

## **POND EXPLORATION**

**Lesson By:** Daniel Kauffman

**Grade Level:** Fourth

**Focus:** The object of this lesson is to teach the basic habitats and functions of the ecosystem in the aquatic structure (the pond). This lesson will show how to properly identify the fish species within the pond as well as the locations where these fish may be found.

### **Objectives:**

1. Students should be able to explain a food chain.
2. Students should be able to give examples of a food chain in the aquatic structure (pond)
3. Students should be able to correctly identify the main two species of fish in the pond (largemouth bass, and bluegill)
4. Students should be able to explain the different types of habitat in the pond from visual observations.
5. Students should be able to test the water from the pond and write their observations down to share.
6. Students should be able to explain why certain species of fish live in certain areas and others don't due to predation.

### **Standards:**

#### **EL 4.7.1 2006**

Ask thoughtful questions and respond orally to relevant questions.

#### **EL 4.7.15 2006**

Connect and related experiences and ideas to those of the speaker.

#### **SC 4.1.1 2000**

Observe and describe that scientific investigations generally work the same way in different places.

#### **SC 4.2.5 2000**

Write descriptions of investigations, using observations and other evidence as support for explanations.

#### **SC 4.4.4 2000**

Observe and describe that some source of energy is needed for all organisms to stay alive and grow.

#### **SC 4.4.6 2000**

Explain how in all environments, organisms are growing, dying, and decaying, and new organisms are being produced by the old ones.

### **Background:**

Background material is found in the Teacher's Guide.

**Materials:**

1. Fishing Equipment (provided by Camp Adventure)
2. Pencils and paper
3. Water testing kit (available at Camp Adventure)
4. Explorer's Journal

\* Note: if you would like to do this activity, please call Camp Adventure ahead of time so they can be sure the fishing poles and water testing kits will be available for you

**Procedure: (50 Minutes Total)****Part 1 [40 Minutes]**

1. Most students will have limited experience fishing so it is important that you save at least fifteen minutes before the fishing begins to teach the basics such as casting, and baiting. For more information and tips about fishing visit:  
[\[http://www.tpwd.state.tx.us/learning/angler\\_education/learnfish\\_howto.phtml\]](http://www.tpwd.state.tx.us/learning/angler_education/learnfish_howto.phtml)
2. As the students are fishing be sure to take pictures for each student's explorer journal if they are successful in catching a fish.
3. A main goal for this activity is for students to determine the difference between a largemouth bass and a bluegill. The instructor should have pictures of both species printed out for this activity.
4. At this point explain to the students the way a food chain works as well as predation. The largemouth bass feed on bluegill, and the bluegill feed on insects.

**Part 2 [10 Minutes]**

5. The next part of this lesson is the water testing.
6. Just like the Stream Exploration activity the two water quality indicators that they are observing is dissolved oxygen and dissolved solids. Dissolved solids determines how many material is already dissolved in the water and dissolved oxygen determines how much oxygen is available for aquatic plants and animals to use.
7. The instructions for these tests should be in the water testing kit itself.

**Evaluation**

1. The explorer's journal will act as an evaluation for the students. Make sure each student is carrying and filling out their journal throughout the day and activities.
2. Collect Journals and hand out all pictures taken for journals.
3. Instructors will evaluate the comments, participation, and the connections made in the class discussion.