Unit: The Characteristics of Life

Lesson Plan 5: Characteristics 2: Organisms Must Obtain and Use Energy

Objective(s):

Students will be able to:

- Define key terms (cellular respiration, photosynthesis, food chain, food web)
- Explain how energy is obtained by plants and animals

Materials:

- Video from Discovery Education: (Subscription Required)
  Biology: The Science of Life: Ecology: Organisms in Their Environment. United Learning. 2003. Discovery Education. 15 Dec 2009. <http://streaming.discoveryeducation.com/>.

Anticipatory Set:

The second characteristic of all living organisms is that all organisms must obtain and use energy. We will explore ways in which plant and animals obtain and use their energy.

Lesson:

I. PowerPoint presentation
   Have students take notes.
II. Video

Lab Activity:

Create a food web showing the transfer of energy from producers to consumers to decomposers.

Evaluation:

- Lab observations
- Quiz on vocabulary

Characteristics and Classification of Organisms
Part 4

Characteristic 2:
Organisms must obtain and use energy

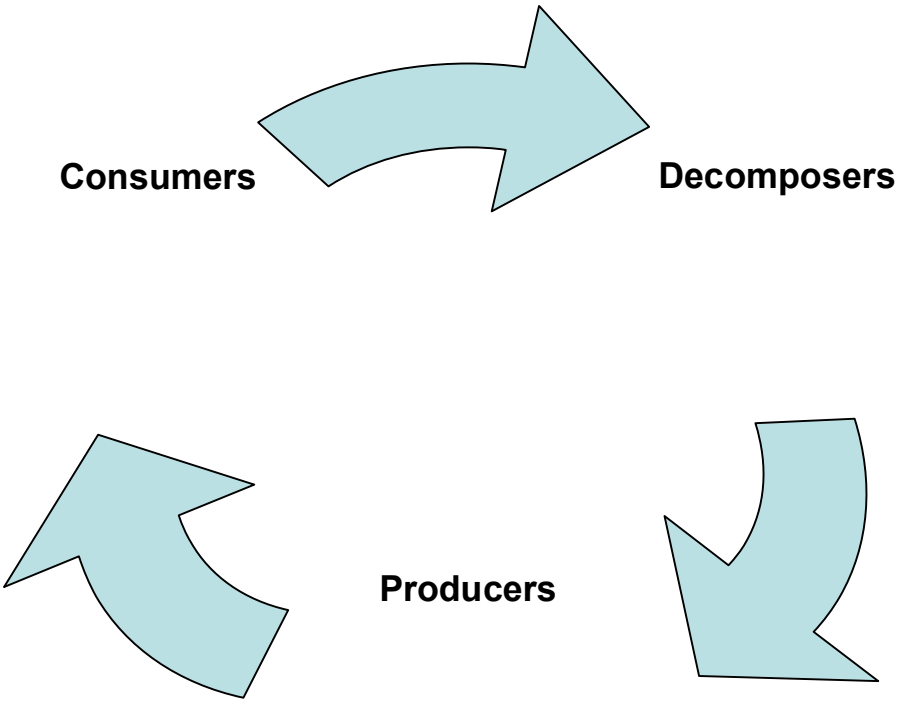
- **Photosynthesis:**
  - the process in which plant cells convert light energy into chemical energy

- **Cellular Respiration:**
  - the release of chemical energy for cellular use

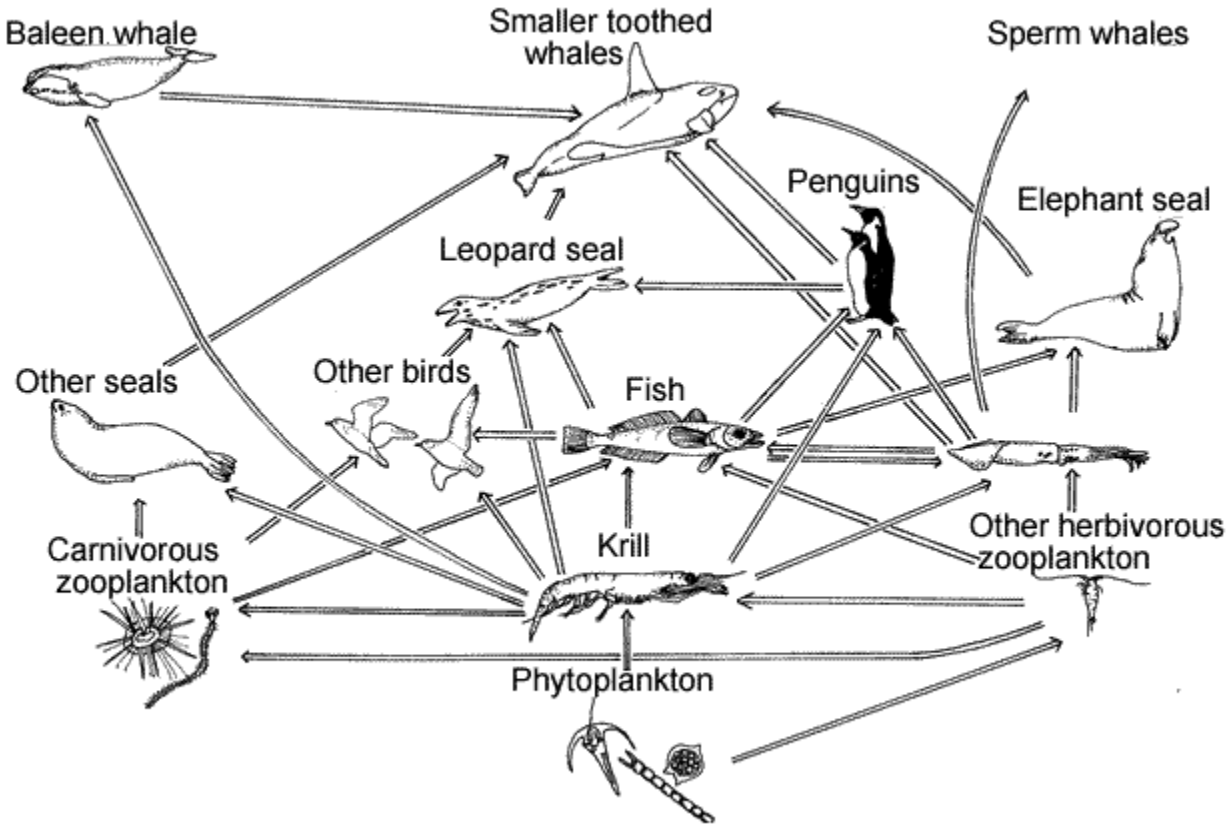
- **Food Chain:**
  - the transfer of energy through an ecosystem

- **Food Web:**
  - interconnected food chains in an ecosystem

Energy Cycle



Example of a Food Web



Name: _____ Date: _____

Quiz: Organisms Obtain and Use Energy

***Direction**: Use the word bank to fill in the blanks. Words may be used more than once.*

Cellular Respiration	Photosynthesis	Food Chain	Food Web

The transfer of energy in an ecosystem is organized in a (1) _____.

Multiple (2) _____ that interconnect is described as a

(3) _____. Unlike animals, plants are able to make their own food

using sunlight in a process called (4) _____. In this process, light

energy is converted into chemical energy. That chemical energy is then converted into a

form that the cells can use by the processes of (5) _____.

Name: _____ Date: _____

Quiz Answers: Organisms Obtain and Use Energy

***Direction**: Use the word bank to fill in the blanks. Words may be used more than once.*

Cellular Respiration	Photosynthesis	Food Chain	Food Web

The transfer of energy in an ecosystem is organized in a (1) Food Chain.

Multiple (2) Food Chains that interconnect is described as a

(3) Food Web. Unlike animals, plants are able to make their own food

using sunlight in a process called (4) Photosynthesis. In this process, light

energy is converted into chemical energy. That chemical energy is then converted into a

form that the cells can use by the processes of (5) Cellular Respiration.