

UNIT 2 BIOLOGY 2014

SAC 3 PREPARATION:

TEST- ECOSYSTEMS AND THEIR LIVING COMMUNITIES, FLOW OF ENERGY AND CYCLING OF MATTER.

DATE OF SAC: 10TH OCTOBER

1. ENSURE YOU HAVE COMPLETED THE QUICK CHECK QUESTIONS FOR CHAPTERS 13 & 14
2. COMPLETE THE PRACTICE TESTS ATTACHED.
3. COMPLETE THE FOLLOWING BIOZONE PAGES: 233-242, 308-330,334-337.

In review

Select the most appropriate alternative for each of the following four questions.

- The living component of an ecosystem is called a:
 - population
 - community
 - family
 - species.
- An ecosystem may be named in terms of:
 - its size
 - a feature of its living part
 - a major non-living part
 - both (b) and (c).
- Organisms that eat the remains of dead animals are:
 - scavengers
 - producers
 - consumers
 - herbivores.
- Diversity in a community can be measured by the number of different:
 - micro-habitats
 - ecosystems
 - species
 - niches.
- Match the name of the living thing in column X with the food source in column Y. You will not necessarily use all items in column Y.

<i>Column X</i>	<i>Column Y</i>
A detritivores	1 kill and eat animals
B decomposers	2 eat both plants and animals
C herbivores	3 ingest dead organic matter
D carnivores	4 eat living plants
E producers	5 live in other organisms and absorb organic matter from their hosts
	6 break down and then absorb organic matter of dead organisms
	7 build organic matter from simple inorganic substances, given a source of energy

- Match the term in Column X with the example in column Y. Some examples could be matched to more than one term.

<i>Column X</i>	<i>Column Y</i>
A ectoparasitism	1 a clownfish living within the tentacles of sea anemones
B endoparasitism	2 a cow with cellulose-digesting micro-organisms in its digestive tract
C holoparasitism	3 the leafy green mistletoe, a photosynthetic plant that grows on branches of trees deriving water and nutrients from the host plant
D hemiparasitism	4 a tapeworm in the digestive tract of a dog
E mutualism	5 a fungus growing between a person's toes, resulting in athlete's foot
F commensalism	6 the dodder vine, a non-photosynthetic plant that twines tightly around the stem of plants deriving water and nutrients from the host plant

In review

Select the most appropriate alternative for each of the following nine questions.

- Energy is stored in living organisms as:
 - heat energy
 - radiant energy
 - chemical energy
 - kinetic energy.
- An example of an organism that could be found at the first trophic level is:
 - grass
 - rabbits
 - foxes
 - eagles.
- Chemical energy taken in by a herbivore can be:
 - used in cellular respiration
 - lost as heat energy
 - lost in the faeces
 - all of the above.
- An ecological pyramid cannot be inverted if the pyramid displays:
 - numbers of organisms
 - total dry organic matter of organisms
 - amount of energy input to each level.
- Highest concentrations of persistent pollutants would be found in:
 - producers
 - primary consumers
 - secondary consumers
 - tertiary consumers.
- Organisms that eat the remains of dead animals are:
 - scavengers
 - producers
 - consumers
 - herbivores.
- The process of photosynthesis:
 - occurs only in green leaves
 - converts sunlight energy to chemical energy
 - requires oxygen
 - produces carbon dioxide as a product.

- Select a correct sequence for a food chain:
 - primary consumer → secondary consumer → producers
 - producers → primary consumer → secondary consumer
 - secondary consumer → producers → primary consumer.
- Nitrogen atoms could recycle through an ecosystem in the following way:
 - ammonia → nitrites → nitrates → plant protein → ammonia
 - nitrites → nitrates → animal protein → animal waste → nitrites
 - nitrogen in air → ammonia → nitrites → nitrates → nitrogen in air.
- Match the term in column X with its definition in Column Y.

Column X	Column Y
A energy	1 total mass of organic matter present in living things in a given area
B matter	2 feeding level of organism in an ecosystem
C biomass	3 non-material agent that can cause matter to change
D trophic level	4 the material of which an object is composed

- Link the following organisms in a probable food chain:
snake, mouse, hawk, grass.
 - Extend your chain to make a probable food web that includes the following organisms:
frog, rabbit, shrub, fox, owl, insect.
 - Which organism is at the highest trophic level in your food web?