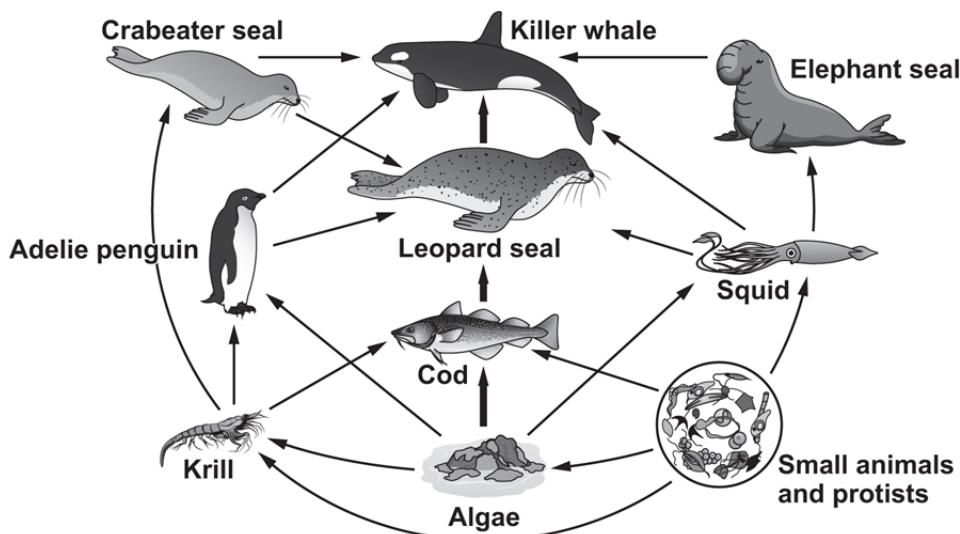


Quiz: Modeling Matter and Energy in Ecosystems

Read each question. Circle the letter of the correct answer.

1. Each level in a food chain contains less energy than the one below it because some energy is _____.
 - A. lost as heat
 - B. added to the system
 - C. consumed by carnivores
 - D. incorporated into biomass
2. Which description fits with the term *biomass*? Choose the correct answer.
 - A. the producer-to-consumer ratio in an ecosystem
 - B. the mass of all living things on Earth
 - C. the unused material excreted as waste in an ecosystem
 - D. the mass of the living and dead organisms in a given area
3. Which provides most of the energy in ecosystems?
 - A. carnivores
 - B. producers
 - C. generalists
 - D. keystone species
4. From which source do almost all producers obtain their energy?
 - A. sunlight
 - B. herbivores
 - C. decaying matter
 - D. hydrothermal pools
5. Which of these can be both primary and secondary consumers?
 - A. herbivores
 - B. carnivores
 - C. omnivores
 - D. detritivores
6. Which does a pyramid of numbers display?
 - A. a chain of feeding relationships
 - B. a network of feeding relationships
 - C. the amount of biomass in an ecosystem
 - D. the number of organisms in an ecosystem
7. Leopard seals eat only meat. What are leopard seals?
 - A. carnivores
 - B. herbivores
 - C. omnivores
 - D. producers

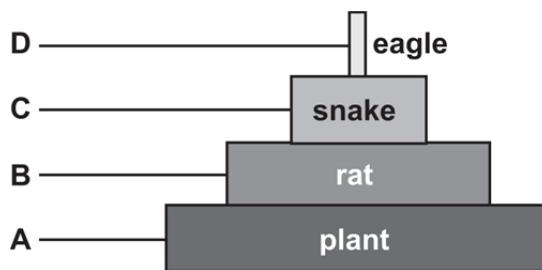
8. The diagram shows an oceanic food web.



At what trophic level do the killer whales primarily feed?

- A. the third trophic level only
- B. the second trophic level only
- C. the third and fourth trophic levels
- D. the first and second trophic levels

9. Refer to the illustration.



How much energy is available to the organisms in level C?

- A. all of the energy in level A plus the energy in level B
- B. all of the energy in level A minus the energy in level B
- C. 5–20 percent of the energy in level B
- D. 90 percent of the energy in level B

10. When a giraffe eats leaves from a tree, it incorporates the leaves into its own _____.

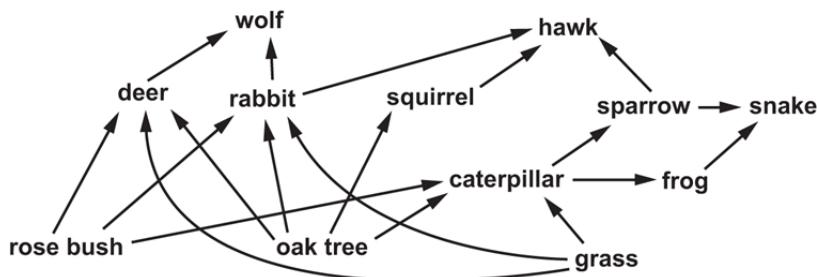
- A. niche
- B. biome
- C. biomass
- D. community

Read each statement. Write your answer on the lines.

11. List two consumers. Then explain why they are considered consumers. Enter your answer in the space provided.

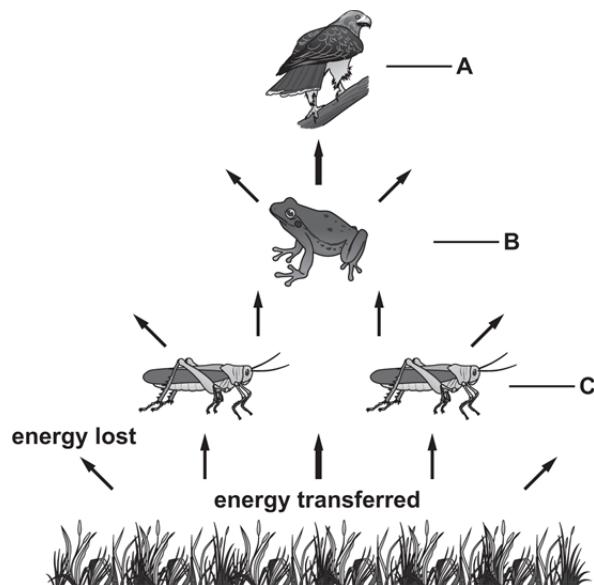
12. The diagram shows a forest food web.

Food Web Diagram



Identify one food chain in the diagram.

13. The diagram shows the movement of energy through organisms.



How does this type of diagram differ from a biomass pyramid?

14. Why do the energy pyramids of food webs have a triangular shape?

15. Why are decomposers necessary for the continuation of life on Earth?
