



Water Babies

Introduction

In *Around One Cactus: Owls, Bats and Leaping Rats* author Anthony Fredericks introduces students to the fascinating creatures that live in and around the Saguaro Cactus. One animal, the Kangaroo Rat, is so efficient in extracting the dry seeds it eats into water that it needs no other water source. In this activity students discover how changes in an animals environment can effect water retention.

Materials Needed

- ◆ One small sponge per student
- ◆ A control sponge for the classroom
- ◆ Water
- ◆ Balance

Procedure

1. Provide each student with a small sponge saturated with water. Explain to students that this represents a desert animal with a limited amount of water.
2. To measure the beginning moisture content, each student or group should use the balance to determine the mass of the sponge. A control sponge should be left unprotected for the experiments duration.
3. Over a 24-hour period, students should take care of their "animal" in a manner that will best conserve the water it contains using only natural materials. During this 24-hour period, the "animal" must be left out for at least 4 hours to "feed".
4. At the beginning of the experiment invite students to plan a water retention strategy and write it down along with predictions of what will happen.
5. During the 24-hour period, students should make and record observations.
6. At the end of the allotted times students should again record the mass of their sponges.
7. Students should compare with the previous mass and make inferences about the results in relation to real organisms with limited or temporary water supplies such as the lizards, rats and foxes mentioned in *Around One Cacts*.

Key Concepts

- ◆ Students answer questions using scientific observation or investigation.
- ◆ Changes in environments can be natural or influenced by humans.
- ◆ Some environmental changes occur slowly, and others occur rapidly.

For standards correlation please see our website.

Nature Connections

- ◆ Deserts get less than 10 inches of rain a year. Invite students to compare the amount of rain these desert towns receive in a year with their own home town: Mojave CA, Phoenix AZ, Needles CA, Tucson AZ, Palm Springs CA, and Las Vegas NV.
- ◆ Invite students to obtain different types of cactus plants from a nearby nursery. Ask students to arrange the cacti in an attractive display. Encourage students to research and assemble a guidebook on how to take care of cacti.

Additional Resources

Students can create various desert animals from homemade clay. Here's an easy recipe:

- ◆ Mix 1 cup flour and 1/2 cup salt
- ◆ Add 1/3 cup of water, a little at a time
- ◆ Squeeze the dough until it's smooth
- ◆ Form the dough into shapes; air dry or bake at 225 degrees for 30 minutes
- ◆ Paint with tempera paints

