Ecology **Chapter 1 TEST** Study Guide

Test: Th., Dec. 6 (red day) or Fri., Dec. 7 (purple day)
Types of test questions: Multiple-choice, short-answer, and constructed response (short essay)

Use the following resources to fill out your quiz study guide:
- Ecology Textbook p. 9-37
- NOTES:1.1 biotic/abiotic factor notes, 1.2 water, carbon, and nitrogen cycle
- notes,1.3 energy flow in ecosystems, and 1.4 biomes
- Phoenix science web page
- 1.1, 1.2, 1.3 quiz study guide

Topic: Ecosystems 1

Learning Topic: Describe the interactions of biotic and abiotic factors in an ecosystem

What is a biome?
A biome is a region of Earth with a particular climate and certain types of plants and animals

Which biome is the driest land biome? Which biome is the wettest land biome?
The desert is the driest biome.

Which land biome has the greatest biodiversity (greatest variety of living things)?
 The tropical rain forest has the greatest biodiversity.

What is a coniferous tree?
A coniferous tree is a tree that has needle-like leaves and keeps its needles all year (in all seasons). It is able to produce food all year.

What is a deciduous tree?
A deciduous tree loses its leaves for the cold fall/winter seasons and grows new leaves for the warm spring/summer seasons.

How is a deciduous tree adapted to live in the temperate forest biome that has spring, summer, fall, and winter seasons?

A deciduous tree loses its leaves for the cold fall/winter seasons and grows new leaves for the warm spring/summer seasons. The deciduous trees thrive in the nutrient-rich soils of the temperate forest biome.

What is an ecosystem?
An ecosystem is particular environment and all the living and nonliving things in it.

What is a biotic factor? List some examples of biotic factors.
A biotic factor is a living thing in an ecosystem. Examples: plants, animals, bacteria, etc.

What is an abiotic factor? List some examples of abiotic factors.
An abiotic factor is a nonliving thing in an ecosystem. Examples: soil, sunlight, temperature, water, air, etc.

An iguana (a lizard) is cold-blooded reptile and must get heat from the sun to warm its body so it can move. It also has scaly skin. The iguana does not have fur or feathers to keep in body heat. What abiotic factor will determine where this iguana will live?
The abiotic factor that will determine where the iguana lives is temperature.

A musk ox has long, thick fur because it lives in a very cold environment. A water buffalo has almost no hair on its body because it lives in a very warm environment. What abiotic factor will determine where each animal lives?
The abiotic factor that will determine where the ox and water buffalo live is temperature.

What is soil? Is soil a biotic or an abiotic factor?
Soil is a mixture of small rock particles and mineral particles. Soil is an abiotic factor.

How is a monkey adapted to live in a tropical rain forest?
A monkey is a tree-dwelling animal. It gets its food and makes its home in the tall tropical trees.

What is an estuary?
An estuary is a place at the end of a river where fresh water and salt water mix.

How does rainfall affect plants in the desert, temperate forest, and tropical rain forest? Name one animal from each of the six land biomes and describe HOW each animal is adapted to live in that biome.

In a desert, small amounts of rainfall cause plants to survive on small amounts of rainfall and causes plants to adapt to storing water. The fennec fox lives in the desert. It has large ears that help let off extra body heat to help keep it cool.

In a temperate forest, plants get a moderate amount of rainfall and do not need to store water, as there is water available regularly. A rabbit is adapted to live in this environment because it fur coat is suited to moderate temperatures. It can also grow a summer and winter coat to adjust to temperature.

The tropical rain forest receives the most precipitation of any land biome. This means it supports the greatest variety of plants because of the large amounts of available water. A monkey is a tree-dwelling mammal adapted to living in the tropical forest because it makes its home in the tall, thick trees. A monkey's food supply also comes mainly from trees and tropical plants.

Topic: Ecosystems 2

Learning Target: Describe how energy flows through an ecosystem

What is a producer? List an example of a producer.
A producer is an organism that makes its own food. Examples of producers include plants, algae, and plantlike protists.

What is a consumer? List an example of a consumer.
A consumer is an organism that must eat other organisms to obtain energy. Examples of consumers include all animals and animal-like protists.

What is a decomposer? Does a decomposer break down producers, consumers, or both?
A decomposer is an organism that breaks down dead or decaying parts of once-living organisms. A decomposer breaks down both producers and consumers.

What do decomposers do in an ecosystem?
Decomposers break down once-living material and return nutrients to the soil. By returning these nutrients to the soil, decomposers make those nutrients available to producers to reuse.

Where is the most energy available on an energy pyramid?

The most energy is available at the bottom of the energy pyramid at the producer level.

What is the source of energy for almost all life on Earth?

The sun is the source of energy for almost all life on Earth.

How are a food chain and a food web different?

A food chain describes the feeding relationship between a producer and a single chain of consumers in an ecosystem. A food web is a model of the feeding relationships between many different consumers and producers in an ecosystem.

What do the arrows in a food chain or food web represent? (Hint: it is NOT "what eats what")

The arrows in a food web represent the flow of energy from one organism to another.

Draw an example of a food pyramid.   Label each level producer, primary consumer, secondary consumer, or tertiary consumer.

Snake =
tertiary consumer

Robin = secondary consumer

Butterfly = primary consumer

Wild flower = producer