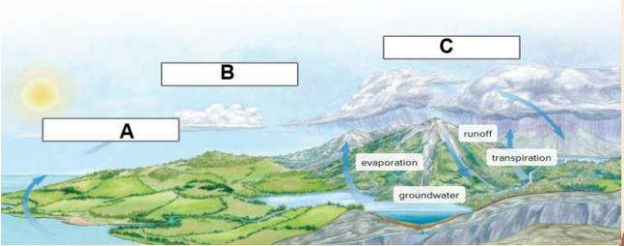
6a. Which sequence of steps best completes the diagram?



6b. What is the most important **role of decomposers** in an ecosystem?

6c. What would happen to the ecosystem when the **decomposers** are removed?

Q7. Matter cycles in an ecosystem.



7a. Name the above cycle and what type of matter is cycling in this model.

7b. Identify the process A, B and C.

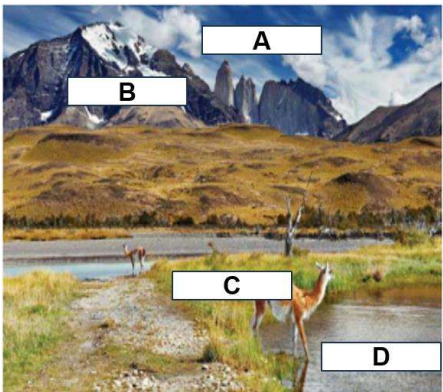
A.....

B.....

C.....

7c. Identify the main source of energy for this cycle.

Q8.
The parts that make up Earth can be organized into four main systems
atmosphere, hydrosphere, biosphere and geosphere.



8a. Identify the Earth's system A, B, C and D.

A.....

B.....

C.....

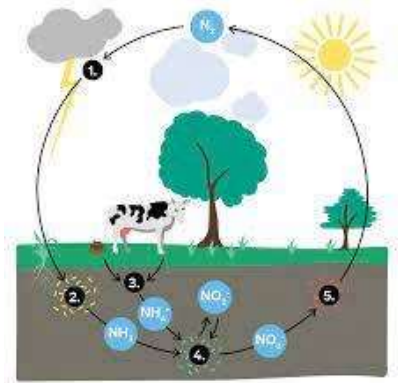
D.....

8b. How do hydrosphere interact with the biosphere in the above model.

8c. Are all four systems important in an ecosystem? Why or why not?

Q9.D

Air is made up of 78 percent nitrogen, but few living things can use nitrogen gas. The nitrogen cycle is the continuous circulation of nitrogen in the ecosystem.



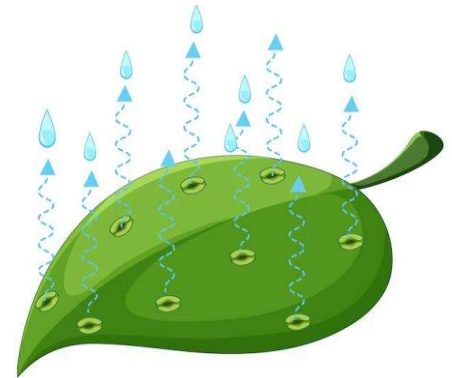
9a. How do bacteria living on plant roots help plants to grow better?

9b. How is nitrogen from the soil transferred to the organisms?

9c. Describe the role of decomposers and bacteria in the nitrogen cycle.

Q10.

Use the figure to answer the following questions.



10a. What is the name of the process when water evaporates from plants leaves?

10b. How do plants replace water after it evaporates from the leaves?

10c. Name the structure in the plant which helps the evaporation of water.

***** End of the Exam*****