Released SOL Test Questions
Sorted by Topic –
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4.3 ECOSYSTEMS

The student will investigate and understand how plants and animals, including humans, in an ecosystem interact with one another and with the nonliving components in the ecosystem. Key concepts include-

a. interrelationships exist in populations, communities, and ecosystems;
b. food webs show the flow of energy within an ecosystem;
c. changes in an organism's niche and habitat may occur at various stages in its life cycle; and
d. classification can be used to identify organisms.

POPULATIONS, COMMUNITIES, ECOSYSTEMS-

1. Part of a coral reef is shown. A coral reef is —
   a. a rock
   b. an ecosystem
   c. an ocean current
   d. an underwater cave

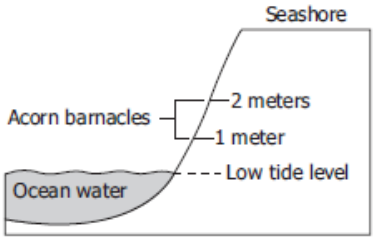
2. To a brook trout, a stream would be its —
   a. niche
   b. habitat
   c. community
   d. population

3. To the blue crab, the open bay of the Chesapeake Bay region is its —
   a. niche
   b. habitat
   c. community
   d. population

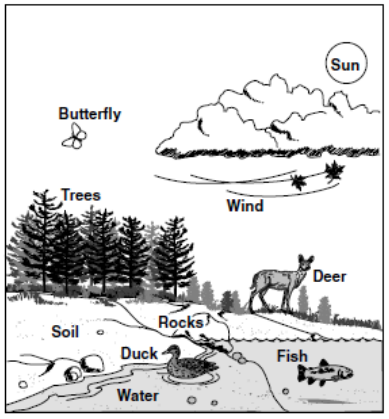
4. All of the populations of species in an area make up a —
   a. region
   b. niche
   c. family
   d. community

5. A wild turkey's forest community includes —
   a. insects
   b. rainfall
   c. soil
   d. wind

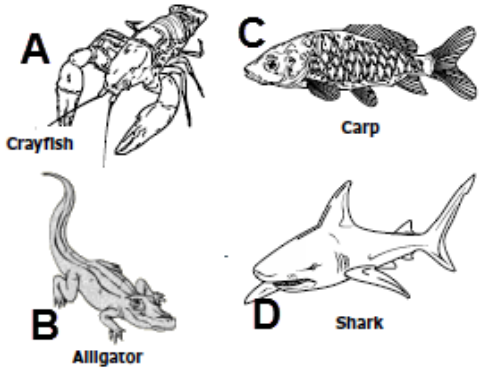
6. Acorn barnacles are seashore animals found on rocks. They live 1 to 2 meters above low-tide level. These rocks are the acorn barnacles' —
   a. ecosystem
   b. community
   c. food web
   d. habitat



7. Which of the following best describes the living and non-living parts of the diagram above?
   a. A niche
   b. A community
   c. An ecosystem
   d. A biome



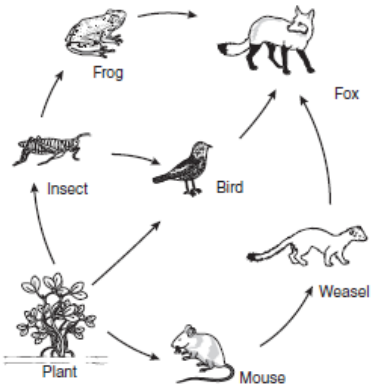
8. Which of these animals is least likely a member of the pond community?

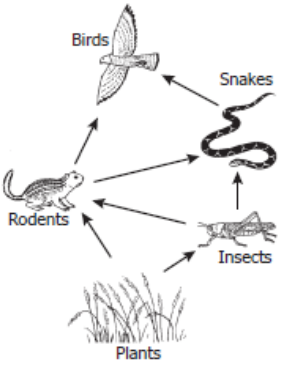


9. In a healthy ecosystem, many different species of animals may share the same habitat because they each have a different niche. An animal's niche is best described as —
   a. the role it plays in its habitat
   b. where it is located
   c. its appearance
   d. its ability to reproduce

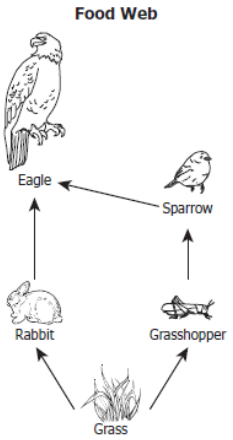
FOOD WEBS

10. Which of the following organisms provides energy for more than one organism in this food web?
    a. Bird
    b. Plant
    c. Fox
    d. Mouse



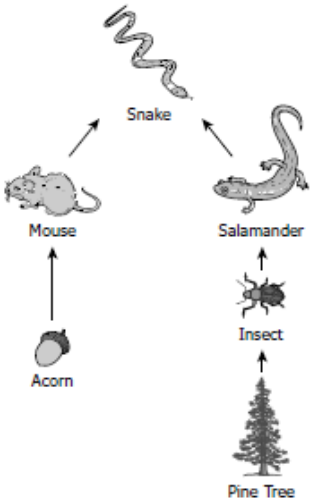


11. Which shows one way that energy flows to birds in this food web?
    a. Rodents → insects → birds
    b. Insects → plants → birds
    c. Snakes → rodents → birds
    d. Plants → rodents → birds

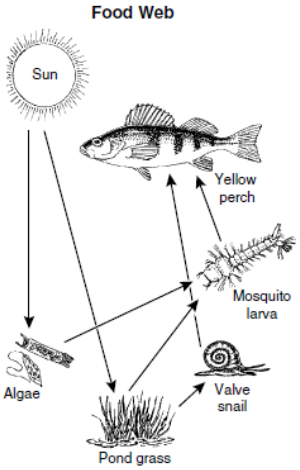


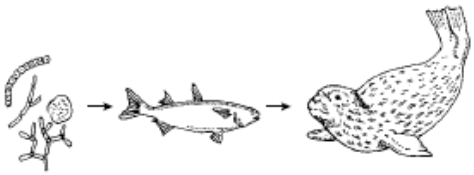
12. Based on the food web, which of these is a producer?
    a. Eagle
    b. Grass
    c. Rabbit
    d. Sparrow

13. Which describes how energy passes through this food web?
    a. Salamanders get energy from snakes and mice.
    b. Acorns get energy from insects and pine trees.
    c. Mice get energy from salamanders and insects.
    d. Snakes get energy from salamanders and mice.

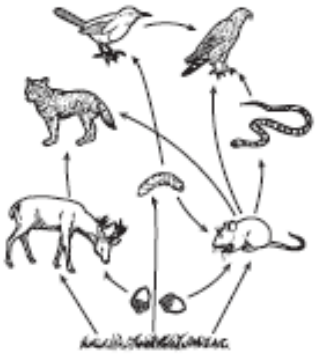


14. In order for energy to flow through this food web from the sun to the yellow perch, the perch must —
    a. live in warmer areas of its habitat
    b. eat pond grass and algae
    c. go through the process of photosynthesis
    d. eat the valve snail or the mosquito larva





15. From where does the energy for this ocean food chain come?
    a. Ocean waves
    b. The sun
    c. Whales
    d. Salt



16. In this food web, which two organisms could be harmed if the mouse population were to decline?
    a. Deer and caterpillar
    b. Wolf and snake
    c. Oak and grass
    d. Hawk and songbird

17. All of these are consumers EXCEPT a —
    a. butterfly
    b. wasp
    c. bullfrog
    d. tree

18. A bird that dies benefits a tree by providing it with —
    a. minerals
    b. carbohydrates
    c. water
    d. oxygen

19. Based on this chart, which of these animals would be considered a herbivore?

    a. Grizzly bear
    b. Deer
    c. Lion
    d. Human being

Characteristics of Types of Feeding

Carnivore	- Meat eaters - Live alone or in small groups - Preyed on only by other carnivores
Herbivore	- Strictly plant eaters - Can be large, hoofed mammals - Preyed on by carnivores
Omnivore	- Feed on both plants and animals - Can be both primary and secondary consumers in a food web

20. A tadpole is a plant-eating herbivore while a frog is an insect-eating carnivore. This means:

    a. Over its lifespan, the niche of the tadpole changes.

    b. Over its lifespan, the niche of the tadpole remains the same.