حل نموذج اختبار تجريبي وفق الهيكل الوزاري منهج انسباير القسم الكتابي

المزيد من الملفات بحسب الصف السابع والمادة علوم في الفصل الأول	
1	نموذج اختبار تجريبي وفق الهيكل الوزاري منهج انسباير القسم الكتابي
2	أوراق عمل مراجعة هيكل العلوم بريدج مع الحل
3	حل مراجعة الأسئلة المقالية (الكتابية) وفق الهيكل الوزاري منهج بريدج
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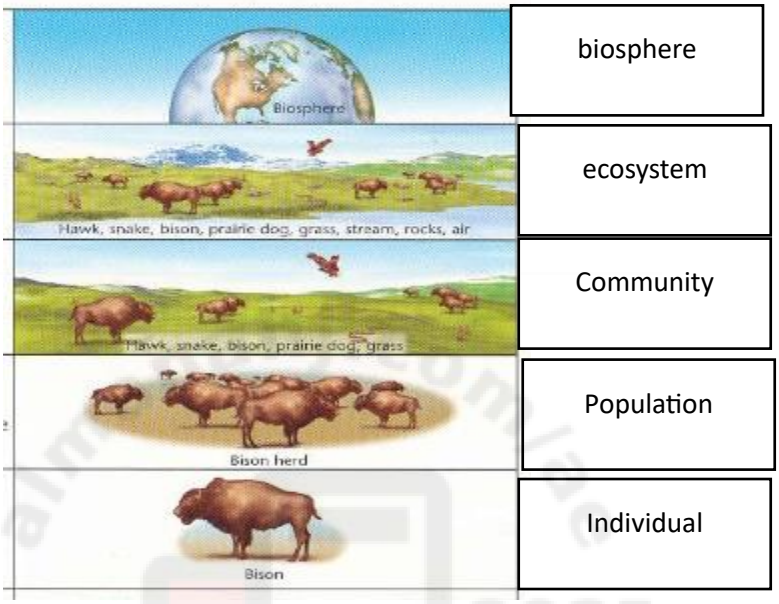
Question	1

Identify levels of organizations across ecosystems. PDF Q21 Encounter the Phenomenon P71-73 Collect Evidence P75

1-What are the levels of organization in an environment?



2-Describe the relationship between individuals, populations, community, ecosystems and the biosphere.

The relationship is a hierarchy of organization, starting with individual organisms, which are grouped into populations (same species). These populations of different species interact to form a community. Communities, along with their non-living (abiotic) environment, form ecosystems. Finally, the sum of all ecosystems on Earth constitutes the biosphere.

3-What evidence have you discovered to explain how the animals of the park in Namibia are organized in their ecosystem?

Observation that different organisms of the same species make up population. The population of organisms interact in a community with each other and with nonliving resources in the ecosystem.

4-What are the relationships between the oryx, birds, springboks, and lions?

All of the animals live close together. They all live near, and share the area of water

5-What resources do the animals share?

the animal share space, water, grass, sunlight and fresh air.

6-Define species is group of organisms that have similar traits and are able to produce fertile offspring.

Question	2

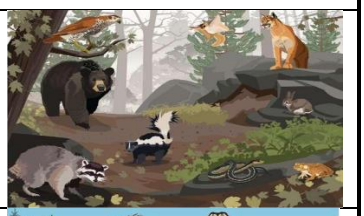
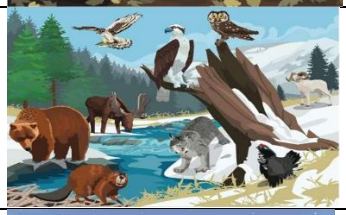
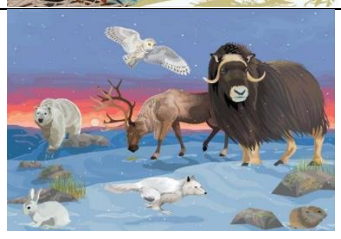
Evaluate differing biodiversity and ecosystems. PDF Q22 Collect EvidenceP159

1-Define biome is a geographic area on Earth that contains ecosystems with similar biotic and abiotic features.

2-What evidence have you discovered to explain how biodiversity differs in different ecosystems?

Some ecosystems, like tropical rainforest, have greater biodiversity than other ecosystems, such as deserts.

Different ecosystems have differing levels of biodiversity.

Biomes Name	Plants	Animals	Climate	Picture
Desert Make up roughly one third of Earth's land mass Driest ecosystems	Vegetation having a difficult time growing	Reptiles, Birds, and mammals	Hot and dry environment Very little rain / Precipitation is scarce.	
Grassland Also called Prairies, savannas, meadows Natural carbon sinks	Areas where grasses are the dominant plants Rye grass, buffalo grass, wild oats, and foxtail	Rich in Invertebrates, birds, and mammals		
Tropical Rain Forests Near the equator High level of biodiversity	Greats number of different plants	Insects (largest group) Parrots, toucans, snakes, frogs, flying squirrels, fruit bats, monkeys, jaguars, and ocelots	Warm and moist / heavy annual rainfall	
Temperate Rain Forests Regions of earth between the tropics and the polar circles are temperate regions.		Not feature as much biodiversity as tropical rain forests due to seasonal changes and varied temperatures	Mild climates with distinct seasons Varied temperatures Moist (coastal areas)	
Temperate Deciduous forests Common in Unites States	Deciduous trees which lose their leaves in the fall		Variation in winter and summer temperatures	
Taiga Known as a boreal forest and exists in the northern hemisphere.	Consisting mostly of Cone-bearing evergreen trees	Fewer reptiles, amphibians, mammals, and birds due to cold temperatures	Colder temperatures	
Tundra South of the North pole	Treeless Frozen ground makes it Difficult for deep rooted plants to grow	Diverse range of mammalian Rare of reptiles and amphibians	Cold, dry Frozen ground	

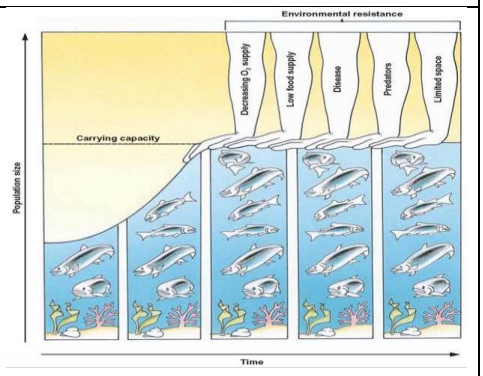
3-List the characteristics of the following land biomes:

Question	3

Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem. PDF Q23 Three-Dimensional Thinking P83

1-What are limiting factors?

Is anything that restricts the size of a population.



2-how do they affect the population?

The amount of space affects a population's size. Also water, food, sunlight and temperature.

The presence of predators and diseases.

Population may migrate to new areas or even die out.

3-What is the difference between biotic potential and carrying capacity?

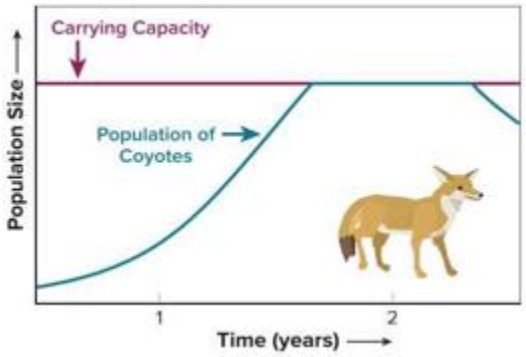
biotic potential represents potential, unhindered growth, whereas carrying capacity represents the environmental limits that *prevent* that potential from being fully realized.

Biotic potential	Carrying capacity
Is the potential growth of a population if it could grow in perfect conditions with no limiting factors	is the largest number of individuals of one species that an ecosystem can support over time

4-Define overpopulation.

When a population's size grows so large that it cause damage to the environment.

5-A population of coyotes lives in a habitat with plentiful food and no predators. Analyze the graph and interpret what is happening to their population size at the one year mark.



The population size is increasing

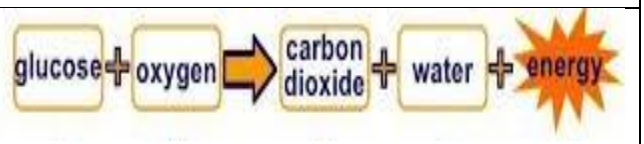
6-Which of the following explains what happened to the coyote population size when it reached its carrying capacity, and why?

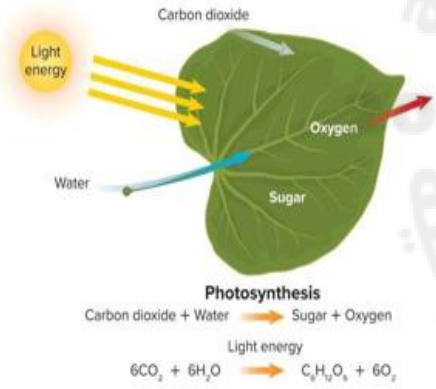
The population size stopped increasing because it had reached the largest number of coyotes that ecosystem could support.

Question	4

Model chemical reactions such as photosynthesis and/or cellular respiration. PDF Q24 Summarize it! P22 Three-Dimensional Thinking P23

1-Compare photosynthesis and cellular respiration. What is required for photosynthesis? What are the products of photosynthesis? What is required for cellular respiration? What are the products of cellular respiration?

	Photosynthesis	Cellular respiration
Function	Capture energy and store it in sugars	Releases energy that was stored in sugars
Location	Occurs in the chloroplasts	Glycolysis in cytoplasm In mitochondria
Reactant	Water and carbon dioxide	Oxygen and glucose
Products	Oxygen and glucose	Water, carbon dioxide and ATP
Equation	carbon dioxide + water –> glucose + oxygen $6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$	
Type of cell And organisms	Plants cells, Some bacteria and some protists	Both plant and animal cells All living things



2-Which is the best explanation of the change in energy shown in the model?

-new energy is produced by plants during photosynthesis

-large amount of energy are released into the environment during photosynthesis

-energy from sunlight is destroyed as it powers photosynthesis

-Energy input form the environment is stored in food molecules during photosynthesis.

3-In recent decades, average global temperatures have increased significantly. Scientists agree that the widespread destruction of the Amazon rain forest contributes to climate change. Which mechanism might be cited to support that hypothesis?

-deforestation causes water on the ground to reflect sunlight

-Deforestation reduces the number of plants able to absorb carbon dioxide.

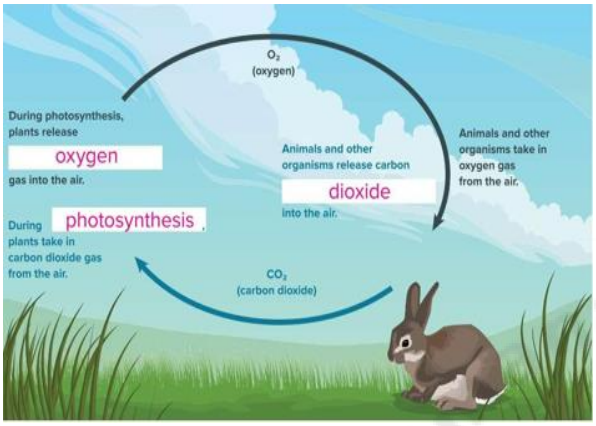
-photosynthesis produces energy, which gives off heat

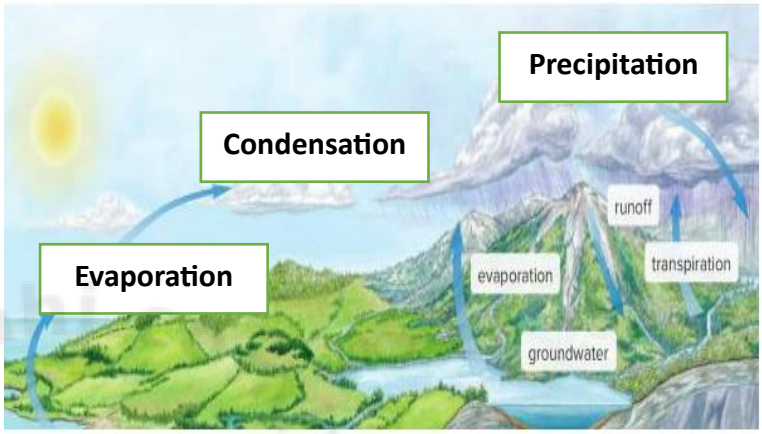
-plants use up energy during cellular respiration

Question	5

Model and describe the cycling of matter in an ecosystem. PDF Q25 Collect Evidence P52

1-label evaporation, condensation, and precipitation in the water cycle diagram below And oxygen, photosynthesis and dioxide in the oxygen cycle.





2-Which of the following is NOT true about systems that cycle matter?

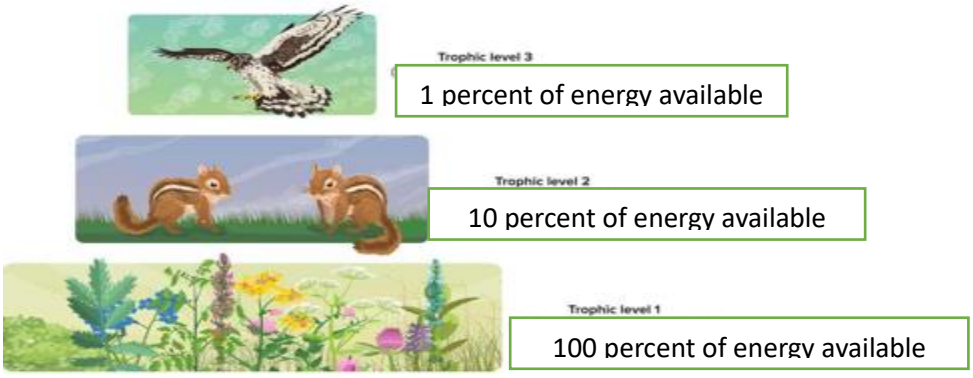
-Living things play a role in the cycling of matter
-matter changes form as it cycles
-some matter is destroyed as it cycles through the environment
-matter is constantly cycling thought the environment

3-What evidence have you discovered to explain how water moves through an environment?

Water moves in a cycle due to evaporation, condensation, transpiration, exhalation, and precipitation.

As water moves through these processes, it is cycled between living and nonliving parts of the environment.

4-The figure shows an energy pyramid. Identify the amount of energy available at each tropic level?



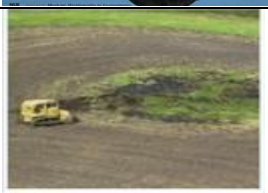
5-In an energy pyramid, approximately 10 percent of the energy available in one trophic level is transferred to the next level. Which statement helps explain why this occurs?

-consumers eat both producers and other consumer
-organisms use most of the available energy to fuel their own life processes
-predators eat more organism in their own level than organisms in other levels.
-producers exist in only the lowest level of the pyramid

6-Evaluate the following possible solution to combat the threats to biodiversity shown in the image. Which of the following would be the least effective solution?

-regulating fishing
-bioremediation
-proper disposal of waste
-reducing the use of harmful chemicals

7-How does human activity cause disruptions in ecosystems?

Threat to biodiversity	Description	Example
Pollution	Is the contamination of the environment with substances that are harmful to life.	
Invasive species	Is an organism that is introduced into an ecosystem, either by accident or on purpose, that spreads on its own and outcompetes native species native species for resources such as space, food, light, and nutrients.	
Habitat destruction	Involves cutting down forest, draining wetland, or generally changing a habitat so much that it is no longer usable by organisms that live there.	
Overexploitation	Is the overuse of animal and plant species by humans for purposes including food, medicine, or clothing.	
Climate change	Refers to changes in climate patterns over time. Recently there has been an increase in Earth's temperature both on land and in oceans, referred to as global warming.	

8-In what ways is biodiversity threatened? How can we protect biodiversity?

Habitat destruction	• Habitat restoration and conservation • reforestation and reclamation
Invasive species	• Controlling invasive species • mechanical, chmeical and biological controls
Pollution	• Cleaning up and reducing pollution
Overexploitation	• Sustaining populations
Climate change	• Reducing impacts of climate change • switching from fossil fuels to renewable energy sources such as solar, wind and geothermal power

9-How are pollution and invasive species threats to biodiversity?

Pollution threatens biodiversity by contaminating habitats through pollutants like chemicals, plastic, and waste, which can poison organisms and disrupt ecosystems.
Invasive species threaten biodiversity by outcompeting native species for resources, introducing diseases, or altering habitats, leading to a decline in native populations and a loss of genetic diversity.