Plant Press

Mid-Valley
STEM-CTE HUB

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Plant Press

The Plant Press Kit provides students with a hands-on introduction to botany, ecology, and scientific observation through the collection and preservation of plant specimens. Using plant presses and blotter paper, students can create dried specimens of leaves, flowers, grasses, and other plant materials for identification, classification, artistic projects, and environmental investigations. This kit supports inquiry-based learning while helping students explore local biodiversity, document observations, and practice authentic scientific techniques used by botanists and conservationists.

Grade Level

3rd grade - college

Group Size

2 - 4 students per plant press

Time Duration

30–90 minutes of active work over 1–2 class periods, plus 1–3 weeks of drying time.

Content of Kits

Components

- 10 Plant presses
- Blotter paper
- Graph paper

- **NOTE:** Educators will want to have some corrugated cardboard on hand for this project.

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Usage

Getting Started

1. View the **Using a Plant Press** instructional video from OSU Extension to orient yourself with the equipment and methodology.

2. **Inspect the Plant Presses**
Unpack the plant presses and review the components included in the kit. Familiarize yourself with the wooden boards, straps, and blotter paper, and ensure all materials are present and in good condition. Plant presses work best when layers of cardboard are used between specimens to improve airflow and absorb moisture during the drying process. Gather corrugated cardboard pieces that can be cut to fit inside the presses.

3. **Prepare Plant Specimens**
Before introducing the kit to students, identify an area where plant specimens can be collected or gather sample leaves, flowers, grasses, and other plant materials in advance. Encourage students to select specimens that are relatively flat and not excessively damp, as these will dry more effectively and produce higher-quality preserved samples.

4. **Assemble a Practice Press**
Practice assembling a plant press before beginning classroom activities. Place a specimen between sheets of blotter paper, stack the layers inside the press with layers of cardboard in between, and tighten the straps evenly to apply gentle pressure. Completing a test specimen will help you become familiar with the process and prepare you to answer student questions.

5. **Plan for Drying and Documentation**
Choose a dry, well-ventilated location where completed presses can remain undisturbed while specimens dry. Consider how students will label and document their specimens by recording information such as the plant name, collection date, location, and observations.

Storage

Ensure all plant presses and blotter paper are completely dry before storing them. Moisture trapped in the materials can lead to mold, mildew, or warping of the wooden boards. Store the kit in a cool, dry location away from direct sunlight and humidity.

Troubleshooting

- **Specimens Are Turning Brown or Developing Mold**

Specimens may discolor or mold if they contain too much moisture. Use relatively dry plant material, replace damp blotter paper, and include cardboard layers to improve airflow.

- **Specimens Are Not Drying Flat**

If specimens curl or wrinkle, make sure they are arranged flat before pressing and that the straps are tightened evenly. Avoid overcrowding the press.

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Activity Guide

Beginner

Plant Parts Investigation
Students collect and press plant specimens while observing and identifying different plant structures such as leaves, stems, flowers, and seeds. Students compare similarities and differences among specimens and record observations in a science notebook.

Oregon Science Standards Alignment
4-LS1-1 & 3-LS3-1

Procedure

1. Collect several plant specimens from the schoolyard or a designated outdoor area.
2. Observe and sketch each specimen before pressing.
3. Identify visible plant structures and record observations.
4. Place specimens in the plant press using blotter paper and cardboard layers.
5. After drying, compare specimens and discuss how plant structures support survival.

Intermediate

Students investigate biodiversity by collecting plant specimens from different locations and creating a classroom herbarium. Students analyze patterns in plant distribution and habitat.

Oregon Science Standards Alignment
MS-LS2-1 & MS-LS2-2

Procedure

1. Divide students into teams and assign different collection areas.
2. Collect and document plant specimens from each location.
3. Record habitat information such as sunlight, soil conditions, and nearby water sources.
4. Press and preserve specimens.
5. Create a classroom herbarium with labels identifying collection locations and plant characteristics.
6. Analyze which areas contained the greatest variety of plants and discuss possible reasons.

Advanced

Students create professional-quality herbarium specimens and use scientific resources to identify, classify, and document local plant species. Students investigate how scientists use preserved specimens to study environmental change over time.

Oregon Science Standards Alignment
HS-LS2-6 & HS-LS4-5

Procedure

1. Collect plant specimens while recording collection dates, locations, and habitat information.
2. Press specimens using proper preservation techniques.
3. Research and identify each specimen to the lowest possible taxonomic level.
4. Create herbarium labels that include scientific names, collection information, and observations.
5. Present findings and discuss how preserved specimens contribute to scientific research and conservation efforts.

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Learning Extensions

STEAM Connections: Engineering - Math - Science

Learning Objectives:

- Identify and classify common plant species using observable characteristics.
- Practice careful observation and documentation of plant structures.
- Compare and contrast plant adaptations and characteristics across different environments.
- Develop skills in recording field observations, measurements, and scientific notes.
- Investigate local biodiversity and ecosystems through plant identification activities.
- Understand how preserved specimens contribute to scientific research, and conservation.

Career Connections:

- **Botanist –** Studies plants, their classification, growth, and ecological roles.
- **Conservation Scientist –** Protects natural resources and monitors ecosystem health.
- **Forester –** Manages forests and studies tree species and habitats.
- **Environmental Scientist –** Investigates environmental issues and develops solutions.
- **Park Ranger –** Educates visitors and helps protect natural areas.
- **Horticulturist –** Cultivates and studies garden and agricultural plants.
- **Agricultural Scientist –** Improves crop production and plant health.
- **Herbarium Curator –** Preserves, catalogs, and manages plant collections for research.
- **Landscape Architect –** Uses knowledge of plants and ecosystems to design outdoor spaces.
- **Natural Resource Specialist –** Manages and protects natural ecosystems and habitats.

Essential Employability Skills:

- **Communication**
- **Critical Thinking**
- **Collaboration**
- **Attention to Detail**
- **Problem Solving**
- **Initiative and Self-Direction**
- **Organization**

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Resources and Accessibility

Safety Guidelines

- **Handle Plants Carefully**

Some plants may cause skin irritation or allergic reactions. Instruct students to avoid touching unknown plants and wash their hands after handling specimens.

- **Collect Responsibly**

Only collect plants with permission and avoid poisonous, protected, or endangered species. Remind students to use care when collecting specimens outdoors and to be aware of their surroundings.

Accessibility

- **Offer Multiple Ways to Participate**

Students can contribute by collecting specimens, organizing materials, photographing plants, recording observations, or labeling specimens, allowing participation based on individual strengths and abilities.

- **Provide Visual and Tactile Supports**

Use magnifiers, photographs, field guides, and real plant samples to support observation and identification. Large-print materials and digital identification tools can help make activities more accessible for diverse learners.

Library Catalog

Library Resources

Feedback

QR to feedback survey