Terrarium

Overview

Terrariums are an excellent tool for studying environmental science. A closed system, like a terrarium allow for scientific study of such phenomena as the greenhouse effect, the effect of photosynthesis. We can also contrast the conditions inside a terrarium to that outside this closed system.

Equipment

- An einstein™ LabMate™, a PC running MiLAB™Desktop
- Surface Temperature sensor
- A Light sensor
- A Humidity sensor

Experiment procedure

1. Launch MiLAB
2. Connect the Light, Humidity and Temperature sensors to the LabMate
3. In Current Setup select the sensors including the internal Light, Humidity and Temperature sensors
4. In Full Setup set the
    a. Rate to 1 /sec
    b. Duration to 2 hours
5. Select Run

The Science

There are several systems going on inside a terrarium. Light enters the terrarium's clear outside as high frequency waves. These waves are absorbed by the soil and plants in the terrarium which then radiate heat. Because heat takes the form of low frequency waves, the walls block these waves keeping the heat inside and raising the temperature inside the terrarium. This closed environment also allows the terrarium to create its own water cycle, where water is used by the plants, absorbed into the air where it condenses on the container walls and then reenters the soil. Therefore the terrarium is far more humid than the outside environment.