

Classifying Plants

Strand	Life Processes
Topic	Investigating characteristics and classification of plants
Primary SOL	1.4 The student will investigate and understand that plants have basic life needs and functional parts and can be classified according to certain characteristics. Key concepts include c) plants can be classified based on a variety of characteristics.
Related SOL	1.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which b) observations are made from multiple positions to achieve a variety of perspectives and are repeated to ensure accuracy; c) objects or events are classified and arranged according to characteristics or properties; f) inferences are made and conclusions are drawn about familiar objects and events; g) a question is developed from one or more observations; h) predictions are made based on patterns of observations; i) observations and data are recorded, analyzed, and communicated orally and with simple graphs, pictures, written statements, and numbers.

Background Information

Plants can be classified according to different characteristics such as *edible* or *inedible*, *flowering* or *nonflowering*, and *evergreen* or *deciduous*.

Materials

- Color photographs of plants, including various examples that fall into each of the six classifications listed above (Some plants may fit into more than one classification.)
- Large bulletin board chart with six boxes identified with the six classifications
- Electronic slideshow of plants that are examples of the six classifications

Vocabulary

botanist, classify, deciduous, edible, evergreen, flowering, inedible, nectar, nonflowering

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

Introduction

1. Read a book about plants to introduce the topic of classifying plants according to various characteristics, such as the six listed above.
2. Discuss the characteristics of the plants in the story and how these characteristics are used to classify the plants.

Procedure

1. Give each student a photograph of a plant. Have students sit in a circle and hold their photos so that everyone can see all photos. Lead students in a discussion focusing on the fact that all the photos are of plants but that they are different kinds of plants. Ask who knows what kind of plant he or she is holding. Have several volunteers share their photos and tell about the plants they are holding. Point out the different characteristics of the various plants.
2. Go over the bulletin board chart with students. Explain the six classifications before attempting to sort the photos into groups. Make sure students understand what each classification means.
3. Now, ask students to find others in the room who are holding photos of plants that may be in the same classification as their own photos. Have students get together into classification groups. If any are unsure, ask the class as a whole what should be done with that particular photo, and guide the student to an appropriate group.
4. Have one student from each of the six groups collect the group's photos and hold them together. Based on what has been discussed, have each group explain which classification they feel their photos best match, giving at least two reasons for their decision.
5. When a group makes an accurate explanation, place the photos on the chart. Continue placing photos on the chart until all photos have been classified. Students will now have a colorful visual display of the six classifications discussed.
6. For review, put together an electronic slideshow of different plant photographs. Mix up the photos so that all classifications are represented but in random order. Review the classification as each picture is shown.
7. Complete the activity by choosing an assessment option(s) below.

Assessment

- **Questions**
 - How can plants be classified, using the chart we made?
 - Look at the display of photos of a variety of flowers, trees, and other kinds of plants. Select a sample you like. How could you classify this plant? Why? Could you classify it in more than one category? Why?
- **Journal/Writing Prompts**
 - A scientist who studies plants is called a *botanist*. Pretend you are a botanist who has discovered a new type of plant. Tell what you would name it. Tell in which classification it would belong, and explain why. Draw your newly discovered plant.
 - Many animals, such as bees, depend upon flowering plants for nectar. Explain what nectar is. Tell what would happen if flowers did not bloom and how that would affect the animals that depend upon them for food.
 - Make a Like-Dislike T-chart in your science journal. On one side, list plants that you like to eat, and on the other side, list those you do not like to eat. Include only edible plants.
- **Other**
 - Using plant or garden magazines have students cut out and paste examples of each classification of plant on charts for individual use.

Extensions and Connections (for all students)

- Have students brainstorm other categories into which plants can be classified.
- Have students explore plants found in different habitats around the world. Discuss with students what these plants have in common as well as how they are different. Discuss how the weather in each of these habitats may affect what grows there. (Related SOL: Science 1.7a; History and Social Science 1.6)
- Take a class field trip to a local arboretum or botanical garden to study plants.
- Invite a florist, forest ranger, or greenhouse manager to speak to students about the special characteristics of the plants he/she works with in his/her job.

Strategies for Differentiation

- Have students sort and classify artificial plants.
- Have students sort and classify photos of plants, using a graphic organizer.
- Create an electronic slideshow about various categories into which plants can be classified.