



Unit: The Characteristics of Life

Lesson Plan 2: Biotic Versus Abiotic Factors

Objective(s):

Students will be able to:

- Define key terms (biotic, abiotic, environment)
- Identify biotic and abiotic factors in their environment
- Identify the levels of organization of an ecosystem

Materials:

- Video from bdol.glencoe.com:
Section Launcher Movies (Section 1.1). "What are the characteristics of living things?"
<http://www.glencoe.com/sec/science/biology/bio2004/section_launcher_movies/movie.php?abrev=ntl&movie=e1_2int>.
- Video from Discovery Education: (Subscription Required)
Biology: The Science of Life: Ecology: Organisms in Their Environment. United Learning. 2003. Discovery Education. 12 December 2009
<<http://streaming.discoveryeducation.com/>>.
- Discovery Education Blackline Masters worksheets (Requires subscription, linked to video)

Anticipatory Set:

In the last lesson we looked at what God created, and we discovered that everything was created in an organized manner. Today we will look at how scientists today classify and organize everything that exists as either living or non-living. (Watch section launcher video.)

Lesson:

- I. PowerPoint presentation
Have students take notes.
- II. Video and Blackline Masters worksheets
"Organisms in Their Environment"

**Lab Activity:**

Choose a grassy area (different types of grass/weeds) and mark off a square meter (for each group). Have groups identify or collect as many biotic and abiotic factors as they find in that environment.

Evaluation:

- Blackline Master Worksheets
- Lab observations
- Vocabulary quiz



Characteristics and Classification of Organisms Part 1

Biotic Versus Abiotic Factors

- Environment:

- An organism's surroundings, which include all living and non-living things

- Biotic:

- living things; organisms

- Abiotic:

- non-living things

- Biotic factors:

- all the living organisms in an environment

- Abiotic factors:

- all the non-living components of an organism's environment such as water, air, temperature, etc

Levels of Organization

- Producers:

- Organisms that are able to create energy

- Consumers

- Organisms that obtain energy by eating other organisms

- Decomposers

- Organisms that obtain energy from decaying organisms



Name: _____

Date: _____

Quiz: Biotic Verse Abiotic*Direction: Match the words with the correct meaning.*

- | | |
|--------------------------|--|
| _____ 1. Biotic | a) all the organisms in one area |
| _____ 2. Abiotic | b) refers to living things |
| _____ 3. Environment | c) all the non-living components in an area |
| _____ 4. Biotic Factors | d) refers to non-living things |
| _____ 5. Abiotic Factors | e) all living and non-living things in an area |



Name: _____

Date: _____

Quiz Answers: Biotic Verse Abiotic*Direction: Match the words with the correct meaning.*

- | | |
|-----------------------------|--|
| b 1. Biotic | a) all the organisms in one area |
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