

Unit 9 Topic Reviews

TOPIC 1: Ecology Basics (Vocab, Succession, Biomes)

Part I: Vocabulary

1. Define *ecology*: the **study** of interactions between **organisms/living things** and the environment (includes both **abiotic** and **biotic** factors).
2. Put the following in order from most broad to most specific: biome; organism; community; biosphere; population; ecosystem
 - a. **Biosphere → Biome → Ecosystem → Community → Population → Organism**
3. Using the list above, which levels contain only living/biotic factors? **Community, population, and organism**
4. Define:
 - a. Biotic: **living factors (flowers/flora; bacteria)**
 - b. Abiotic: **nonliving factors (temperature, sunlight)**
5. An organism’s niche includes more than just its habitat. Explain what this means- what else is included? Give an example: **A niche is an organism’s role in the environment- how does it obtain it’s nutrients? How does it maintain homeostasis? These are included in the niche. Panda bears are niche specialists- they have a very narrow diet and very unique thumbs that are adapted to grasp bamboo. They don’t move very far and they star near fresh water.**
 - a. An organism has both a fundamental niche and a realized niche. Which of these includes what an organism *actually* does/uses/eats/lives? **Realized niche**
 - b. An organism can be classified as either a generalist or a specialist. What is a raccoon classified as? **Generalist** Why? **Raccoons are able to eat a wide array of things. They can survive relatively easily. Their niche is not super narrow, but instead, rather broad.**

Part II: Succession

6. Succession is defined as a series of changes in an **ecosystem** in which populations of organisms gradually **replace** existing ones.
7. What type of succession occurs in an area that has not had an existing community? **Primary succession**
 - a. The first organisms to inhabit this area are called: **Pioneer** species and examples include **mosses, lichen**
 - i. These organisms are **small** and reproduce/grow **quickly**
8. What type of succession occurs in an area that has had a community before, but it has been partially damaged? **Secondary succession**
 - a. What could cause this destruction? **Natural disasters or human impact**
9. Succession eventually slows and a stable community has been established. What is this community called? **Climax community**

Part III: Biomes – match each to its description (responsible for aquatic biomes, as well)

Tundra	D	a. biome that contains mostly grass like vegetation with scattered trees, experiences seasonal changes in weather, and receives average amounts of rainfall (lions, zebras)
Tropical Rainforest	G	b. located south of the arctic circle, this biome has short summers and long/cold/dry winters
Temperate Forest	E	c. this biome lacks trees and is characterized by grasses/herbs with animals that feed on this vegetation (bison)
Boreal Forest	B	d. coldest biome, a layer of permafrost under the top layer of soil, & low precipitation
Desert	F	e. located beneath the boreal forest, this biome has well-defined seasons (our biome)
Savannah	A	f. a biome characterized by extremely dry conditions, hot days/cool nights
Temperate Grassland	C	g. biome characterized by high amounts of precipitation & a temperature that doesn't vary more than about 5 degrees all year