



# CREATE A MINI RAINFOREST



## GRADES 2-8

### MATERIALS

- large fish tank
- gravel
- charcoal
- compost
- small stones
- exotic plants (ferns, small orchids, moss, bromeliads, etc.)
- water

### STANDARDS

- SCI.3.3.2
- SCI.5.3.2
- SCI 6.3.1
- SCI.6.3.3
- SCI.6.3.4

### OBJECTIVE

- Students will observe a rainforest simulation to understand what processes take place within a true rainforest.

### BACKGROUND INFORMATION

- There are many different types of rainforests. Some are found in North America (temperate rain forest). Some are semi-deciduous, some are evergreen.
- Tropical rainforests lie between the Tropic of Cancer and the Tropic of Capricorn.
- Tropical rainforests receive between 60-400 inches of rain per year. Compare that to 36 inches received annually in northern Indiana.
- Temperatures usually stay between 70-85 degrees, varying little from day to night.
- Because they are close to the equator, tropical rain forests receive about 12 hours of sunlight each day year-round.
- High temperatures and abundant rainfall create a very humid environment. Humidity may range from 70 percent at night to 95 percent during the day.

### PROCEDURE

- Prepare the mini-rainforest.
  1. Layer gravel and then charcoal (both available at an aquarium shop) on the bottom of the tank.
  2. Spread small stones over the gravel/charcoal layer; create small hills and valleys.
  3. Cover the stones with about an inch of compost.
  4. Dampen the compost with water and plant the ferns, orchids, moss, and bromeliads. Allow plenty of growing space between the plants.
  5. Cover the aquarium with a glass top. Keep in a warm place out of direct sunlight.
  6. You may need to add a little water every few months.
- Have students maintain a rainforest investigation journal. Ask them to record the date and time and write down any changes that occurred. Measure plant growth, draw pictures or sketches.
- Investigate and ask students to offer a hypothesis: Why does the rainforest require so little water? What processes are taking place inside the tank?

### RECOMMENDED ASSESSMENT

- Assess students based on their understanding of the processes going on inside the tank.

