



Southeast Alaska Discovery Center

Lab to Go – Plant Pressing

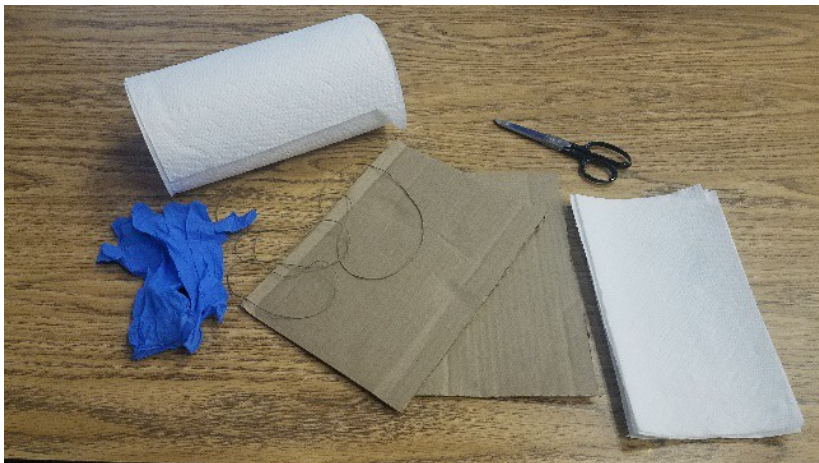
Activity Information: The world is a treasure trove of flora (plants), new species are found every year. Some botanical gardens keep living samples but cannot keep samples of every species. The solution botanists (plant scientists) created was to make a collection of pressed plants. Botanists compare their discoveries to these specimens, identifying new plants, and document the diversity and distribution of plants on Earth. The system botanists use includes pressing plants, mounting specimen on heavy paper, and writing to record information about the plants. Information labels record when and where the plant was found, the name of the collector, the date, the habitat, and the plant's common and scientific names. These specimens are kept in plant libraries, called herbaria, which scientists use to identify specimens. Today, we also have apps like iNaturalist, online photo libraries, and books with plant information available for studying plants. Discuss the disadvantage of only keeping online/book pictures rather than collecting plant samples? (Pressed specimens can be DNA identified.)

Goals:

- Students will be able to define the vocabulary words botanist, specimen, and herbarium.
- Students will make observations about the habitat where their specimens are collected.
- Students will create a small plant press from recycled materials.
- Students will collect plant specimens and identify them.
- Students will use the plant press to prepare the specimens.

Supplies:

- Corrugated cardboard, about 12" x 8" (2-6 sheets)
- Sheets of newspaper or paper towel cut to the same size as the cardboard
- String/twine to tie press or heavy object to place atop the press
- Gloves and eye protection
- Garden clippers, or sturdy scissors





Directions:

Safety and Collecting Specimens

1. Safety is important in all scientific explorations, even in your back yard or school playground. Some plants cause irritation to the skin and eyes or may be poisonous.
 - a. Wearing gloves will protect your hands and safety glasses can protect your eyes.
 - b. Wash your hands before and after touching specimens.
 - c. Look at the specimen **before** collecting and identify the plant (when possible) before you touch it.
 - i. Plants may have thorns or other defenses that discourage animals and insects from eating them. Some look fuzzy and harmless, like cow parsnip, the tiny barbs on the end of the fuzz covering the stem can cause itching, burning, swelling, and rash.

Collecting Specimens

1. A scientific herbarium collection usually features plants native to a particular location or geographic area.
 - a. Decide on your purpose for collecting and pressing plants.
 - i. Discuss as a class what types of plants or plant parts to gather and where they will be collected.
 - b. The best time to collect plants for pressing is when the weather is dry.
 - c. Use garden clippers or sturdy scissors to cut flowers, leaves, or entire plants.
2. As specimens are collected the students should number each specimen bag and complete a data sheet. The data sheet is a record of information about that plant.
 - a. If you collect roots or whole plants - Loosen the soil around the plant base and gently pull the plant free from the soil.
3. Place specimen in sealed plastic bags and place out of the sun to keep them fresh. A moist paper towel in the bag helps keep them from wilting too much.
4. Place plants in the press as soon as possible.

Make a Recycled Materials Plant Press and Pressing the Plants

1. Lay one of the flat pieces of cardboard on the table
2. Place two pieces of paper on the cardboard,
3. Place the first specimen on the paper

a.



- b. Carefully lay each plant specimen in between two sheets of paper. One plant per layer.



- c.
- i. Make sure the plants don't touch.
 - ii. Arrange flowers and other plant parts in a natural way. Their parts should be visible when pressed.
4. Add two more layers of paper before the next specimen.
 5. Continue to make alternate layers of papers and specimens until you have all specimens arranged.
 6. Add two papers on top of the last specimen then the top layer of cardboard
 7. Use the twine to tie the cardboard layers together tightly or place under a heavy object.
 - a. Tighten string around the stack or place under a weight to create pressure that will help the plants dry.
 - i. Leave your press in a warm, ventilated location.
 - ii. Most plants will dry in ten days to two weeks. Some specimens may take longer.
 - iii. If they are still moist when you check them, change the outer layer of paper not touching the specimen.



Data Sheet – Keep a record of your specimens by completing the data sheet for each. Remember, what you write down can help you and other scientists use your specimens in the future.

Your Name	
Specimen Number	(This should match the number on the paper in the plant press.)
Specimen Common Name	
Specimen Scientific Name	
Location of Specimen	
Date Collected	
Time Collected	
Description of Specimen	



Sample Data Sheet –



Your Name	Jane Doe
Specimen Number	1 (This should match the number on the paper in the plant press)
Specimen Common Name	Rose
Specimen Scientific Name	<i>Salvia farinacea</i>
Location of Specimen	Philadelphia, PA
Date Collected	June 01, 2000
Time Collected	12:00 PM - The weather was warm and sunny.
Description of Specimen	Plant was climbing a fence in the botanical garden. The flowers are deep red in color with yellow centers. Many insects including honeybees were actively feeding on the open flowers.