

Name: _____

Date: _____

8th Grade Term 1 Review

- 1) What process do animals use in order to release the energy stored in food?
 - A. circulation
 - B. conversion
 - C. photosynthesis
 - D. respiration
- 2) Which example illustrates the movement of energy from the sun through living things?
 - A. Light energy to chemical energy to mechanical energy
 - B. Light energy to mechanical energy to chemical energy
 - C. Heat energy to light energy to chemical energy
 - D. Heat energy to chemical energy to light energy
- 3) What energy conversion happens when animals use respiration?
 - A. Nuclear energy is converted to chemical energy
 - B. Chemical energy is converted to nuclear energy
 - B. Chemical energy is converted to nuclear energy
 - C. Chemical energy is converted to mechanical energy
 - D. Heat energy is converted to chemical energy
- 4) Which organism produces sugar from carbon dioxide and water using energy from light?
 - A. worm
 - B. clam
 - C. daisy
 - D. horse
- 5) Many scientists believe Earth's early atmosphere had no oxygen. Humans need oxygen to survive. According to some theories plants had to photosynthesize before humans could live on Earth. What evidence backs up this statement?
 - A. Humans cannot survive without water
 - B. Doctors tell us both plants and humans need sunlight
 - C. Plants use carbon dioxide and water to photosynthesis
 - D. Plants give off oxygen during photosynthesis
- 6) What type of energy is stored in a plant and then used in muscle cells of an animal that ate the plant?
 - A. mechanical energy
 - B. electromagnetic energy
 - C. chemical energy
 - D. heat energy
- 7) Which process directly produces the energy needed to carry out life activities?
 - A. circulation
 - B. digestion
 - C. excretion
 - D. respiration
- 8) In 1648, a Flemish alchemist, Jan van Helmont, had a theory. To test it, he grew a tree in a tub of soil, adding nothing but measured quantities of water for five years. During that time he kept track of the weight of the soil and the tree. At the end of the experiment the tree had gained 164 pounds and the soil had lost 2 ounces. What could van Helmont conclude from his experiment?
 - A. Trees need only soil and light to grow
 - B. Trees need only air and soil to grow
 - C. Most of the tree's increase came from the soil
 - D. Most of the tree's increase came from something other than soil
- 9) The process of respiration is important because:
 - A. it releases energy from food
 - B. it transports food to where it is needed
 - C. it removes wastes from the body
 - D. it produces food
- 10) In a closed terrarium, more photosynthesis is taking place than respiration. Which gas would you expect to increase?
 - A. Air
 - B. Carbon dioxide
 - C. Oxygen
 - D. Nitrogen

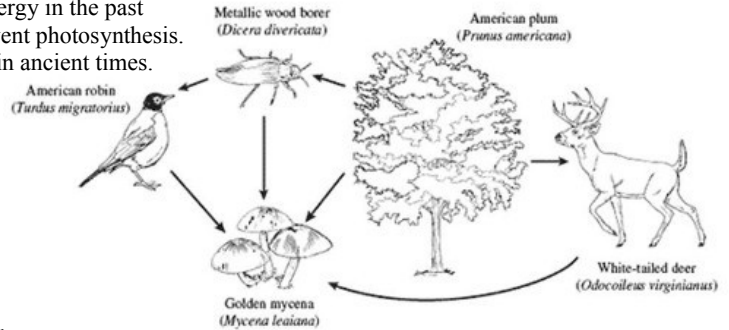
- 11) An organism produces sugars from carbon dioxide and water using light as the energy source for the reaction. This organism is:
- An animal
 - A bacteria
 - A fungus
 - A plant

12) Coal is a rock that scientists think was formed millions of years ago as plants died and decomposed in huge swamps. What assumption do scientists make to explain coal?

- plants used CO₂, water and sunlight in the past the same way they do today.
- plants used oxygen, sugar, sunlight and to create energy in the past
- in the past, animals were the organisms that underwent photosynthesis.
- scientists assume life processes worked differently in ancient times.

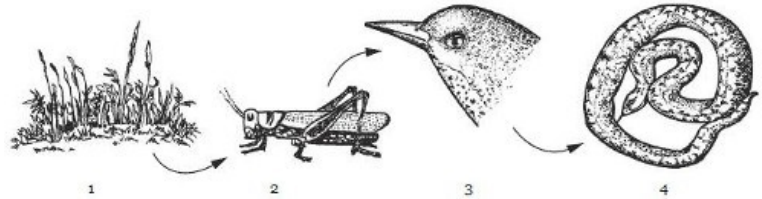
13) A food web is shown below. Which organism in this food web is a decomposer?

- American plum
- golden mycena
- metallic wood borer
- white-tailed deer



14) Lightning from a thunderstorm strikes a tree that falls to the forest floor and dies. During the next few years the dead tree undergoes many changes. What organisms are **most likely** responsible for the biological and chemical changes to the tree?

- consumers
- decomposers
- predators
- producers



15) Which organism in the chain is a producer?

- 1
- 2
- 3
- 4

16) Which of these organisms are consumers?

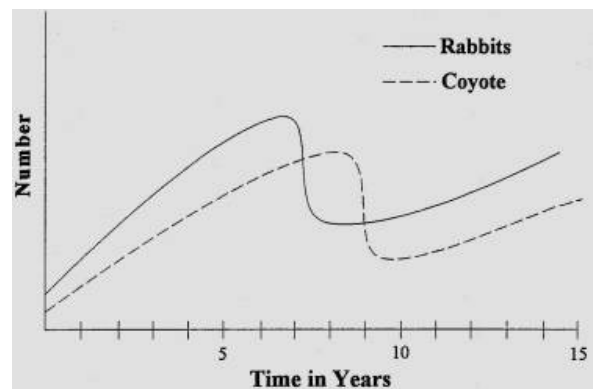
- maple tree, cougar, snake
- grass, hawk, frog
- antelope, rose, weed
- antelope, cougar, frog

17) What can be inferred from the graph about year 7 and 8?

- disease hit the coyote population, reducing their numbers
- something happened to the rabbit population that decreased their numbers
- something happened to the coyote population that decreased their numbers
- rabbits were able to reproduce in greater numbers

18) Use the graph to answer the following question. What determines the population of the coyotes?

- the number of rabbits
- the number of offspring
- the coldness of the winter
- the number of hawks



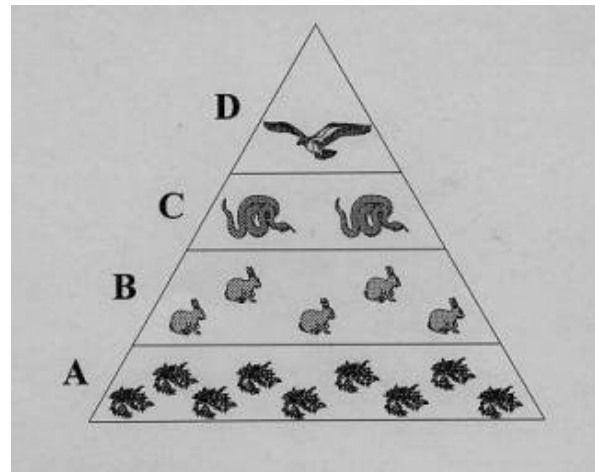
19) Which of the following **best** describes a role of mushrooms in ecosystems?

- capturing energy from sunlight
- consuming living plant material
- taking energy from animal hosts
- breaking down dead plant material

20) Which of the following relationships would best describe a mosquito sucking blood from a deer?

- producer/consumer
- predator/prey
- symbiosis/mutualism
- symbiosis/parasitism

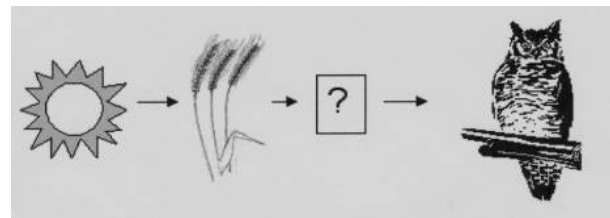
- 21) Use this diagram to answer the following question.
In what form is energy lost as you move up the pyramid?
- light energy
 - chemical energy
 - heat energy
 - nuclear energy



- 22) Use this diagram to answer the following question.
Which level of the pyramid contains the most energy?
- A
 - B
 - C
 - D

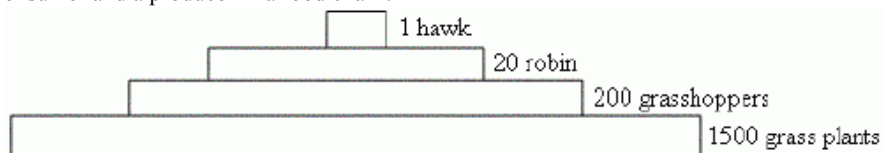
- 23) The complete removal of decomposers from an ecosystem will have the **greatest** effect on which of the following?
- the spread of disease
 - the availability of water
 - the recycling of nutrients
 - the distribution of organisms

- 24) What is missing in the diagram of a food chain?
- a mouse because an owl eats it
 - a tree because it is larger than the plant shown
 - a deer because it eats the grass
 - a hawk because it is a consumer



- 25) Which of these relationships exists between animals and tapeworms?
- producer/consumer
 - predator/prey
 - symbiotic/parasitic
 - symbiotic/mutualistic
- 26) Which of the following relationships would best describe a weasel eating a bird's eggs?
- producer/consumer
 - predator/prey
 - symbiosis/mutualism
 - symbiosis/parasitism
- 27) In the ocean, large fish sometimes have their teeth cleaned by smaller fish. The smaller fish gets food and the larger fish gets clean teeth that are less likely to decay. This is an example of what type of relationship?
- predator/prey because one organism is hunted
 - parasitism because one organism is harmed
 - mutualism because both fish benefit
 - competition between the two sizes of fish because of their size difference

- 28) Which of the following events involves a consumer and a producer in a food chain?
- A cat eats a mouse.
 - A deer eats a leaf.
 - A hawk eats a mouse.
 - A snake eats a rat.



- 29) A pyramid of energy is used to analyze the amount of energy available at each feeding level in a food chain. Using the pyramid above, answer the question.
Why is the amount of energy available to the hawk less than the amount available to the robins?
- Not enough grass plants
 - The robins can eat many more grasshoppers than they need
 - While robins are getting energy, they are also using some of it
 - If the hawk dies, the robin will eat it

- 30) Which of the following relationships would best describe a cow eating grass?
- producer/consumer
 - predator/prey
 - symbiosis/mutualism
 - symbiosis/parasitism

- 31) What effect does the loss of birds have on food webs?
- A. deer and other primary consumers would lose a food source.
 - B. producers would decrease because of lost food sources
 - C. humans populations would increase without bird populations.
 - D. Insect populations would increase without birds eating them
- 32) Trees in a forest ecosystem are dying. Two scientific studies are done on the forest to find the cause. One study is done by an entomologist, who studies insects and one by a botanist, who studies plants. What will both scientists do?
- A. A controlled experiment on the trees and insects.
 - B. Collect and display insects for display in the nature center.
 - C. Interview people who have lived in the forest a long time.
 - D. Collect leaves from the different types of trees in the forest.
- 33) If corn and oats were completely removed from a food web, which of the following would be the **most** affected?
- A. mice and rats
 - B. hawks and owls
 - C. snakes and raccoons
 - D. mushrooms and bacteria
- 34) Various environmental and governmental groups work hard to prevent certain animal and plant species from becoming extinct. What might be the most serious concern about allowing a species to become extinct?
- A. other species may become fearful that they, too, may become extinct
 - B. we will miss seeing that particular species
 - C. it will disrupt the food web
 - D. we will regret not helping that species
- 35) When land is cleared for paving a parking lot, what happens to the ability of that land to support living things?
- A. the number and kind of living things will be greatly reduced.
 - B. the number and kind of living things will be greatly increased.
 - C. the organisms that once lived there will go to another place.
 - D. the organisms that once lived there will become extinct.
- 36) An article in the newspaper suggested human activity was responsible for a recent mudslide in your community. What kind of human activity is most likely to cause a mudslide?
- A. humans planted grass seed there and watered it 15 minutes every day
 - B. humans took many trees off a slope to put in a ski run
 - C. humans found 8 attractive rocks there and removed them to decorate their yards
 - D. many humans walked on a trail that wound through the slope
- 37) The introduction of wolves into ecosystems in the Western United States has been controversial. Ranchers say they will reduce their livestock. Environmentalists know that wolves will prey on the livestock but that their value in the ecosystem outweighs the harm they may do. How would a scientist respond to this controversy?
- A. Do a study to collect evidence on the impact of wolves in ranching areas.
 - B. Look at the history of wolves in the United States and other countries
 - C. Advise politicians whether wolves or livestock are more important.
 - D. Study the ecosystem to see which parts are most important.
- 38) Farmer Joe raises corn. One of his fields produces a lot less corn than the others. He has tested the soil conditions and finds them the same as in his other fields. Tests also indicate that the plants are getting adequate water. He suspects that there may be some sort of pest damaging the crop. He believes in organic farming and does not want to start using poisons to control for pests. Which of the following might be the best answer to his problem? An understanding of...
- A. how producers get their energy from the sun
 - B. which predators/parasites might be used to kill the pests
 - C. how chemical energy can be converted to mechanical energy
 - D. how to get by on smaller crops in that one field
- 39) What should be the first thing he does about it?
- A. Get predators and turn them loose in his field
 - B. Get parasites and turn them loose in his field
 - C. Research predator/prey relationships
 - D. Investigate the field more closely, watching for evidence of specific pests.
- 40) Upon investigating further, farmer Joe found an infestation of aphids in his field. What might Joe do?
- A. Add more water, which will drown the aphids in the field
 - B. Get lady bugs to eat the aphids in his field
 - C. Hire high school students to go into the field and squish all of the aphids
 - D. Be satisfied with a lower yield (smaller crop) in that one field