

# Build Your Own Ecosystem

Both of these activities can be done individually by students, or as a class demonstration. (Cost is ~\$1.60 per student if they are doing these individually)

## Aquatic Ecosystem

### Materials:

- 2L bottle (or other container)
- Gravel
- Water
- Feeder fish (1-2 per 2L bottle)
- Freshwater snails (1 per 2L bottle)
- Freshwater plant (1 per 2L bottle)
- Water treatment solution (optional, and available at pet stores)

1. Through the bottle opening, put about 2 cm of gravel in the bottom of the bottle.
  2. Pour in water until the water level is about an inch below the shoulder of the bottle. This will allow for an air pocket.
  3. If using tap water, treat the water at this point with chlorine treatment, or let the bottle sit open for a few hours to allow the chlorine to escape.
  4. Add the plants in by using a fork or dowel to embed the roots of the plant in the gravel at the bottom of the bottle.
  5. Slowly and carefully add the fish and snails
- \*Review what the biotic and abiotic elements are in an ecosystem—what are the biotic and abiotic parts in the aquarium? Are all levels



of organization included in this ecosystem?

### Materials:

- 2L bottle (or other container)
- Scissors
- Gravel
- Potting soil
- Small plants (1-2 per 2L bottle)
- Activated charcoal (acts as a water purifier, available at pet stores)

## Terrestrial Ecosystem

1. Draw a line around the bottle about six inches from the bottom.
2. Place a handful of gravel in the bottom half of the bottle. 1-2 inches deep is ideal for drainage.
3. Add a layer of charcoal over the gravel.
4. Add a layer of potting soil and fill the bottom of the container until it reaches about 1 inch from the top.
5. Plant the plants—make sure there is only 1-2 plants per bottle to allow for adequate spacing.
6. Water the newly transplanted plants—the soil should be moist but not soaked.
7. Place the top part of the container back on the terrarium. It is generally easier to squeeze the edges of the bottom and slide the top part of the bottle over it.
8. Be sure the bottle gets sunlight but is not left



in direct sunlight for an entire day—it can get too hot for the plants in the container.