

## BIOLOGY 621 - Unit 2: Ecology Review Guide

### Worksheets to look over:

- BLUE notes packets on:
  - "Unit Two: Ecology"
  - "Feeding Relationships"
  - "Succession & Growth"
- Do Now's on:
  - "Food Web & Food Chains"
  - "Food Web"
  - "Levels and Relationships within a Community"
  - "Succession"
  - "Population Growth"
- Homework's on:
  - Food Web Practice Worksheet
  - Food Web & Community Relationships Practice Worksheet
  - Succession in Communities Reading

### Vocabulary Terms to Know: *(the terms are grouped into lessons)*

Ecology  
Biosphere  
Biome  
Ecosystem  
Biotic Factor  
Abiotic Factor  
Community  
Population  
Organism  
Species

Food Web  
Food Chain  
Producer  
Consumer  
Autotroph  
Heterotroph  
Primary Consumer  
Secondary Consumer  
Decomposer  
Carnivore  
Omnivore  
Herbivore  
Scavenger  
Photosynthesis  
Energy Pyramid

Predation  
Predator  
Prey  
Parasitism  
Parasite  
Host  
Mutualism  
Commensalism  
Competition

Primary Succession  
Secondary Succession  
Pioneer Species

Exponential Growth Curve  
Logistic Growth Curve  
Carrying Capacity  
Limiting Factor  
Birth Rate  
Death Rate  
Immigration  
Emigration

**Practice Problems:**

1. What is the STUDY OF INTERACTIONS between living things and other living things and between living things and their environment?

2. Identify the following LEVEL of organization:

- |  |               |
|--|---------------|
| _____ all the salmon in a river                  | A. Biosphere  |
| _____ all the fish in a river                    | B. Community  |
| _____ the river itself and all the life<br>in it | C. Ecosystem  |
| _____ the tundra                                 | D. Biome      |
| _____ where all life on earth exists             | E. Organism   |
| _____ a frog on the riverbank                    | F. Population |

3. Put the following levels of organization in order from **Largest** to Smallest:

Biosphere, Organism, Biome, Community, Population

4. Which level of organization is composed of a group of organisms of the same SPECIES?

5. Which level of organization is composed of a group of organisms of different SPECIES?

6. Which is the smallest level of organization that includes both LIVING and NONLIVING factors?

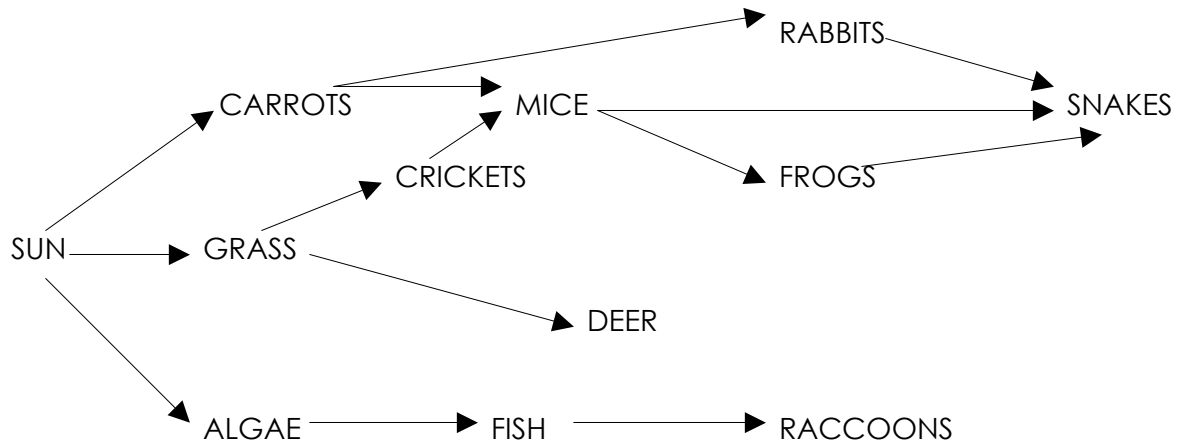
7. In a pond ecosystem, list *at least two* BIOTIC factors.

\_\_\_\_\_

8. In a forest ecosystem, list *at least two* ABIOTIC factors.

\_\_\_\_\_

Use the following diagram to answer the questions on this page:



9. Is the diagram above a food web or a food chain? \_\_\_\_\_

10. What is missing from the diagram above? \_\_\_\_\_

11. How many autotrophs are in the diagram? \_\_\_\_\_

12. Name at least two producers in the diagram.

\_\_\_\_\_

13. Which organism is an example of an herbivore? \_\_\_\_\_

14. What type of organisms are deer?

- a. producer
- b. primary consumer
- c. secondary consumer
- d. scavenger

15. What type of organisms are snakes?

- a. top predator
- b. decomposer
- c. autotroph
- d. primary consumer

16. How does the grass get energy from the sun?

- a. cellular respiration
- b. photosynthesis
- c. chemosynthesis
- d. metabolism

17. If the carrots get 1000 kcal of energy from the sun, how much energy is passed onto the rabbit that eats the carrot? \_\_\_\_\_ kcal

**Identify the following community relationships.**

- A. mutualism
- B. commensalism
- C. competition
- D. predation
- E. parasitism

\_\_\_\_\_ 18. A flycatcher birds sits on top of a capybara to look for insects on the ground; the capybara does not notice the bird's presence.

\_\_\_\_\_ 19. A cleaner shrimp eats bacteria off a shark; the shrimp gets food and the shark is less at risk for disease

\_\_\_\_\_ 20. A fungus infects a moth; the fungus feeds off the moth for nutrients and grows out of the moth's body.

\_\_\_\_\_ 21. An orca whale eats a baby seal.

\_\_\_\_\_ 22. Two male wolves fight over territory.

\_\_\_\_\_ 23. A fly falls into a giant pitcher plant; the pitcher plant's acids decompose the fly's body and the plant takes up the nutrients

\_\_\_\_\_ 24. A bower bird destroys another bower bird's nest in order to attract a female mate.

\_\_\_\_\_ 25. Bacteria live insides the intestines of a termite; the bacteria get a home and nutrients, while the termite is able to breakdown wood materials for nutrients with the help of the bacteria.

**Identify the following organisms:**

- A. predator
- B. prey
- C. parasite
- D. host

\_\_\_\_\_ 26. The lion that hunts the gazelle.

\_\_\_\_\_ 27. The human that is losing blood to a leech.

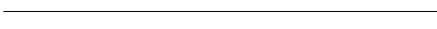
\_\_\_\_\_ 28. The rabbit that was eaten by the coyote.

\_\_\_\_\_ 29. The tick that was drinking the blood of the dog.

30. What type of succession happens to bare rock? \_\_\_\_\_

31. What is an example of a pioneer species? \_\_\_\_\_

32. Put the following organisms in order of when they will first appear in a given area that is going through succession: trees, moss, bushes, grass

EARLIEST SPECIES TO ARRIVE  LATEST SPECIES TO ARRIVE

33. Give an example of when you might see secondary succession in an area.

34. If the birth rate is higher than the death rate, then the population will

- a. increase
- b. stay the same
- c. decrease

35. If organisms begin to move out of an area, then

- a. emigration is increasing
- b. emigration is decreasing
- c. immigration is increasing
- d. immigration is decreasing

36. If a population of bunnies has UNLIMITED resources (food, mates, space, water, etc.), then we will see

- a. logistic growth
- b. realistic growth
- c. exponential growth
- d. no growth

37. What do you call the MAXIMUM NUMBER of organisms that an ecosystem can hold?

38. When a population's growth reaches a STEADY STATE, the population's growth rate will

- a. increase.
- b. decrease.
- c. be equal to zero.

38. In your beet lab, what is an example of a LIMITING FACTOR for the bacteria?