



Week #6 - Virtual Classroom

Mrs. Jones - Science

Science for ALL junior high grades the week of April 27 - May 1st

Welcome to week #6! Our virtual journey is continuing to *truck* right along. I know that there have been some bumps in the road and some 'on the spot' Zoom meeting modifications but all in all I think we are handling it well. I am proud of you! Please continue to bond with your families, practice social distancing and pray! Know that I am thinking of you and am here if you need me!

Virtual Hugs,
Mrs. Jones :)

For the past 2 weeks we have been focusing on concept 4.1 in Discovery Education, Habitats and Niches. Please refer to your notes, Discovery Education and the summaries from my weekly letters when completing the following assignments.

Assignment #1: This assignment is due during our Zoom meeting on Tuesday, April 28th. *Please refer to the original email that was sent for times and the meeting code (meeting codes have not changed).*

We will be playing a "Guess What Animal This Is" game. We will be using clues that our fellow classmates provide during the meeting.

** Each student needs to choose an animal that they would like the class to try and guess. In choosing your animal, you will also be choosing an ecosystem, biome, habitat, community and niche. During the meeting you will be giving us clues. If necessary, we may need to turn this into animal charades! :) :)

During the ZOOM meeting please be prepared and have the following written down and ready to share:

1. Animal of your choice
2. What is their ecosystem?
3. What is their biome?
4. What is their habitat?
5. What is their niche (or job)?
6. 3 fun or 'funky' facts that will help us guess if we get stuck.
7. Is your animal typically a predator, prey, a decomposer etc.
8. What is their community?

Due on Tuesday, April 28th during our weekly Zoom meeting!

Assignment #2: Create your own project/visual representation of a specific animal. Your project must include (1.) animal of your choice (2.) the ecosystem your animal resides in (3.) the habitat your animal resides in (3.) a representation of the niche your animal fills within their ecosystem and habitat (4.) 3 examples of the community that surround your animal (5.) a food source that your animal relies on (6.) your project must be *LABELED - this is due on Friday, May 1st*

- *Note: You may choose a different animal from assignment #1 or you may keep the same animal.*

Your project is exactly that, 'yours' :) You get to choose what type of a visual representation/model that you want to create. Here are some examples:

3-D poster

2-D poster

Model using clay or playdough

Paint a picture

Draw a picture

Legos

Popsicle sticks/toothpicks

Cardboard model

****** DO NOT FEEL LIKE YOU NEED TO GO TO THE STORE FOR SUPPLIES! YOU CAN USE WHAT YOU HAVE AVAILABLE IN YOUR HOME!**

THIS PROJECT WILL BE A TEST GRADE FOR THIS CHAPTER - PLEASE USE AS MANY DETAILS AS POSSIBLE. BE NEAT! BE CREATIVE! BE INVENTIVE! HAVE FUN!

Unfortunately, I won't be able to see your final projects in person. :(Please send me a clear picture via email. If you need to send several pictures so that I can view your project in its entirety that's okay!

Due on Friday, May 1st by 3pm

The following is a summary of what you have learned or should be learning so far:

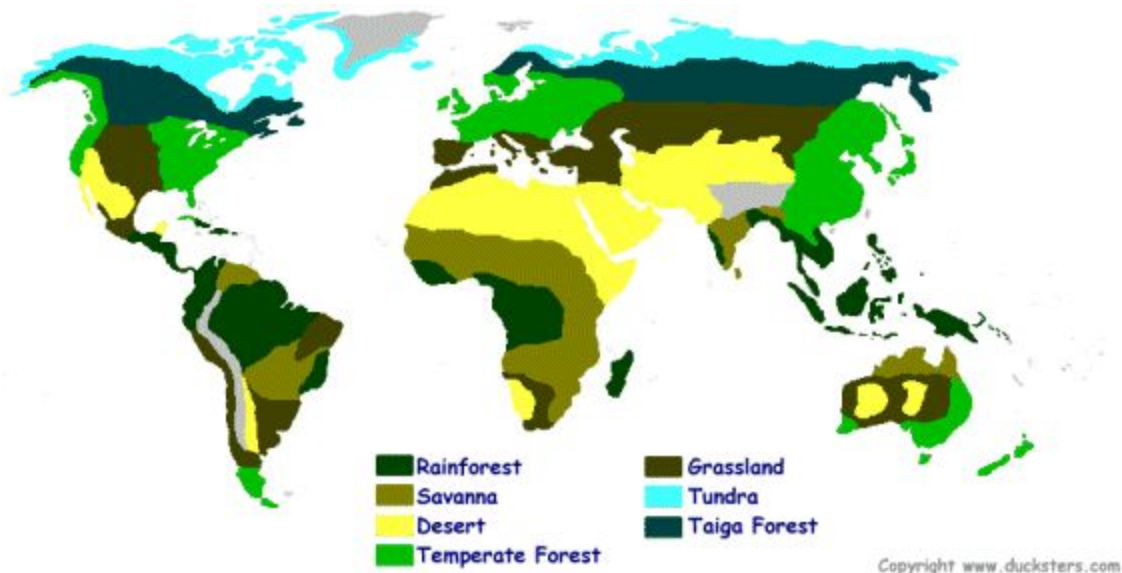
What is an ecosystem?

Each individual plant and animal could not exist by itself on planet Earth. All living organisms need millions of other living organisms to survive. How these organisms interact with the sun, soil, water, air and each other in a specific area is called an ecosystem.

An ecosystem describes a specific area where the organisms work together as a unit. It could be any size from a tiny pool of water to hundreds of square miles of desert. Each ecosystem is different and each has established a balance over time that is important to every form of life within the ecosystem.

What is a biome?

A biome is a way to describe a large group of similar ecosystems. Biomes have similar weather, rainfall, animals, and plants. There are a number of biomes on planet Earth. See the map of the world biomes below.



Map of the world biomes

Land Biomes

- [Desert](#)
- [Grasslands](#)
- [Savanna](#)
- [Tundra](#)
- [Tropical Rainforest](#)
- [Temperate Forest](#)
- [Taiga Forest](#)

Aquatic (water) Biomes

- [Marine](#)
- [Freshwater](#)
- [Coral Reef](#)

The Balance of the Ecosystem

Ecosystems maintain important balances in order that all the organisms within the ecosystem can survive. These balances involve food, water, oxygen, nitrogen, and carbon.

The sun provides the energy needed by ecosystems. Plants take this energy and use photosynthesis to create sugar which they can use for energy. Nutrients in the soil, the air, and water also play a part in keeping an ecosystem thriving and in balance.

Some important cycles that occur in ecosystems to help maintain proper balance include:

- [Food Chain and Food Web](#) (Energy Cycle) - Please refer back to your ecosystem vocabulary cards.
- [Carbon Cycle](#) - Refer to last weeks letter and notes from our Zoom meetings
- [Oxygen Cycle](#)
- [Water Cycle](#) - Refer to last weeks letter and notes from our Zoom meetings
- [Nitrogen Cycle](#) - Refer to last weeks letter and notes from our Zoom meetings

Humans and the Ecosystem

Humans have adversely affected many ecosystems and biomes throughout the world. Cutting down trees, developing land, growing crops, burning fossil fuels, overfishing, and overhunting are just some of the ways that we have upset the balance of nature.

What is a habitat?

A habitat is a place where an organism lives in an ecosystem. A habitat can also be defined as the specific place where a population of organisms within the same species lives in an ecosystem. Remember that a habitat is a physical space.

What is a niche?

A niche is the unique role that an organism, as a member of a species, has on all of the biotic and abiotic components in an ecosystem. You can think of a niche as an organism's job within an ecosystem.

Noteworthy vocabulary words and definitions: (these will help you with your assignments for the remainder of the year).

- 1. Decomposer - an organism that feeds on and breaks down dead or animal matter making nutrients available to the ecosystem (worms and mushrooms are examples)**
- 2. Species - a kind or variety, or type of organism usually capable of breeding with only other organisms of the same type.**
- 3. Abiotic - non living parts of an ecosystem**
- 4. Biotic - living parts of an ecosystem**
- 5. Organism - an individual animal, plant or single-celled life form**
- 6. Community - all the organisms living in an environment or a collection of all of the populations that live in one area**
- 7. Population - all of the species in an area**
- 8. Producer - organisms that convert the sun's energy into food (plants of all types)**
- 9. Consumer - Organisms that eat other organisms (they are not capable of producing their own carbohydrates)**
- 10. Predator - an animal that naturally preys on others**
- 11. Prey - an animal that is hunted & killed by another for food.**
- 12. Herbivore - an organism that consumes ONLY plants or fungi**
- 13. Omnivore - an organism that consumes plants and animals**
- 14. Carnivore - an organism that consumes ONLY other animals**
- 15. Scavenger - an organism that mostly consumes decaying biomass, such as meat or plant material**
- 16. Food chain - the order in which animals feed on plants and other animals - this illustrates how energy flows from producer - consumer - decomposer)**
- 17. Food web - all the feeding relationships (what eats what) in an ecosystem. This is a combination of many food chains.**
- 18. Primary consumer - an animal in the energy pyramid that feeds on plants called herbivores**

- 19. Secondary consumer - animals in the energy pyramid that eat primary consumers**
- 20. Tertiary consumer - animals in the energy pyramid that eat secondary consumers**
- 21. Quaternary consumer - animals in the energy pyramid that eat secondary consumers**
- 22. Photosynthesis - the process by which green plant cells make food (sugar) from sunlight, water and CO₂**
- 23. Respiration - a process in living organisms involving the production of energy, that takes in O₂ and the releases of CO₂**
- 24. Limiting factors - any abiotic or biotic part of the environment that controls the size of the population**
- 25. Carrying capacity - the maximum # of individuals in a species that an ecosystem can support**
- 26. Adaptation - any trait of an organism that increases its chances of surviving and reproducing**
- 27. Commensalism - a relationship in which one species gets food or shelter from another species without seriously harming that organism OR providing any benefit in return (sea cucumbers and Emperor shrimp)**
- 28. Glucose - a type of sugar that contains energy in its chemical bonds**
- 29. Symbiosis - any close long term relationship between 2 or more species (anemones and clownfish)**
- 30. Energy pyramid - a model showing how energy flows through an ecosystem**
- 31. Mutualism - a relationship in which both species obtain some benefit from the interaction**
- 32. Parasitism - occurs when 1 organism (the parasite) lives & feeds on, or in, the body of another organism (the host)**
- 33. Energy transfer - energy is stored within the producer and transferred to consumers when they eat the producer.**

Ecology is such a fun subject!

Mrs. Jones