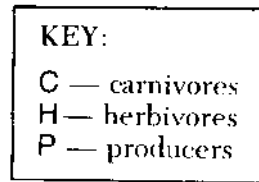
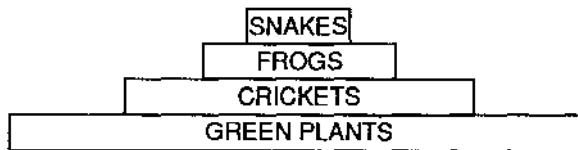


1. Which diagram best represents the usual relationships of biomass in a stable community?



2. Based on the diagram of a biomass pyramid below, which statement best explains why the total biomass of snakes is less than that of the other members of the ecosystem?

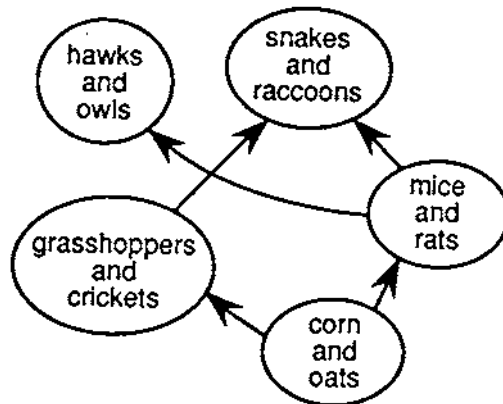


- (1) **There is a decrease in available energy at each higher level of the pyramid.**
- (2) The total energy of the producers is less than the total energy of the consumers.
- (3) There is more energy available at the consumer level than at the producer level.
- (4) The greatest amount of available energy is found at the top level of the pyramid.

3. A pyramid of energy can be used to illustrate the loss of usable energy at each feeding level in a food web. In which feeding level would the *smallest* amount of energy be found?

- (1) autotrophs
- (2) producers
- (3) primary consumers
- (4) **secondary consumers**

4. Which group in the food web represented below would most likely have the greatest biomass?

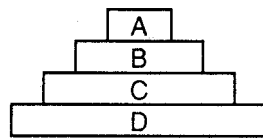


- (1) **corn and oats**
- (2) hawks and owls
- (3) mice and rats
- (4) snakes and raccoons

5. Which energy transfer is *least* likely to be found in nature?

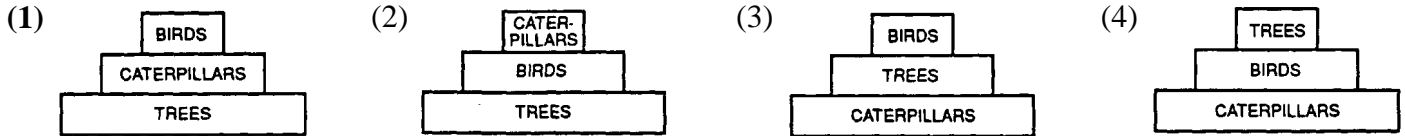
- (1) consumer to consumer
- (2) producer to consumer
- (3) host to parasite
- (4) **predator to prey**

6. If birds eat insects that feed on corn, which pyramid level would birds occupy?



- (1) A (2) B (3) C (4) D

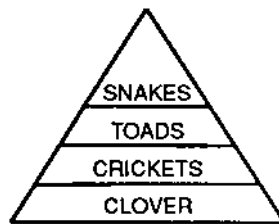
7. The larvae of the tent caterpillar eat the leaves of deciduous trees. The tent caterpillars serve as food for several species of birds. Which biomass pyramid best represents these organisms?



8. Which statement describes a pyramid of energy?

- (1) As energy is transferred from one organism to another, a net gain occurs.
(2) **As energy is transferred from one organism to another, some of it becomes unavailable.**
(3) No loss of biologically useful energy occurs after energy is changed in form.
(4) There are always more prey organisms than producers in a community.

9. A biomass pyramid is represented below.



This pyramid best illustrates

- (1) **a decrease in the amount of organic matter at each feeding level**
(2) the migration of animals to different habitats
(3) a lack of organisms feeding on clover
(4) a progressive increase in biomass above the producer level

10. Which foods are derived from organisms that

occupy the level that contains the greatest amount of energy in a biomass pyramid?

- (1) **bread and tomatoes** (3) hamburger and French fries
(2) shrimp and rice (4) chicken and lettuce

11. Which statement best describes an energy pyramid?

- (1) There is more energy at the consumer level than at the producer level.
(2) **There is more energy at the producer level than at the consumer level.**
(3) There is more energy at the secondary-consumer level than at the primary-consumer level.
(4) There is more energy at the decomposer level than at the consumer level.

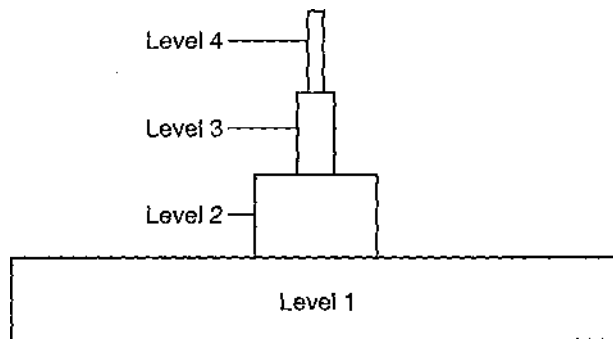
12. The diagram below represents a food chain.



The arrows in the diagram indicate the

- (1) direction in which organisms move in the environment
- (2) **direction of energy flow through a series of organisms**
- (3) order of importance of the various organisms
- (4) return of chemical substances to the environment

13. The diagram below represents a pyramid of biomass.



If the organisms shown below occupy these pyramid levels, which of these organisms would occupy level 4?

(1)



(2)



(3)



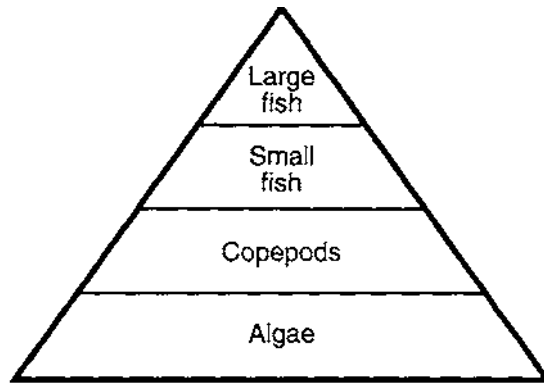
(4)



14. When a rabbit eats a plant, nutrients from the plant become incorporated into the tissues of the rabbit. During this process, some of the energy from these nutrients is lost in the form of heat and unavailable chemical energy. This energy loss partly explains why total energy is greater in

- (1) predator populations than in prey populations
- (2) consumer populations than in producer populations
- (3) **producer populations than in consumer populations**
- (4) predator populations than in scavenger populations

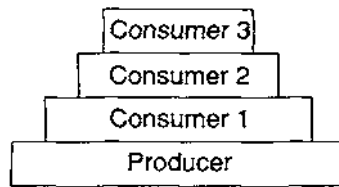
15. The diagram below represents a pyramid of biomass in an aquatic environment.



Which statement best explains why mass decreases from one level to the next in this pyramid?

- (1) More organisms die at higher levels than at lower levels, resulting in less mass at higher levels.
- (2) When organisms die at higher levels, their remains sink to lower levels, increasing the mass at lower levels.
- (3) **Energy is lost to the environment at each level, so less mass can be supported at successively high levels.**
- (4) Organisms decay at each level, and thus less mass can be supported at successively higher levels.

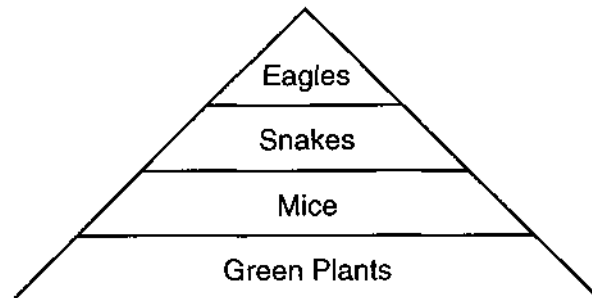
16. The diagram below represents a biomass pyramid.



Which statement concerning the energy in this pyramid is correct?

- (1) The producer organisms contain the least amount of stored energy.
- (2) **Stored energy decreases from consumer 2 to consumer 3.**
- (3) Consumer 3 contains the greatest amount of stored energy.
- (4) Stored energy increases from the producer to consumer 1.

17. In the food pyramid represented below, which level has the greatest biomass?



- (1) eagles
- (2) snakes
- (3) mice
- (4) **green plants**

18. For a producer to maintain itself, which factor must be present in its environment?

- (1) carnivores
- (2) herbivores
- (3) **sunlight**
- (4) parasites