

Target Grade: 3

Standard 2: Students will understand that organisms depend on living and non-living things within their environment.

Objective 1: Students will ...classify living and non-living things in an environment

1. Identify characteristics of living things (i.e. growth, movement, reproduction)
2. Identify characteristics of non-living things
3. Classify living and non-living things in an environment.

Materials: paperbags, abiotic and biotic objects, whiteboard, markers

Background information:

<http://www.ibiblio.org/astrobiology/index.php?page=origin06>

According to scientists, living things:

- are composed of cells
- require energy inputs and outputs
- reproduce
- display heredity
- respond to the environment
- maintain homeostasis/a state of internal balance
- evolve and adapt

Lesson plan:

1. Prepare some paper bags with different objects, some with things or pictures of things that are or were alive, such as leaves, bark, fur, wood, picture of animals (biotic objects) and some with things or pictures of things that were never alive, such as snow, sun, water, river (abiotic).
2. Break the students into groups and hand each group a bag. Ask the students to determine if the thing in their bag is something that is or was alive or something that was never alive.
3. Have each group share their object and tell how they would classify it. Make a list of biotic objects and abiotic objects on the board.
4. Ask students to think of characteristics of living things. How do they know if something is living? Some key points include: they can grow, they can reproduce, they eat and drink/use energy. Some of the other characteristics such as heredity, maintaining homeostasis, and adapting may be too much to cover at this age.
5. List their suggestion for characteristics of life and review their lists of abiotic and biotic objects. Explain that at the nature center they will be investigating abiotic and biotic parts of the river community, the plants and animals that live near and in the Logan River by Stokes Nature Center.