

First Grade Life Science Unit

Living and Non Living Things

Teacher Background Information – for teacher content knowledge only, NOT student learning goals

It is not always easy thing to tell the difference between living, dead, and non-living things. These are the six general rules used by scientists.

- Living things are made of cells
- Living things obtain and use energy
- Living things grow and develop
- Living things reproduce
- Living things respond to their environment
- Living things adapt to their environment

If something follows one or just a few of the rules above, it does not necessarily mean that it is living. To be considered alive, an object must exhibit all of the characteristics of living things. Sugar crystals growing on the bottom of a syrup container is an example of a nonliving object that displays at least one criteria for living things.

Instructional Implications

Because the child's world at grades K-4 is closely associated with the home, school, and immediate environment, the study of organisms should include observations and interactions within the natural world of the child.

Emphasis should be on asking questions, as well as developing observations and description skills. Children should talk about and draw what they see and think.

The idea that organisms depend on their environment is not well developed in our children. The focus should be on establishing the primary association of organisms with their environments and the secondary ideas of dependence on various aspects of the environment and behaviors that help various animals survive.

Big Idea

Living things need food, water, shelter, air and space.

Essential Questions

What are the needs of living things? How do we know something is living?

AAAS Benchmarks/National and Science Education Standards

- Most living things need water, food, and air.
- Plants and animals both need to take in water, and animals need to take in food. In addition, plants need light.
- Living things are found almost everywhere in the world. There are somewhat different kinds in different places.
- Stories sometimes give plants and animals attributes they really do not have.
- Some kinds of organisms that once lived on Earth have completely disappeared, although they were something like others that are alive today.

Materials/Resources

- FOSS: Animals Two by Two
- FOSS: Trees
- STC: Organisms

Science Process Skills

Observation
Classification
Simple Investigation
Prediction
Data Collection
Communication

Local Connections

- Observations and interactions within the natural world of the child, including pets and plants in the classroom, and the natural environment around the school
- Visits to DIPAC, Auke Bay Lab

Student Difficulties and Misconceptions

- Young children give anthropomorphic, attributing human characteristics and emotions to animals, explanations to organisms, associating “life” with any objects that move. Eventually children incorporate other concepts, such as eating, breathing, and reproducing to define life.
- In activities such as classification, young children generally use mutually exclusive characteristics.
- Young children think concretely about individual organisms, such as animals are pets or kept in a zoo. The idea that organisms depend on their environment is not well developed.

Related Scientist or Career Path

Biologist

ASSESSMENTS

Assessment– ongoing formative, appropriate for the primary classroom

Science Notebooks

Anecdotal notes – continuum

Photo documentation - of student work