**Activity Description:**

1. Give each student a strip of adding machine tape approximately three feet long. Take leaves from the same tree or shrub and give each student one leaf and a 2-3 inch piece of masking tape. Have students attach the two ends of the masking tape and use it to attach the leaf at the top of the tape.

2. Tell students that they should list as many words or phrases as possible to describe the leaf. They can remove the leaf and look at it from all angles. Challenge students to fill the paper with as many descriptive words as possible

3. After approximately five minutes, have a volunteer read his/her list of descriptive words very slowly. As words are read, others in the group place checks on their own strips when the same descriptor, or a very similar one, is given. Have another volunteer read the words that have not been checked off yet. Continue to have students read words that they have on their sheets until all have been marked off on everyone's strip of paper.

4. Have students look at their own lists and analyze the types of patterns that they may see in the similar descriptors. Talk about how differently people in the group viewed the characteristics of their leaves.

**Process skills utilized:**
- observing
- describing
- recording
- analyzing
- communicating

**Content extensions:**
- introduction to descriptive writing and language
- introduction to plant study

**Introduction to descriptive writing and language**

Useful in any content area where the main theme will be careful observation can be used with other objects (e.g. stones for geology)

--Herb Broda

--Louise Fleming
Focus on Student Research

Audra Taylor (AU’07) is an Environmental Science major (Biology concentration). Her faculty mentor is Dr. Soren Brauner. This fall she will be starting a Master’s program in Biology at the University of Toledo.

Which organism(s) are you studying? Who are they?
I am studying the reed canary grass (Phalaris arundinacea), an invasive grass blanketing much of the preserve.

What is your main question? What do you want to know, and why?
We are trying to determine the genetic diversity of the grass within the wetland. A high level of genetic diversity could indicate multiple introductions and/or a higher resiliency and adaptability, meaning that it could spread more easily.

What have you learned? Describe your favorite “new thing.”
I was completely unfamiliar with many of the techniques I have used in lab, so just learning basic DNA extraction and PCR procedures has been great. I have also gained a much better understanding of what a PCR reaction actually does, and what results it shows.

Has the BFW preserve been important to your study? In what way?
The BFW Preserve has been crucial to our project because it provides all our samples! It has allowed easy access to many populations of the grass, enabling a more complete study.

Do you plan to keep working in science? What are your plans after graduation in May?
I will be working in the Analytical Chemistry department at WIL Research Laboratories, performing bioanalytical studies. Hopefully the skills I learn here will help me further down the road into environmental testing. My ultimate goal is to work at conserving the world that we have.

Dick Stoffer took these terrific pictures of Killdeer (Charadrius vociferus) near the new boardwalk. This parent is doing a broken-wing display. He or she is trying to lure Dick away from a nest by pretending to look “catchable!”

Focus on Student Research

Laura Hord (AU’07) is a Biology major. Her faculty mentor is Dr. Dick Stoffer. After graduation she will be working at WIL Research Laboratories.

Which organism(s) are you studying? Who are they?
I studied members of the order Odonata, dragonflies and damselflies. Dragonflies are larger and often hold their wings flat out while at rest, while damselflies are much smaller and hold their wings closed and near their body while resting.

What is your main question? What do you want to know, and why?
The purpose of this project was to take surveys of the species at the preserve—basically, to find out what lives there.

In general terms, what are you doing to answer your question?
This project involved getting out in the field, catching the odonates, identifying them back in the lab, and seeing how the species found at the preserve compared to the species that have been found in Ashland County and the surrounding areas.

What have you learned? Describe your favorite “new thing.”
It’s amazing to me how precise the art of identifying these individuals actually is. The difference between two species is often narrowed down to the pattern or shape of a specific vein in their wings. Not only does it really make me appreciate the efforts of the scientists who sat down and keyed these species out for the very first time, but the detail that’s put into the creation of these organisms.

Has the Black Fork Wetlands Preserve been important to your study? In what way?
The wetlands are a great place, because they have so many ecosystems all in one place—a marsh, open water, a swamp, a river, and forest, lots of forest. I’ve been out to this preserve for many lab exercises in the past couple years, and it’s great that such a diverse area is so close to campus.

Do you plan to keep working in science? What are your plans after graduation in May?
This fall, I will be starting my Master’s program in Biology at the University of Toledo. I will again be working on a project involving invasive species, so my undergraduate research has been very relevant and useful!