Classifying Life

Summary

Students hunt for living things from the kingdoms of life, and make a collection with a sample from each kingdom.

Current Life Science Curriculum links

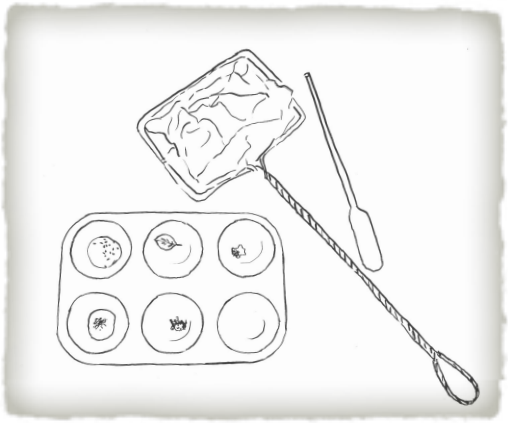
Characteristics of Living Things (gr K), Habitats and Communities (gr 4), Diversity of Life (gr 6), Ecosystems (gr 7)

Draft Biology Curriculum links

Features of Living Things (gr 1), Classification of Living Things (gr 3), Cells, Tissues + Organs (gr 5), Evolution (gr 7)

Processes of Science/Curricular Competencies

Curiosity, manipulation, questioning, recording data, comparing observations, interpreting data, inferring, predicting



Materials

- an outside area to find living things from several kingdoms
- if there is a pond, bring fine nets and pipettes
- small paint trays, or other collection dishes
- magnifiers (and microscopes if available), in the classroom

Materials Cost

Several dollars for trays, or use recycled containers. A couple of dollars for each net and pipette. Magnifiers are several dollars each, but worth the investment in a classroom or school. Microscopes are a more serious investment, but even one can enhance a lesson significantly.

Procedure

If necessary, review the kingdoms of life: animals, plants, fungi, protists, monera (now split into two kingdoms: eubacteria and archaebacteria, but can be treated as one). Review examples of living things that are in each.

Students are taken to an outside location with a variety of ecosystems e.g. small pond, rotting wood area. Alternatively, students can sort through a collection in the classroom that includes all the kingdoms.

Give each student a small tray with compartments. Ask them to find examples of each kingdom and put them in each well of the tray. The kingdoms of animals, plants and fungi can be large so easily observed e.g. animals such as worms, woodbugs, insects can be found in parks. Fungi are recognized as “mushrooms” and “moulds”, with their distinctive smell. Plants are everywhere. The other kingdoms of protists, eubacteria and archaebacteria are more challenging as the living things are so small. Pond or aquarium water samples can produce a range of tiny living things including animals, protists and bacteria. Dirt contains bacteria.

Examples that students might find:
Animals - pond organisms, insects, worms, wood bugs, snails.
Plants - any leaf, moss, pond plants such as duck weed.
Fungi - white filaments on rotting log, mushrooms. Fungi have a distinctive smell.
Protists - pond algae, pond single-celled organisms recovered with algae e.g. Paramecium.
Monera (eubacteria and archaebacteria) - bacteria in dirt, anywhere (but invisible to the naked eye).

More details, references and further experiments

- This activity at www.ingridscience.ca/node/449

ProD Day Feb 21st 2014
Hands-on Science
with Ingrid Sulston