Lesson Plan

**Botany Notebook**

**Class:** Science/geography

**Grades:** 5-8

**Time:** One class day for field trip collecting, plus one class period for finishing.

**Objectives**

* Provide students with an opportunity to see native plants in their natural surroundings
* Allow students to identify different plants native to their own state (geography)
* Students will demonstrate they can use a variety of sources to identify and label botanical specimens using a field identification guide, online source, or plant “expert”.
* Plants will be sorted by students into “edible” and “toxic” specimens (grades 6-8).
* Students will discuss how climate determines which species are growing in the field trip site.
* Students will evaluate which plants they find most interesting and/or useful to them and/or the local population.

**Background information**

This lesson is intended to be conducted as a field trip with a follow-up day for completion in the classroom, finishing with a group discussion.

The teacher should be prepared with knowledge of plant species in the area ahead of time, researching which plants and trees will be encountered.

Students are asked to collect 10-20 samples of different plant species to put in a collection bag, and later placed into a botany notebook.

Once the students are back to the classroom, they will identify what they have found (unless they are walking around with a field guide or prepared list ahead of time), and label each species.

Each collection will go into a separate student notebook for teacher evaluation and could go on display for parents at open house.

**Materials and resources**

* Collection bag
* Scissors
* Field guide to local botanical specimens, or packet with descriptions and photographic examples, and/or internet access to plant identification, and/or a botany specialist from USFS willing to help students in the classroom or at the field site.
* Three-ring notebook with plastic sheet covers (more secure), or spiral notebook (more economical.
* Extra paper for placing each specimen on and for labeling
* Glue
* Pencil or waterproof marker
* Optional: colored pencil for sketching

**Procedure**

1. Ahead of time, the teacher should visit the field trip site to survey which plants are most likely to be collected by students. Prepare to discuss and give examples of any toxic plants that SHOULD NOT be collected and brought back to the classroom (these can be sketched in the field, or photographed, instead).
2. Arrange for transportation to field trip site and contact a USFS botany expert with field trip date, if desired.
3. Collect materials
4. Discuss the purpose of and expectations for the field trip with the students, and secure permission slips.
5. Take students to the field trip site and have them work alone, or in small groups to collect a determined number of plant species.
6. If possible, while collecting, have students identify the species.
7. Before returning, discuss with students which plants were found and how the climate determines what native plants will successfully grow in your area.
8. In the classroom, have students place samples of their botany finds in notebooks, correctly labeling each species. Middle school students should list common names as well as scientific names.
9. Have middle school students categorize their species, and also label each as toxic or edible.

**Variations**

* Rather than collecting actual plant species, students can collect photos of species or make drawings of each species.
* More species could be collected for extra credit or an extra challenge.
* No notebook, but instead create a large class display with samples of botany from each person or small group.
* A digital notebook could be created using Powerpoint, blog or a YouTube slideshow.

**Motivation and participation**

Getting out of the classroom is fun! Students should be reminded that this is a science and geography lesson where they have the freedom to go above and beyond the requirements. Doing individual notebooks gives artistic students an outlet to be more creative than in a classroom workbook. Letting students choose the plants they collect will empower them to own their project and do their best work.

**Assessment**

Notebooks will be assessed by the teacher for meeting the minimum criteria of identified samples, but students who go above and beyond will have an opportunity for special recognition.

Student notebooks can be traded 3-4 times with other students for peer feedback and comments or questions.

Students have a chance to hear/participate in a teacher-led discussion about the connection between geography, climate and local plant species.