Wild Wild Wetlands
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Objective: This lesson is intended to introduce students to biodiversity and environmental science via interaction with a wetland environment. The focus of this lesson is on ecological sampling, improving observation skills and cooperative teamwork/discussion. At the completion of this lesson, students should also gain a better understanding of wetland ecosystem significance.

Lesson outline:
1) Start with a background talk/presentation (PowerPoint presentation) regarding wetlands. Some useful topics to discuss may be:
   - Current status of wetlands in the United States and Indiana. What is a wetland anyway?
   - Wetlands as a rich ecosystem
   - How wetlands improve the environment for humans
2) Take the students on a field trip and have them become wetland ecologists. Site activities may include:
   - Simple ecological sampling at different sites associated with wetlands (stream, pond, marsh, prairie).
   - After collection, have students generate detailed observations on plant and animal life. This includes taking ambient field measurements (air, water temp, etc.) as well as measurement of wildlife populations and analysis of individual specimens (i.e. length, mass, etc.)
   - Take field samples back to the classroom
3) Animal identification (classroom activity)
   - Analyze the collected specimens and conduct detailed observations of the living material (again emphasizes measurement)
   - Use field guides to come up with categories for the collected animals/plants
   - Assess differences/similarities in biodiversity among the different site locations. Discuss why a particular plant/animal species inhabits one area but not another
4) Recording and interpreting scientific data
   - Help improve descriptive writing skills (give students examples of good/poor descriptions)
   - Compare the quality of their field and classroom observations (are their any differences?)
   - Distinguish between an observation and an inference.

Wrap up: Have students write a short reflection piece about their trip experience and what they learned.

Tips for Success:
1) Obtain as many adult chaperones in the field as possible. For each chaperone, we recommend assigning several groups of 3 students.
2) Students cannot collect any biologic material until their previous observations/descriptions are approved by an adult.
3) Specify rules for conduct before reaching the field site.
4) Assign roles and alternate these roles among group members. Some suggested roles are:
   - Recorder: record observations
   - Measurement person: measure water depth and temp, body lengths of wildlife, etc.
   - Collector: collect wildlife (with water dipnets and surrounding areas with sweepnets
5) If bringing the specimens back to class, have appropriate aquariums, aerators, etc., to keep specimens alive for designated period of study.

Visit our website for more information about the GK-12 Program and to download classroom materials: http://www.purdue.edu/dp/gk12/