ORLANDO SCIENCE CENTER

Discovery Lab Post-Visit Activities

Wonderful Water

Grades 3-5

We hope that you enjoyed your visit to the Orlando Science Center! As a means of enhancing and extending your students' Discovery Lab experience into the classroom, we are providing you with these post-visit materials to share with your class.

Discussion Topics:

- Adaptations are special body parts or behaviors that allow an organism to survive in its environment. Many different types of living things have adapted to life in Florida ponds in many different ways. *Make a list of living things found in a Florida pond. How have each of these organisms adapted to this particular environment?*
- Most plants and animals are able to survive in only a very specific habitat, where the conditions are best suited to them. *What happens to wildlife when a habitat is altered, either naturally or by humans?*
- Microscopes are tools that magnify images too small to be seen by the naked eye. Why do scientists use microscopes? List the different types of things a scientist can look at using a microscope.

In Class Activities:

- Habitat loss is the single greatest threat to the survival of many species of animals. Prepare four or five large paper mats, each a different color, and label them with the name of a type of habitat (such as forest, wetland, ocean, and so on). Lay the paper mats on the floor. Each student should select a habitat and assume the identity of an animal that lives in that particular habitat. More than one animal can occupy a habitat, but animals should keep at least one foot on the habitat mat at all times. Once everyone is in place, tell a short story describing the alteration or destruction of one of the habitats (for example, the wetland dries up in a severe drought, or the forest is cut down to build a housing development). Remove the colored mat representing that particular habitat. Displaced animals must find a new habitat and stand with one foot on it. If animals are unable to find another suitable habitat, they do not survive and are out of the game. Continue telling stories of habitat destruction and removing the corresponding habitat mats. Crowding, tension, and aggressive behavior may result, similar to what typically occurs in nature. End the game when most of the animals have lost their habitat.
- The best way to investigate what goes on below the surface of a Florida pond is to dive below the surface. Explore the underwater habitat without getting wet by building an underwater scope. Rinse out an empty half-gallon milk carton and let it dry. Cut off the top and bottom of the carton. Cover one end of the open carton with plastic wrap and secure it with a rubber band. With the open end of the underwater scope facing up, submerge the plastic wrap-covered end of the scope in the water. Look through the top of the scope and down into the water to discover what goes on below the surface.

Math Problem:
Bullfrogs can jump up to 20 times their own body length in a single leap. Their powerful hind-leg muscles make it easy for them. If you could hop like a frog, how far would you be able to hop?

Measure your height with a tape measure. Multiply your height by 20 to determine how far you would be able to jump if you had the jumping abilities of a frog.

Mark off a starting line with masking tape on the floor and have students form a line behind it. Each student will have three tries to jump as far as they can. All jumps should be made from the starting line—no running jumps allowed! Measure and record the distance of each jump.

How far were you actually able to jump? To figure out how many times your height you are able to jump, divide your jumping distance by your height.

If the average 10 year old could jump 20 times their height, then:

Avg. 10 year old = 54 in. tall
54 in. x 20 = 1080 in. = 90 feet

If you could hop like a frog, then you could jump from home plate to first base in one leap. If you jumped straight up, you could jump as high as the top of a 9-story building!

Writing Prompt:
Write a letter to the governor expressing your concerns for the frog populations in Florida ponds. Ask what measures are being taken to ensure the health of these frogs and what things you and your class can do to preserve frog populations and the overall health of Florida ponds.

Art Project:
Talk about ways that the local environment may be changing over time. Ask students for ideas about what plant or animal characteristics might enable species to survive these changes. Have students draw pictures of a new plant or animal species that would be adapted to the environment of the future.

Additional Resources:
The Web of Life (Newbridge)
Eyewitness: Ecology by Brian Lane & Steve Pollock (DK Children)
Aliens from Earth: When Animals and Plants Invade Other Ecosystems by Mary Batten (Peachtree Publishers)