

TOPICAL REVIEW 12

Chapter 12: Interactions Within Ecosystems

Name: _____ Class: _____ Date: _____

Section A: Multiple-Choice Questions (MCQs) – 2 marks

1	2

- 1 Sofia noticed two plants in the garden. Plant A is planted firmly in the ground. Plant B is coiled around Plant A, with no visible connection to the soil. After a few weeks, Sofia observed that Plant A is wilting and dying. However, Plant B is healthy and growing well. What hypothesis could Sofia formulate from this observation?
 - A Plant A is taking in nutrients from the soil with the help of Plant B.
 - B Plant A is having difficulty taking in nutrients from the soil, thus it wilts and gradually dies.
 - C Plant B is absorbing nutrients from Plant A, thus causing Plant A to wilt and die.
 - D Plant B is a specialised part of Plant A.

- 2 Which of the following would reflect a balance in an ecosystem?
 - A The population of consumers is larger than the population of producers.
 - B The population of producers is larger than the population of consumers.
 - C The population of producers can be smaller or equal to the population of consumers.
 - D The population of producers is always equal to the population of consumers.

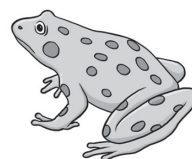
Section B: Structured Questions – 13 marks

- 1 All organisms adapt to changes in their physical environment. Study the adaptation of each of these organisms and state the physical factor each organism is adapting to.

Organism	Adaptation	Physical factor
	It uses ultrasound to navigate in darkness.	
	It has thick fur that helps conserve body heat.	
	It has needle-like leaves and a green stem containing chlorophyll for photosynthesis. This minimises water loss from the plant.	

[3]

- 2 Poison-arrow frogs have bright colours and patterns on their skin. The bright colours warn potential predators that the frogs are poisonous.



Over time, several kinds of non-poisonous frogs have evolved to have similar colouring as poison-arrow frogs. Suggest a reason for this adaptation.

.....

.....

..... [1]

- 3** Marie noticed that many submerged plants grow in the area of the pond where the water is shallow. However, in the area where the water is deep, there are very few submerged plants. What do you think is the reason for this?

.....

 [1]

- 4** Earthworms feed on dead leaves. They create tunnels as they burrow into the soil. The tunnels allow air and water to circulate underground. Identify and explain the relationship between the earthworms and the plants.

.....

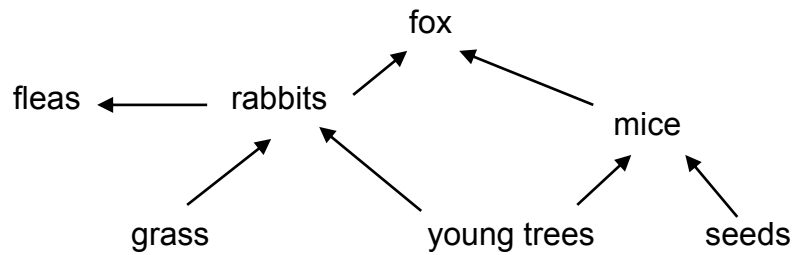
 [1]

- 5** In an ecosystem, predict which type of organism (producers, primary consumers or secondary consumers) would have the largest population. Explain your choice.

.....

 [2]

6 The figure below shows a food web within a community.



(a) Why is grass considered a producer?

..... [1]

(b) Fleas live in the fur of rabbits and feed on the rabbits' blood. What is the type of relationship between rabbits and fleas?

..... [1]

(c) Some wildcats were released into the community to control the mice population. After a few months, the populations of foxes and rabbits were observed to have decreased. Suggest a reason for this observation.

.....
 [1]

7 (a) Aside from fungi, name one organism that is an efficient decomposer.

..... [1]

(b) Briefly describe how the organism in **(a)** helps to recycle nutrients, trapped in living organisms, within the environment.

.....
 [1]