Name: \_\_KEY\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**BIOLOGY REVIEW FOR ECOLOGY 2 TEST**

1. Match the following terms to the correct definition.

\_\_H\_\_ 1. Producer a. A feeding step in a food chain or web

\_\_B\_\_ 2. Consumer b. Cannot make its own food

\_\_C\_\_ 3. Herbivore c. Primary Consumer/ eats only plants

\_\_G\_\_ 4. Carnivore d. A series of interconnected food chains that show realistic feeding relationships

\_\_F\_\_ 5. Omnivore e. The total amount of living tissue in an ecosystem

\_\_E\_\_ 6. Biomass f. An organism that cannot be seen in a food chain; eats both plants and meat

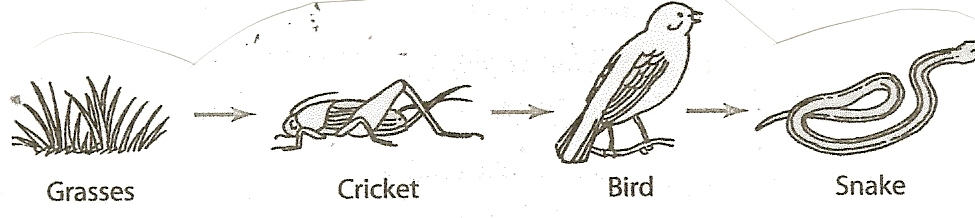
\_\_A\_\_ 7. Trophic Level g. Secondary Consumer/ eats only meat

\_\_D\_\_\_ 8. Food web h. Autotroph/ makes its own food in the form of glucose

\_\_I\_\_ 9. Decomposer i. An organism that breaks down nutrients and returns them to the Earth

2. Use the food chain below to answer the following questions.

100% 10% 1% 0.1%



a. What tells you this is a food chain? It is only one linear pathway showing feeding relationships

b. What do the arrows represent? Energy flow

c. Starting with the grass at 100% energy, label how much energy is transferred from level to level.

d. How much energy is NOT passed from level to level? What happens to this energy? 90%; first used by the organism for life processes and the rest is lost as heat.

e. How many trophic levels are there? 4

f. Which organism is the producer? grass

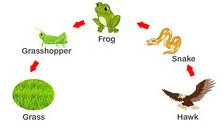
g. List all the terms that describe the cricket. Herbivore; primary consumer

h. List all the terms that describe the bird. Carnivore; secondary consumer

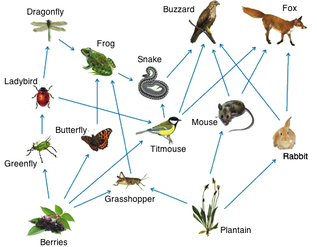
i. List all the terms that describe the snake. Carnivore; tertiary or 3rd level consumer

j. From where did the grass get its energy? All energy originally starts with the sun

k. What is wrong with the following food chain? The arrows are pointing the wrong way.



3. Use the food web below to answer the following questions.



a. List the producers. Berries and plantain

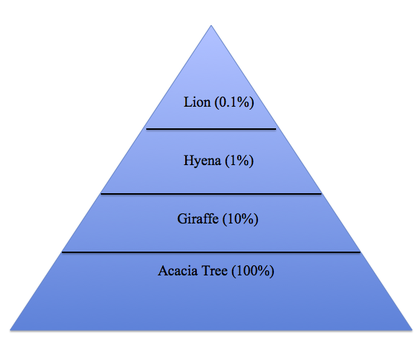
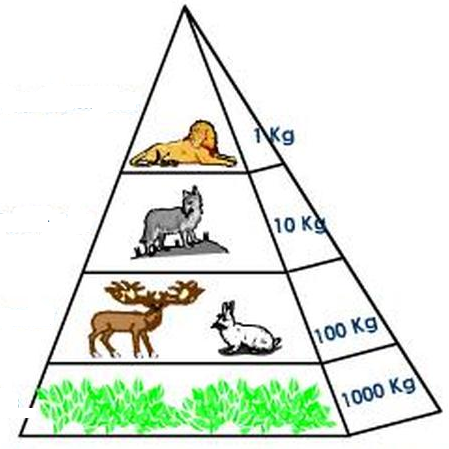
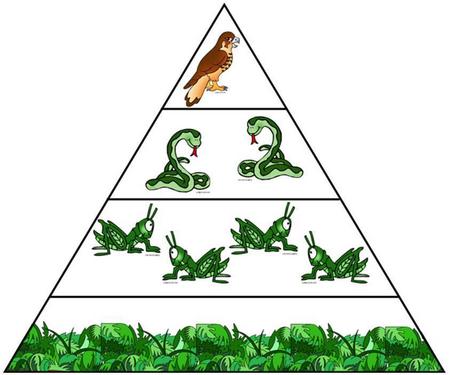
b. List all the terms that would best describe the rabbit. Herbivore; primary or first level consumer

c. List all the terms that would best describe the titmouse bird. Omnivore; at his highest level he is secondary consumer

d. List all the terms that would best describe the frog. Carnivore; at his highest level he is fourth level consumer

e. Which organism would be most negatively affected if all the dragonflies died? Frog

4. Label which type of pyramids are below and answer the questions that follow.

a.  b.  c. 

\_\_\_Energy \_\_\_\_\_\_\_ \_\_\_\_\_\_Biomass\_\_\_\_\_\_\_\_ \_\_\_\_\_\_Numbers\_\_\_\_\_\_\_\_

d. Which level of the pyramid has the most energy? 1st trophic level; producers

e. Which level of the pyramid has the most biomass? 1st trophic level; producers

f. Which level of the pyramid has the most numbers? 1st trophic level; producers

g. Which level of the pyramid has the least biomass? Top level consumer

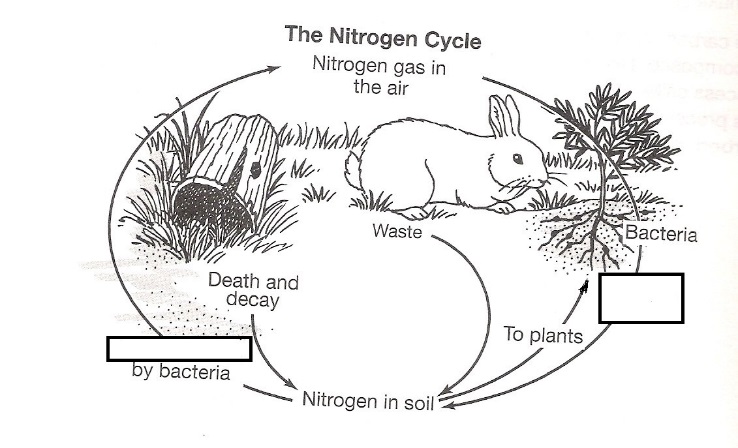
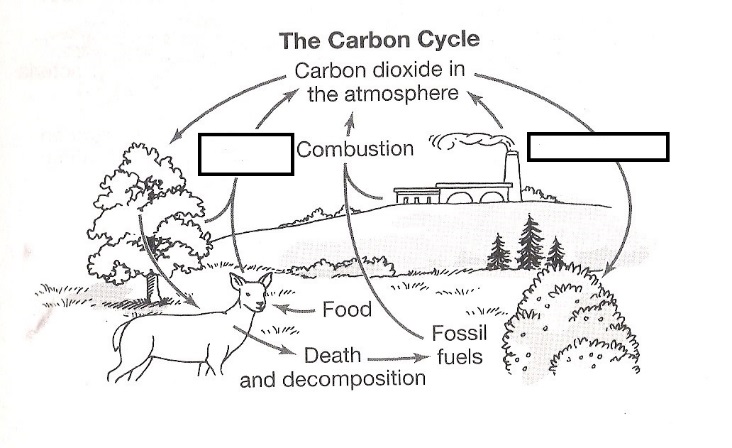
h. Which level has the least energy? Top level consumer

i. Which level has the least numbers? Top level consumer

j. Which level has the second most energy? 2nd trophic level; herbivores; primary consumers

k. How many trophic levels are in these pyramids? 4

5. Label the parts of the cycles below and answer the questions that follow.

a.  b. 

Denitrification

Cellular Respiration

Nitrogen Fixation

Photosynthesis

c. Which process in the nitrogen cycle REMOVES nitrogen from the atmosphere and changes it into ammonium that plants can then assimilate into their tissues? Nitrogen fixation

d. Which process in the nitrogen cycle RETURNS nitrogen back to the atmosphere? Denitrification

e. Which organism is the most important for the nitrogen cycle to occur? Bacteria

f. Which process REMOVES carbon from the atmosphere? Photosynthesis

g. Which two processes RETURN carbon to the atmosphere? Cellular respiration and combustion

h. What are the four nutrient cycles we studied? Water, carbon, nitrogen, phosphorus

i. Which of the four nutrient cycles does not cycle through the atmosphere? Phosphorus

j. What is the difference between the way energy and nutrients flow in an ecosystem? Energy flows in one and does not recycle back into the sun and nutrient matter is recycled over and over again between the earth and organisms.

6. Match the following biomes with the characteristics given.

\_\_D\_\_ a. Tropical Rainforest a. frozen ground/permafrost, very little rainfall, frozen desert, animals adapted for cold temps

\_\_C\_\_ b. Desert b. warm temps year round, rainy season, drought-resistant grasses, lion, zebra

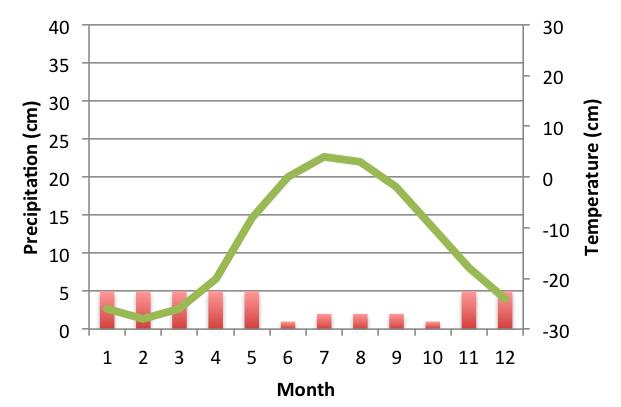
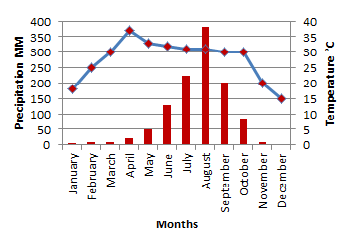
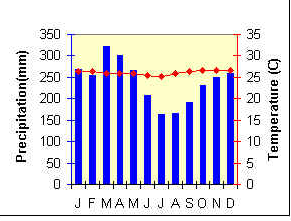
\_\_E\_\_ c. Temperate Deciduous Forest c. very little rainfall, hot days, cold nights, nocturnal animals, cactus

\_\_B\_\_ d. Savanna d. located near equator, hot temps all year, lots of rain, highest biodiversity, toucan

\_\_F\_\_ e. Grasslands e. Georgia’s biome, trees that lose leaves in fall, 4 seasons, deer, squirrel, oak trees

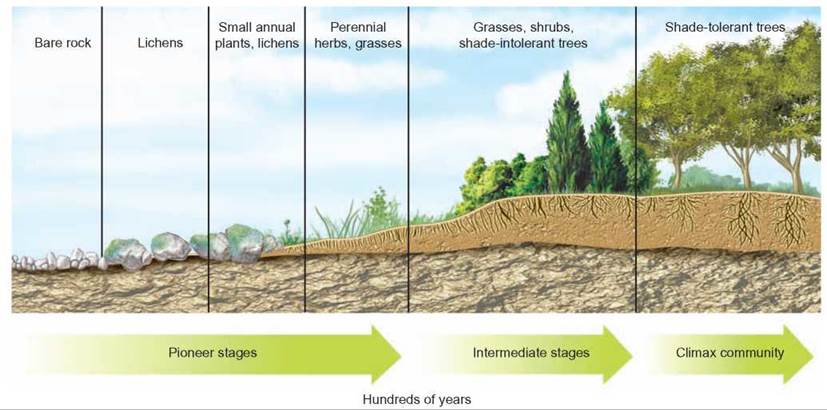
\_\_A\_\_ f. Tundra f. warm summer, cold winter, rain in seasons, drought resistant grasses, prairie chicken

7. Look at the climatographs below and determine which biome to which they belong.

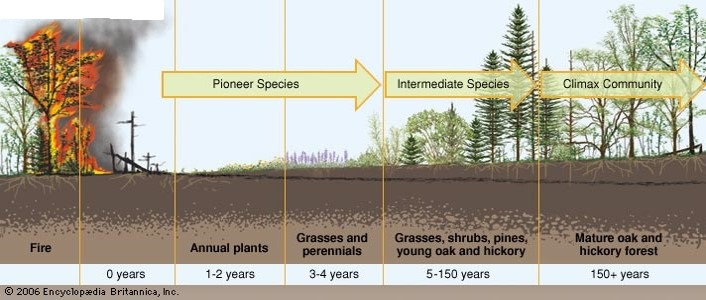
a.  b.  c. 

\_\_\_\_\_\_Tundra\_\_\_\_\_\_ \_\_\_\_\_\_Savanna\_\_\_\_\_ \_\_\_\_Tropical Rainforest\_\_

8. Determine which picture is primary succession and which picture is secondary succession and answer the questions that follow.

a. 

\_\_\_\_Primary Succession\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. 

\_\_\_\_Secondary Succession\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. What is the main difference between primary and secondary succession? Primary succession begins with rock and secondary succession begins with soil.

d. What events would precede primary succession? Volcanic eruption and glacier melts

e. What events would precede secondary succession? Fire, flood, clear-cutting

f. What is a pioneer species? The first organism to inhabit an area

g. What is the pioneer species for primary succession? Lichen

h. What is the pioneer species for secondary succession? Grass/weeds

i. What is a climax community? Mature, diverse forest community