

Teacher Information Sheet (pdf)

1. Look up the root- *eco*. What does it mean?

The root *eco* means house. The origin language of this root is Greek. English examples of this root are: ecology, ecosystem, economics, eco-friendly, etc.

2. Based on the meaning of the root word- *eco*, an ecosystem is a ‘house’ or locale (community) where living and non-living components interact in a balanced way. Ecology is the study of ecosystems.

3. Look up the root- *bio*. What does it mean?

The root *bio* means life. The origin language of this root is Greek. English examples of this root are: biology, biosphere, biography, bionic, etc.

4. The root- *a* means away from. The origin of this root is Latin. Thus, abiotic means away from biotic, which means that something that’s abiotic is not biotic.

5. Some examples of biotic components in an ecosystem are plants, animals, and decomposers. Examples of **abiotic components** are water (moisture), precipitation, sunlight, temperature, soil, etc.

6. The root- *flor* means flower. The origin of this root is Latin. English examples of this root are: floral, florid, etc. An example of flora would be an orchid.

7. The root- *fauna* means animal. The origin of this root is Latin. An example of fauna would be a gorilla.

8. What does diversity mean? Diversity means the different types/kinds of plant, animals, etc. **Biodiversity means** the different types/kinds of all living things (since the root word *bio* means life).

9. There are many types of ecosystems on our planet: ponds, wetlands, estuaries, oceans, shoreline, rainforests, savannas, grasslands, deserts, polar regions, tundra, etc.

- 10. The main characteristic of these ecosystems can be categorized based on their abiotic and biotic components (features).** For example, wetlands are wet, hence the name wetlands. The soil is wet (muddy), clay-based, and very sticky. Plants that can be found in the wetlands include: duckweed, pennywort, tule, western rush, cattail, blue-eyed grass, California poppies, California wild rose, California blackberry, coyote bush, etc. Animals that live in the wetlands include: frogs, toads, muskrats, ducks, herons, raccoons, coyotes, gray foxes, red-tailed hawks, great horned owls, butterflies, beetles, lady bugs, spiders, aquatic insects, etc. Once you have completed the table, you can now use the symbols, i.e., ⁺ (high), - (medium), and ⁻ (low) to indicate the biodiversity level for each ecosystem. For example, wetlands have a medium to high biodiversity level compared to oceans and rainforests, which have the highest biodiversity levels (bio index). Deserts, polar-regions, and tundra tend to have lower levels of biodiversity. [*Encourage students to research biodiversity levels on the Internet and also to watch Planet Earth DVDs and others for determining the level of biodiversity for each ecosystem*]
- 11. Ecosystems are important to explore** because we as human beings live in them and our actions can have a direct impact in both positive and negative ways, thus it is important for us to explore them, not only for their natural beauty, but also for conservational purposes.
- 12. Let's go outside and explore! What kind of ecosystem do we live in?** Let's make some abiotic and biotic observations (collect, analyze, and interpret) to determine the kind of ecosystem we live in. [*You can get a weather kit to measure abiotic features, such as: temperature, moisture, etc.*]

References:

http://en.wikipedia.org/wiki/List_of_Greek_and_Latin_roots_in_English

<http://www.globalchange.umich.edu/globalchange1/current/lectures/klings/ecosystem/ecosystem.html>

<http://dictionary.reference.com/browse/fauna>

<http://www.watsonvillewetlandswatch.org/plants.htm>