Name _____ Test Date Friday 4/3/15 Parent Signature _____

Ecosystem and Food Chains Study Guide

1. Know the Vocabulary - definitions, examples, and relationships

- Carnivores
- Community
- Consumer
- Decomposer
- Ecosystem
- Food Chain
- Food Web
- Habitat
- Herbivores
- Omnivores
- Overpopulation
- Population
- Predator
- Prey
- Producer
- Scarcity

Ecosystem - System (interactions) of living and non-living things

Ecosystems contain the habitats of individual s. The type of ecosystem is dependent on many factors - such as temperature, soil type, etc. Populations live in Habitats, Communities live in an Ecosystem. Examples of ecosystems – beach, desert, rainforests, ocean, grasslands, Tundra

Community - All organisms that lives together within the same ecosystem or region and interact with each other

Populations live within a community of organisms. Populations live in Habitats, Communities live in an Ecosystem. Ex: individual bird and squirrel species will live in a forest community where all the animals interact to balance the environment.

Producer - Any organism that makes its own food (plants)

Producers transform energy into food for other organisms. Consumers eat the food and other consumers to gain energy. Ex. trees use the sun, water, nutrients in the soil, and air to transform energy into food using a process called photosynthesis.

Consumer - Organism that eats other living things to gain energy (people, birds, monkeys, mouse, fish, etc.)

Decomposer - Organism that breaks down the remains of other dead organisms

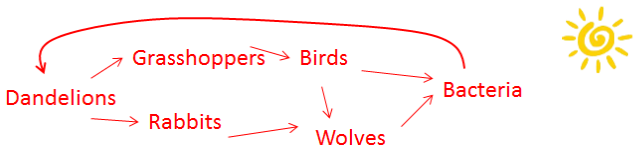
Decomposers will eventually break down all consumers and producers back into nutrients (small amounts of energy) back into the soil for producers to use. Ex. Bacteria (decomposers) break down dead plants back into the soil as nutrients. (maggots, worms, fungi, bacteria)

Food Chain - **The path of energy** in an ecosystem as one living thing eats and receives energy from other organisms (Not who eats who)

Sun → Producer → Consumer → Decomposer (Sun → Lettuce → Rabbits → Worms)

Food Web - Two or more food chains that intermingle

See above for food chain. Example: ----------→



Habitat - Place where a population lives, environment that provides food, shelter, and water

Carnivores - Organism that only eat meat (other consumers)
Carnivores, Omnivores, &Herbivores are all consumers. Carnivore examples: tigers, lions, alligators, etc.

Herbivores - Organism that only eats plants
Carnivores, Omnivores, & Herbivores are all consumers. Herbivores examples: deer, rabbits, sheep, cow, etc.

Omnivores - Organism that eat both plants and meat (other consumers)
Carnivores, Omnivores, & Herbivores are all consumers. Omnivore examples: people, bears, pigs, birds, etc.

Organism - General term to describe a single living animal, plant, bacteria, or virus

Population - All organisms of the same kind that live in an ecosystem (Dogs are a population. Cats are another population.) Populations live within a community of organisms. Ex: individual bird in a forest community

Predator - Organism that hunts other animals for food
Predators hunt prey. Don't forget the predator can be prey to other animals (consumers). For example, birds are predators to worms, but the bird can then be a prey for a hawk.

Prey - Organism that is hunted by others for food
Prey is hunted by predators. The Prey can also be a predator of other animals. For example, the birds are preys of snakes, but the birds can be then be the predator of grasshoppers.

Overpopulation- When there is **too many** of one organism or food supply (If our winters are not cool enough in Suwanee, we may have too many mosquitos and other insects in the spring. They will eat too many plants.)

Scarcity- When there is **not** enough of one organism or food supply (lack of rain may cause a scarcity of grass or flowers for animals like deer. This will cause deer to move to another location.)

2. Understand (be able to draw one!) a food chain and food web: **Food chains** are the flow of energy from organism to organism; **Food Webs** are a combination of multiple food chains

   A) What begins them? the sun, since the food chain is the 'chain' of how energy is passed.
   B) Ends them? decomposers… though there really is no ending since energy is "recycled" and passed through a cycle.
   C) What is in them? 1st) Sun, 2nd) Producers, 3rd) Consumers (sometime called primary consumer, secondary consumer), 4th) Decomposers
   D) Which way are the arrows? Why? They always point to where the energy is passing!!!! (in other words, where the food is going) Arrows do NOT show who ate what!!!!

3. Can you name examples of producers, consumers, and decomposers?

   Producers: grass, flowers, all kinds of plants, **etc**.

   Consumers: insects, deer, bears, raccoons, birds, lions, bobcats, **etc**.

   Decomposers: mushrooms, bacteria, fungi, mold, **etc**.

4. Understand what would happen if any / all of producers, consumers, and decomposers disappeared (became extinct)

   Without Producers, there would be nothing to make the food. Producers take nutrients from the soil, water, air (carbon dioxide) and the sunlight to turn energy into a form (food) that we (consumers) can use. Without producers, we would not have food and we would die out!

   Consumers help keep the number of producers and other consumers in check so no one type will overrun the Earth! In addition, we also help disperse the seeds that plants need to reproduce. Some consumers (bees, birds, and other insects) help pollinate plants so they can produce food.

   Decomposers help break down dead consumers and producers. They turn the bodies of these items back into nutrients and put it back into the soil for producers to use. Without decomposers, we would have no decay and a lot of 'bodies' lying around.

5. What is the difference between a habitat and an ecosystem?

Habitat	Ecosystem
• Habitat provide one type or species	• Ecosystems provide for a community – many different species or types
• only provides food, water, and shelter	• Interaction of both living and non living things - in addition to food, water, and shelter
• Deals with a population	• Deals with a community
• Specific - is contained within an ecosystem	• General – habitats are contained within an ecosystem

6. Be able to describe, in detail, one of the ecosystems we studied in class. Include details about climate, living and nonliving things, where the ecosystem can be found, and any other interesting details.

7. Practice the Ecosystems Quizlets and review your study file.

8. Have someone test you with this study guide!