

# Discovery Lab Pre-Visit Activities Wonderful Water Grades 3-5

Thank you for booking your field trip to the Orlando Science Center! As a means of preparing your students for their Discovery Lab and enhancing their experience, we are providing you with these pre-visit materials to share with your class.

## **Discovery Lab Objective:**

Buddy up with bullfrogs, analyze pond pollutants up close, and dive into urban pond discovery. Students will conduct pH analysis, use microscopes, and learn what challenges these creatures face.

### **Next Generation Sunshine State Standards:**

SC.3.N.1.1, SC.3.N.1.2, SC.3.N.1.3, SC.3.L.14.1, SC.3.L.15.1, SC.3.L.17.2, SC.4.N.1.1, SC.4.N.1.2, SC.4.E.6.5, SC.4.L.17.2, SC.4.L.17.3, SC.4.L.17.4, SC.5.N.1.1, SC.5.L.17.1

## **Key Vocabulary:**

- Adaptation: a characteristic of an organism that increases its chance of survival in its environment
- Consumer: an organism that feeds on other organisms for food
- Decomposer: any organism that feeds or obtains nutrients by breaking down organic matter from dead organisms
- Ecosystem: an integrated unit of a biological community, its physical environment, and interactions
- Microscopic: relating to an object too small to be visible without the use of a microscope
- Producer: an organism that makes its own food from the environment; usually a green plant

# **Key Concepts:**

- Technology and tools help to extend the ability of humans to observe very small things and very large things.
- Plants use energy from the Sun, air, and water to make their own food.
- Energy from the Sun is transferred along the food chain through the producers to the consumers.
- Animals can be classified into major groups (mammals, birds, reptiles, amphibians, fish, vertebrates and invertebrates) according to their physical characteristics and behaviors.
- Adaptations, such as life cycle variations, behaviors, and physical characteristics, enable plants and animals to survive in different environments.
- Plants and animals, including humans, can impact the environment.

# **Discussion Topics:**

• Every organism requires a place to live that satisfies its basic needs for food, water, shelter, and space. Such a place is called a habitat.

How do living things interact with their habitat to satisfy their basic needs?

 Habitats can vary tremendously in terms of size and appearance. Several different types of living things may all share a single habitat.

Create a web chart of different types of habitats and what kinds of plants and animals live in them. Ask students which habitat they think it is easiest or hardest to live in. Why?

 Our planet is constantly changing. Many of the changes taking place on Earth are part of natural cycles. Other activities, however, can also cause changes to the environment.

How do plants and animals, including humans, impact the environment?

#### In Class Activities:

- Science is about testing and making close observations. Some scientists use microscopes to take a close look. You can use a piece of paper! In the center of a piece of paper, draw a square that is I inch long on each side. Fold the paper in half and cut out only the I" square. Now you have a I" square window to examine things through. Choose something interesting: a tree trunk, a leaf, or a flower. Put your window over the object and look at it closely. Take your time this is not a race. To help you see more details, draw a picture of what's inside your square. Describe what you see: Is it wet or dry? Hard or soft? Smooth or rough? Alive or not? What colors and shapes do you see? Now you know how to observe and describe things in nature, just like a scientist!
- Classify animals in your very own picture zoo. Gather a large collection of pictures of plants and animals cut from magazines. Pretend the pictures are real plants and animals and organize them into exhibits for a new museum or zoo. How many different ways can you classify and group your plants and animals?
- Follow the flow of energy through an ecosystem by weaving a Florida pond food web! Assign one student the role of the Sun, and allow the remaining students to select a pond organism (plant, fish, bird, amphibian, reptile, or mammal) of their choosing. Have students stand in a circle and introduce themselves as the plant or animal that they represent. The sun should stand in the center of the circle. Hand a ball of yarn to the sun. The yarn represents energy. Encourage students to look around the circle and question: Who could I give my energy to? Who could give me energy? Toss the ball of yarn around the circle, from Sun to producer to consumer to form a food chain. Cut the yarn when the food chain is complete. Repeat until every pond organism is a member of a food chain and is holding a piece of yarn connected to another organism. Discuss how all the animals are connected and what were to happen if one were to go extinct.

#### Additional Resources:

http://www.kidsbiology.com/ http://www.biology4kids.com/ http://www.epa.gov/kids/ http://kids.nbii.gov/ http://www.mbgnet.net/