

## Ecology Unit Review

1. Write a description of each level of organization in the table below & give an example of each.

Level	Description	Example
Organism		
Population		
Community		
Ecosystem		
Biome		
Biosphere		

2. List 5 abiotic factors in a biome.

3. List 5 biotic factors in a biome.

4. Describe the energy as it flows through a food chain starting with the sun.

5. Which biome has the greatest biodiversity?

6. Which biome is mostly pine trees?

7. Which two biomes have the lowest biodiversity?

8. Which biome has the most consistent temperature?

9. Which biome is the coldest?

10. Which two biomes receive the least precipitation?

11. Which biome is Wisconsin in?

*For questions #12-16, fill in the blank with the best term from the box below.*

autotrophs	eating	nonliving	abiotic	living	temperature	producers
moisture	plants	animals	biotic	consumers	heterotrophs	nonliving

12. All ecosystems are made up of \_\_\_\_\_ and \_\_\_\_\_ components.

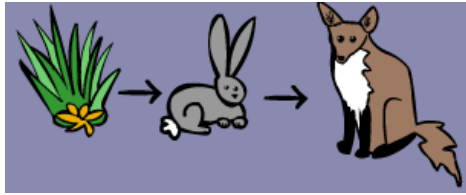
Name \_\_\_\_\_

Block \_\_\_\_\_

13. \_\_\_\_\_ factors are living things, such as \_\_\_\_\_ or \_\_\_\_\_.
14. \_\_\_\_\_ factors are nonliving things, such as wind, \_\_\_\_\_, or \_\_\_\_\_.
15. \_\_\_\_\_ are organisms that get their energy from \_\_\_\_\_ resources, meaning they make their own food. These organisms are also called \_\_\_\_\_.
16. \_\_\_\_\_ are organisms that get their energy by \_\_\_\_\_ other organisms. These organisms are also called \_\_\_\_\_.
17. Why are producers so important to an ecosystem?

Using the following food chain, answer questions #18-20.

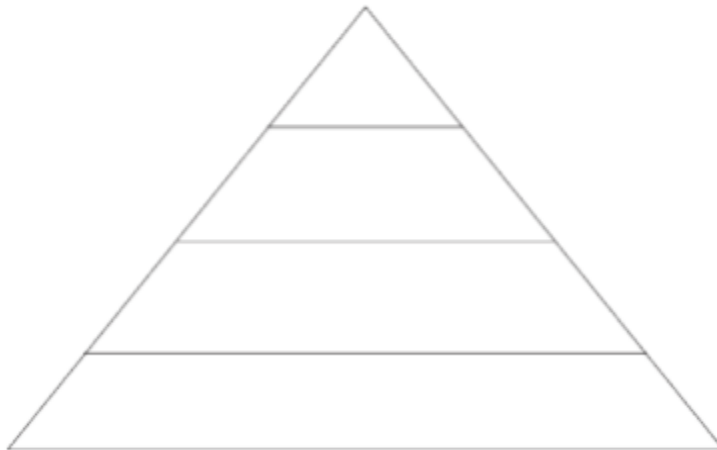
Grass ☐ Rabbit ☐ Fox



18. What type of organism is the grass? \_\_\_\_\_
19. Which animal is an herbivore or primary consumer? \_\_\_\_\_
20. What would happen to the population of rabbits, if the population of foxes increased? Why?
21. Construct a food chain based on the sentence below. Label the producer, primary consumer, secondary consumer, & tertiary consumer.

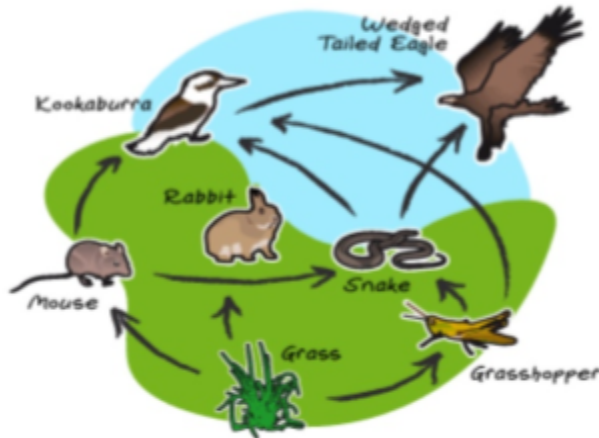
*An owl eats a snake, the snake eats a squirrel, the squirrel eats a nut.*

22. Using the food chain from question #21, create a trophic pyramid/energy pyramid. Label the four tiers of pyramid with the correct trophic level (producers, primary consumers, secondary consumers, and tertiary consumers) and with the amount of energy remaining. The producers have 4,000 Calories.



- Which consumer has the most available energy? \_\_\_\_\_
- Which animal has the least available energy? \_\_\_\_\_
- What happens to the energy that doesn't move to the next trophic level?

23. Use the food web below to answer the questions.



- What is the producer?
- What are the primary consumers?
- What are the secondary consumers?
- What are the tertiary consumers?
- What is the top predator?

24. Based on the food web above, how would the ecosystem be affected if the Kookaburra went extinct?

Claim:

Evidence:

Reasoning:

For questions #25-33, fill in the blank with the best term from the word bank.

carnivore	herbivore	secondary consumer	decomposer	detritivore
omnivore	primary consumer	tertiary consumer	trophic levels	

- I eat only plants. I am a(n) \_\_\_\_\_.
- I eat only other animals. I am a(n) \_\_\_\_\_.
- I eat both plants and animals. I am a(n) \_\_\_\_\_.
- I eat dead organic matter. I am a(n) \_\_\_\_\_.
- I break down organic matter into simpler compounds. I am a(n) \_\_\_\_\_.
- I am the first consumer above the producer level. I am a(n) \_\_\_\_\_.
- I am a carnivore that eats herbivores. I am a(n) \_\_\_\_\_.
- I am a carnivore that eats other carnivores. I am a(n) \_\_\_\_\_.
- The levels of nourishment in a food chain are called \_\_\_\_\_.
- How is a food web different from a food chain?

For questions #35-47, if the statement is true, write true. If it's false, change the underlined word so it's true.

35. \_\_\_\_\_ Biotic factors include sunlight, soil, temperature, and water.
36. \_\_\_\_\_ Like nutrients and water, energy also recycles through an ecosystem.
37. \_\_\_\_\_ An ecosystem consists of all the biotic & abiotic factors in an area & their interactions.
38. \_\_\_\_\_ Herbivores are a necessary link between producers and other consumers.
39. \_\_\_\_\_ A niche refers to the place an organism lives within its ecosystem.
40. \_\_\_\_\_ Autotrophs make their own food.
41. \_\_\_\_\_ Organisms use 90% of the available energy at each trophic level.
42. \_\_\_\_\_ Carnivores include lions, polar bears, hawks, frogs, salmon, and deer.
43. \_\_\_\_\_ Producers occupy the first trophic level.
44. \_\_\_\_\_ Detritivores include vultures and raccoons.
45. \_\_\_\_\_ In a complex ecosystem, it's likely that 2 different species will occupy the same niche.
46. \_\_\_\_\_ The habitat is the role of a species in its ecosystem.
47. \_\_\_\_\_ A food web shows how energy flows through an ecosystem.

48. What is a carrying capacity?

49. How do populations grow?

50. Describe exponential growth

51. Describe logistic growth

52. What are limiting factors? Give 3 examples. Are the examples you gave density independent or density dependent? How do you know?