

Plant Press

Overview Plants have many parts that perform different functions. Not all plants have the same parts, but many plants have roots, stems, leaves and flowers. In today's lab, you will press a plant to be able to clearly see many of its parts.

What to Learn In this lab, you will press a plant as flat as possible. You will press the plant with extra force provided by cardboard and rubber bands to squeeze out as much water as possible. You will also press the plant between layers of paper to absorb the water. This will allow you to see the parts of the plant in the finished piece, without growing mold. Your finished pressed plant will be ready for any art project or simply framing by itself!

Materials

- Newspaper
- Cardboard
- Belt buckle or large, strong rubber bands
- Sheets of paper

Experiment

1. Cut the cardboard into square pieces.
2. Cut or fold the sheets of newspaper into squares the same size as the cardboard.
3. Place 4 sheets of newspaper between each piece of cardboard. You can also use white copy paper.
4. Place the plants you want to press in between the newspaper.
5. If you want, you can sandwich the plant press with the wood planks for added pressure.
6. Bind it tightly with the rubber bands or a belt buckle.
7. Leave it in a dry place for two to four days.
8. Create a data table.

Plant Press Data Table

Plant Part (Draw and label)	Function?

Reading

Plants have different parts that perform various functions for plant growth and survival. Many plants, though not all, have roots, stems, leaves and flowers. The plant press lab can be made more interesting by using different plants. It can also be differentiated for more advanced studies by including plants from different groups (i.e. plants that do not have all of the parts we typically think of –roots, stems, leaves, flowers).

Roots are the parts that grow underground, and they take in water and nutrients from the soil. The stem transports the water and nutrients up the plant, while the leaves are the site of transpiration and photosynthesis. The leaves allow some water to escape (transpiration), so that there is more room to take in more water and nutrients. Also, the leaves engage in photosynthesis, or the intake of sunlight for energy, a process which releases oxygen. Finally, the flower's main function is to attract animals to assist in reproduction.

Plants are a crucial part of many environments, from deserts to rain forests, from oceans to plains. They provide animals with food, produce oxygen allowing animals to breathe, and provides shelter from weather or predators for animals. In short, without plants, animals would not be able to survive.

When we think about the parts of plants, we often think about stems, leaves, seeds, or flowers. Many plants have these parts. However a plant does not need to have any of these parts to be considered a true plant. So, instead of talking about parts that all plants have, we'll talk about parts that some plants have.

Some plants have tissue designed to move water, nutrients, and food to the places in the plants where it is needed. Plants with vascular tissue have two types of tissue. Xylem carries water and minerals. Water goes from the roots to all the other parts of the plants and also replaces the water that plants lose during photosynthesis. Phloem, the other type of vascular tissue, mainly carries sugars made during photosynthesis to the parts of the plants that need it.

Flowers and fruit generally have the function of attracting animals, which will assist the plant in reproducing, and get something for themselves in the process. When insects visit various flowers, getting sweet nectar, or when various animals eat fruit from a plant, getting nourishment, they help plants reproduce. We'll talk more about the specifics of plant reproduction a little bit later on.

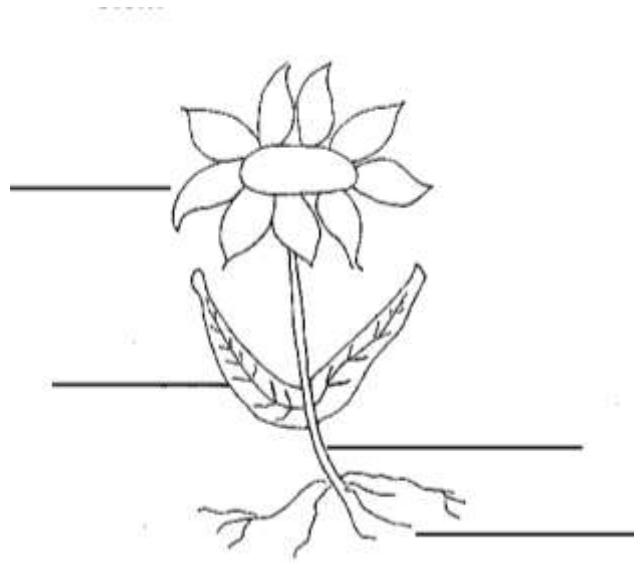
Many people have admired the beautiful colors and smells of flowers, and this is no accident. The whole point of many flowers is to be attractive to animals, generally insects, to help in reproduction.

Vocabulary List:

- Root: takes in water and nutrients.
- Stem: transports water and nutrients.
- Leaf: allows for photosynthesis and transpiration. (takes in sunlight and lets out water!)
- Flower: attracts animals to help plants reproduce.

Exercises

1. Draw and describe the functions of the following plant parts: root, stem.



2. What two major processes happen at the leaf?
3. Why are flowers necessary?
4. Do all plants have roots, stems, leaves and flowers?

Answers to Exercises: Plant Press

1. Draw and describe the functions of the following plant parts: root, stem. (The root grows underground and draws water and nutrients into the plant. The stem carries those water and nutrients through the plant.)
2. What two major processes happen at the leaf? (Photosynthesis and transpiration).
3. Why are flowers necessary? (For reproduction. They attract animals that pollinate).
4. Do all plants have roots, stems, leaves and flowers? (No.)