

Name _____ Date _____ Per _____

READING GUIDE: 3.1 – What is Ecology? (p. 64-68)



1) What is the **BIOSPHERE**? How far does it extend? _____

2) What is the definition of **ECOLOGY**? _____

3) How are economics and ecology linked? _____

4) Put the following terms for levels of organization in order from smallest to largest: **planet, community, population, biome, organism/species, ecosystem.**



5) What are **BIOTIC FACTORS**? _____

Give 4 examples:

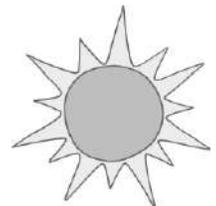
6) What are **ABIOTIC FACTORS**? _____

Give 4 examples:

7) a) Describe 3 basic methods of ecological research.

b) Give an example of an ecological phenomenon that could be studied by modeling and explain why it would be useful.

READING GUIDE: 3.2 – Energy, Producers, and Consumers (p. 69-72)



1) What is the ultimate source of energy? _____

2) What are **primary producers**? What are 2 ways these organisms obtain food?

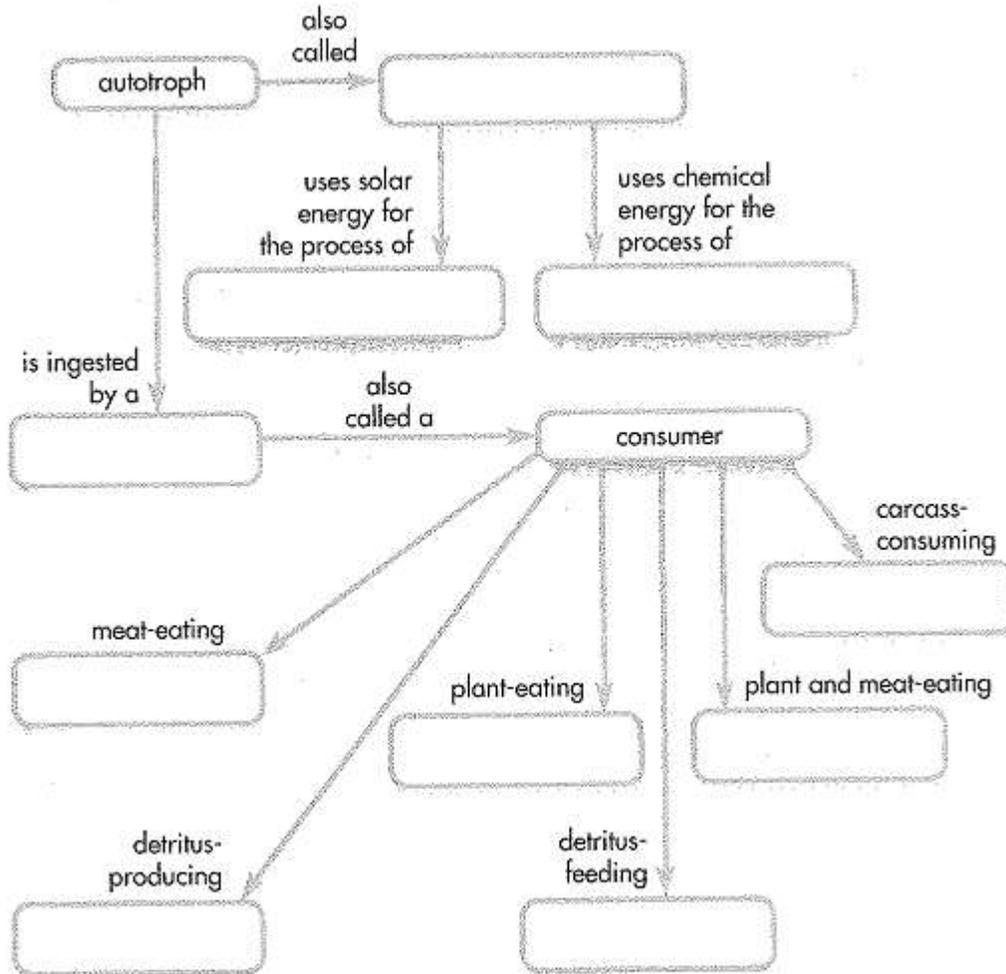
3) The following 6 terms are examples of consumers. Define what they are and give an example of each.

Definition:

Example:

- HERBIVORES: _____
- CARNIVORES: _____
- OMNIVORES: _____
- SCAVENGERS: _____
- DETRITIVORES: _____
- DECOMPOSERS: _____

5) Fill in the following terms into the concept map below; **decomposer, photosynthesis, detritivore, chemosynthesis, heterotroph, omnivore, herbivore, scavenger, carnivore, primary producer**



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READING GUIDE: 3.3 – Energy Flow in Ecosystems (p. 73-78)

1) What is a **TROPHIC LEVEL**? _____

2) Define **FOOD CHAIN**. _____

3) What is a **FOOD WEB**? _____

4) What do the arrows in food chains and food webs represent? _____

5) Suppose that a disease has wiped out the jackrabbit population in the food web to the right. Next to each population draw an arrow pointing up

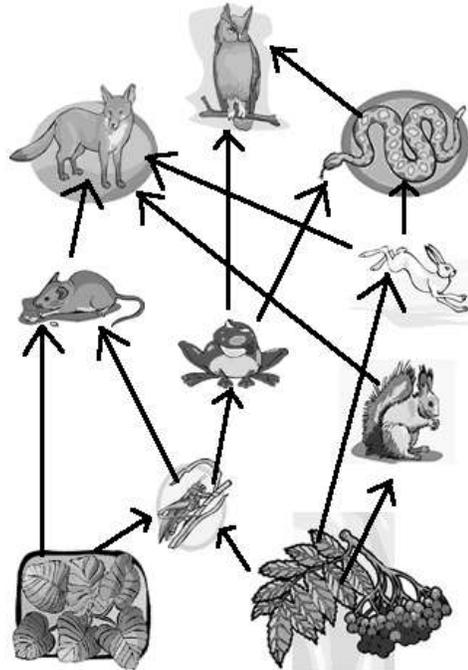
if that population will increase, or an arrow pointing down

if the population will decrease.

snakes _____ foxes _____

owls _____ plants / berries _____

frogs _____



6) What is an **ECOLOGICAL PYRAMID**? _____

7) When energy transfers from one trophic level to another, energy is lost.

> What form is this energy in? _____

> What happens to the amount of energy available to higher trophic levels? _____

8) Refer to **Figure 3.9**, which shows a food web in the Everglades. Choose one of the food chains within the food web. Write a paragraph describing the feeding relationships among the organisms in the food chain.

9) Approximately **how much energy (%)** actually gets passed on to the next trophic level? _____

****The pyramid to the right shows the number and kinds of organisms in a community.**

Use the diagram to answer the questions below.

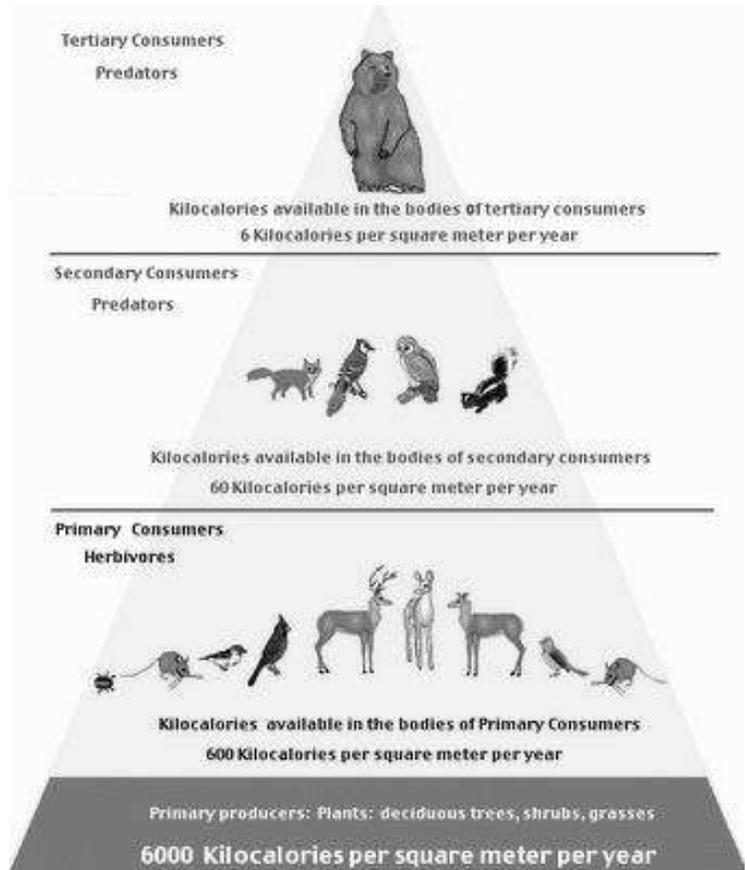
10) In this community, who are the producers?

11) What are the primary consumers?

12) What are the secondary consumers?

13) Why do the number of organisms decrease as you move up the pyramid?

(be sure to use the word **energy** in your answer)



14) If there were 150,000 calories present in the shrubs/grasses, how many calories would make it to the bear?
Remember, only 10% of the energy at a trophic level gets passed on to the next one.