

Name _____

Energy / Populations / Ecosystems Review

1. Describe the inputs and outputs of the process of photosynthesis.

2. An aquarium tank contains a school of guppies and the aquatic plant elodea. You want there to be more oxygen in the water so the fish can get more oxygen from the water through their gills. Without using any mechanical means, like a pump, what could you do to get more oxygen in the water?

3. Which of the following statements is true about energy and biomass (matter) in a balanced ecosystem?
 - a. Both energy and biomass must be added constantly.
 - b. Both energy and biomass must be recycled.
 - c. Energy must be added constantly, biomass must be recycled.
 - d. Energy must be recycled, but biomass must be added constantly.

4. Chipmunks are very successful organisms in this ecosystem. They do not, however, fill the forest from top to bottom. **Biotic limiting factors** that could keep the chipmunk population under control are:
 - a. wind and temperature
 - b. food sources and predators
 - c. acid rain and clouds

5. Hedgehogs live in the ecosystem seen in the Secret Garden video. These animals rest in their underground burrows all day. At night they come out to look for food, water, and mates. When day approaches, the hedgehogs return to their burrows. The abiotic factors that most likely affect hedgehog behavior are

- a. light and temperature b. predators and insects c. food supply

Refer to the picture below to answer questions 6-10.



6. Name two populations in this picture.

7. Describe a community shown in this picture.

8. All of the plants and animals together with the rocks, soil, water and air shown in the picture form

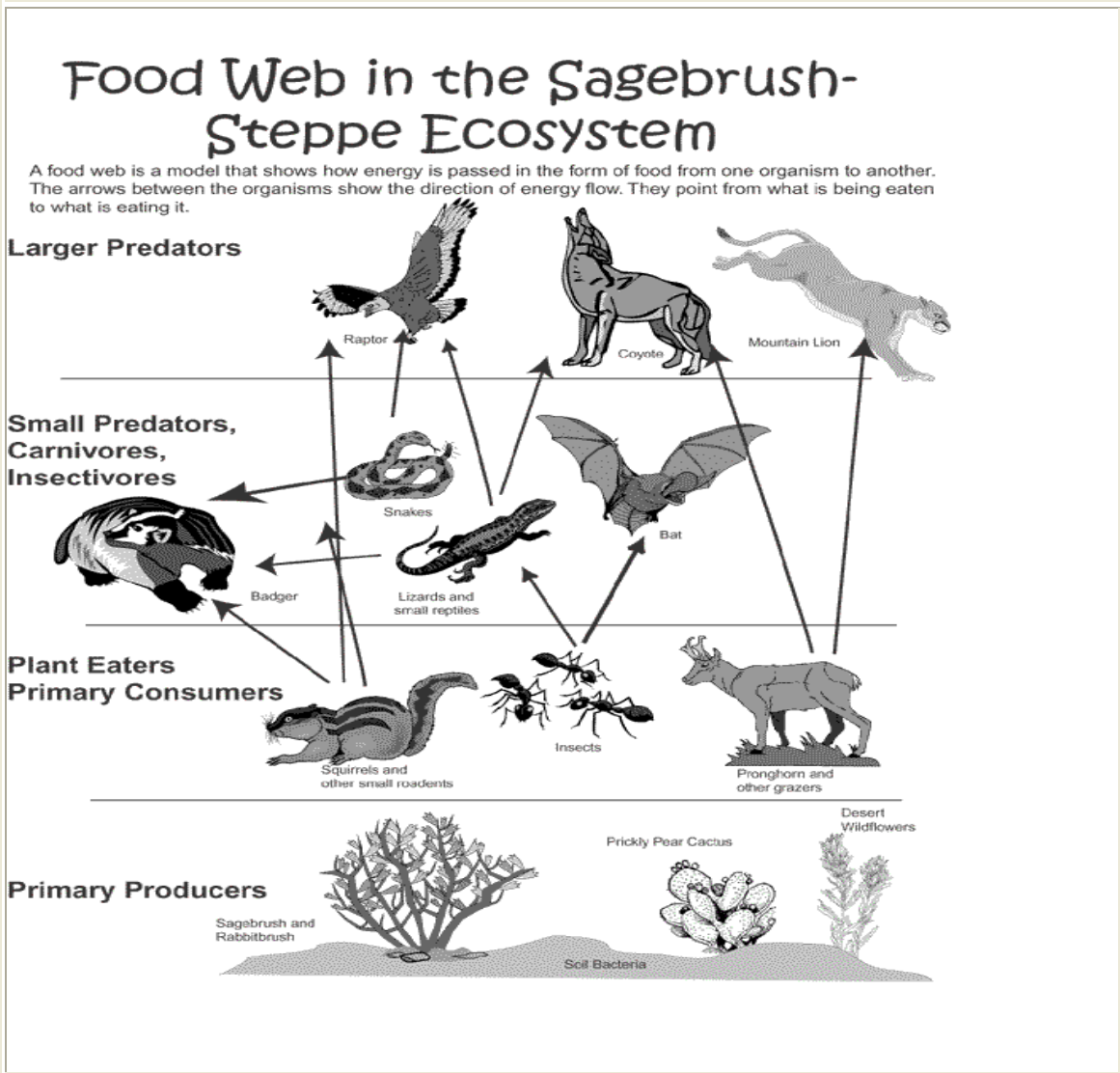
- a. a community b. an ecosystem c. a population d. an individual

9. True or false: All of the animals in the picture above make up one population.

- a. True b. False

10. Name the producers in the picture above.

Use the picture below to answer questions 11-16. The picture below represents feeding relationships in an ecosystem. Some organisms belong to more than one trophic level. Choose the best answer.



11. Name two producers in the food web above.

12. Name two carnivores in the picture above.

13.. Describe how you could add to the drawing of the food web above to make it be more complete. (What is missing?)

14. Why are the plants in the picture above called 'producers'?

15. Explain why there would be fewer coyotes and mountain lions in this food web than there would be badgers and bats.

16. Based on the picture of the food web above, which population has the most total energy?

17. Choose three organisms from the food web pictured above and draw an energy diagram in the space below to show how the 10% rule would limit the size of each trophic level.