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

**Ecology Test Review**

1. Use the diagram to label and define each level of organization in ecology.

Example:

Biosphere-All the living spaces of the earth, areas of the earth that support life.

Biome is defined as a primary \_\_\_**climate**\_\_\_\_, primary \_\_**plant\_\_\_\_\_\_,** and

primary \_\_\_\_**animal**\_\_\_\_\_\_\_\_.

**Some examples are; temperate grasslands, desert, tundra, tiaga, deciduous forest, tropical rainforest,**

**and temperate rainforest.**

**Ecosystem includes the biotic (living) and abiotic (never ever been alive such as rock, air, water) components. An example of an ecosystem would be the Tippit “Park” that we field studied as an activity. It is part of the larger temperate grassland biome of our area here in Georgetown.**

**Community – all the living populations/species interacting**

**In a given area. From our field day an good example would be a flower to caterpillar to bird.**

**Notice only living things are part of the community.**

A group of the same species/organism living and interacting in a given area is a\_\_\_\_\_\_\_\_\_\_\_\_**Population**\_\_\_\_\_\_\_\_\_\_\_\_\_ .

An example from our “Field Day” is a \_\_\_\_\_\_**fire ants**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

All the same organisms/species living and interacting in a given area id called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Organism

1. Describe the climate (temperature and rainfall and resulting seasons) of the following biomes:
   1. Tundra: **always cold, frozen permafrost year round, very low rainfall/precipitation**
   2. Tropical Rainforest: **hot, humid, many many plant species, rains almost daily**
   3. Desert: **very hot days/cool nights, very low rainfall/precipitation**
   4. Temperate Grassland: **seasonal weather with wide open spaces**
2. What is ecology? ( -ology = study of) (-ecos = habitat or environment)

**…study of the environment and the interactions of the abiotic and biotic factors**

1. What is an abiotic factor? Give 3 examples.

**rock , air , water**

1. What is a biotic factor? Give 3 examples.

**Deer, mountain lion , bacteria**

1. Define the following roles/niche in an ecosystem and give an example of each:
   1. producer: **makes own food by converting sun’s energy – Oak Tree**
   2. consumer: **eats other organisms - Rabbit**
   3. decomposer: **breaks down dead organisms into nutrients for the soil - Bacteria**
   4. scavenger: **eats dead animals - Vulture**
   5. herbivore: **eats plants only – White Tail Deer**
   6. carnivore: **eats meat only – Mountain Lion**
   7. omnivore: **eats both plants and animals – Humans**
2. Define a limiting factor in ecology? Give an example from “Oh Deer!”.

**…influences that prevent an animal from reaching reproductive potential – water, shelter, hunting, poaching, predators, food resources, exotic species competing for resources**

1. What is the biodiversity of an ecosystem?

**Bio = life diversity = differences**

**all the different organisms living in an area, the more species there are in a given area the better chance of survival of an ecosystem.**

1. What is sustainability? **An ecosystems ability to maintain balance-homeostasis is sustainability. When humans pollute or damage ecosystems, ecosystems can ‘die’ or turn into wastelands. Finding clean resources and clean energy can help humans and environments coexist and maintain balance - sustainability.**
2. How is biodiversity related to its sustainability? **The Lorax Project was all about this! The more food resources in a food web of an ecosystem the better chance for survival of the members of the ecosystem.**
3. How do ecosystems maintain homeostasis (balance)? Use example from Oh Deer activity.

**Cycle of Life numbers die off then births increase, repeat As long as the numbers of deaths and births each season are relatively close the chance of an ecosystems survival steadies, balances, homeostasis**.

1. What is the difference between a food chain and a food web?

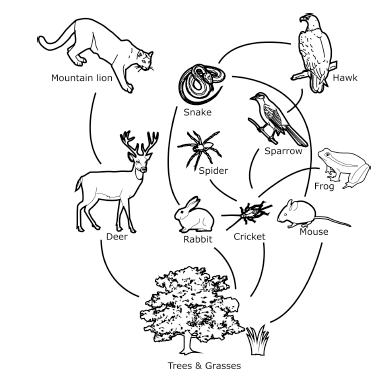
**Food chain –one line of energy**

**Food web =many branching chains**

1. Using the food web below, explain what would happen if the deer population decreased significantly.

**\_\_\_\_\_\_\_If the Deer die off or reduce too much then the Mt. Lion will shifts to eat other available animals such as the rabbit, mouse, or snake. In order to eat enough energy the Mt. Lion will deplete all of the available food for the Hawk forcing it to eat more Sparrows leaving the crickets to over populate the area.**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**



1. What do the arrows represent in a food chain or food web?

**The arrows represent the transfer of energy and the direction the energy flows.**

1. What happens to the amount of energy in food chain as you go up the energy pyramid?

**The amount of energy that passes on is only ten percent for each level. Therefore, the original photosynthesis resource the plant makes is reduced from 100% (plant) to 10%(rabbit) to 1%(cyote).**

1. Describe the process of photosynthesis. Include the chemical equation. (Retro back in your journal for information on Photosynthesis. This information is important enough to test again.)

**Plants take in the Sun’s energy. Plants produce their own food energy by using carbon dioxide, water, and solar energy.**

**6CO2 + 6H2O C6H12O6  + 6O2**

1. Draw a picture and explain geotropism. **Movement of a plants roots towards the center of the earth is geotropism. Movement of the plants stem away from gravity is Gravitropism.**
2. Draw a picture and explain phototropism**. Phototropism is the plants tendency to grow towards light and for the leaves to follow light opening the broad portion towards the Sun’s movement across the sky.**