

Grass Anatomy or What's the Rush?

A Lesson on Grasses, Sedges, and Rushes

Overview

Students will look at and draw various grasses, sedges and rushes with the aid of dissecting microscopes. They will find characteristics of each group that apply to all in the group. They will try to establish characteristics that identify each and differentiate from the others.



Title

Grass Anatomy or What's the Rush—A Lesson on Grasses, Sedges, and Rushes

Investigative Question

What makes a grass a grass, and what are the differences between grasses, sedges, and rushes?

Overview

Students will look at and draw various grasses, sedges and rushes with the aid of dissecting microscopes. They will find characteristics of each group that apply to all in the group. They will try to establish characteristics that identify each and differentiate from the others.

Objective

Students will differentiate between grasses, sedges, and rushes.

Materials

complete corn stalk
copies of student page
samples of grasses, sedges and rushes (check your local garden center)
binocular or dissecting microscopes
forceps and probes
pressed grass specimens
petri dishes

Time

2 forty-five minute class periods.

Background

The types of grasses that are present in a prairie are good indicators of certain aspects of the health of a prairie. The germination rate of grasses is another indicator. There are several characteristics that are unique to grasses that are not present in sedges. It is a little more difficult to tell the grasses from the rushes. The instructor should become familiar with these differences before leading this activity.

Advance Preparation

Gather materials. Set up stations. For a class of 24, set up 12 stations, three for each of grasses, sedges and rushes. Set up each station with a dissecting microscope, 2-3 petri dishes, forceps, probes, pressed samples of the appropriate type of plant. Bring in some samples to round out the species the students bring in. Students should already have a basic background in the anatomy of flowering plants.

Introducing the Lesson

1. In the last ten minutes of class, bring out the corn stalk and tell the students you will be investigating the differences between grasses and other related plants.
2. Ask students if they know what type of a plant corn is, but if they know, to keep it to themselves. Let them know that within the next couple of days they

will try to determine what kind of a plant corn is.

3. Ask students to bring in three or more examples of grasslike plants. (They should know to bring the entire plant.)

Procedure

1. When students bring in grass samples, they should be separated into grasses, sedges and rushes by the instructor, combined with the samples he or she already brought in, and placed at the proper stations.

2. Hand out student pages to the students.

3. Working in pairs, the students should draw at least three of each—grasses, sedges and rushes. If needed, they can be instructed to pay close attention to number of plant parts, cross section of stems, and arrangement of parts in the flowers.

4. Students make up a list of characteristics that are similar in all of their grass samples and how they are different from the others. They should do the same for the sedges and rushes.

5. Have the students make a chart on the board of all of the class findings, and make some rules for identifying the different groups.

6. Once they have come up with a set of rules for identifying plants to each of the groups, each pair of students will then

take an unknown plant and attempt to identify which group it belongs to.

7. Students come back together and adjust the rules as needed.

Assessing the Activity

Give each student an unknown sample.

Using their new set of rules, ask them to identify what type of plant it is. They should also write down their reasons for identifying it as they have.

Alternate assessment: Have students identify which group the corn stalk belongs in.

Extending the Activity

Using the same procedure, students could find the differences and similarities between the common prairie grasses and make a dichotomous key to identify these plants.

State Goals

11, 12

Concept

Grasslike plants making up a prairie can be grouped and identified by certain characteristics.

Safety and Waste Disposal

Students should be warned to avoid plants such as poison ivy and parsnip. Grasses should be composted.

Student page 1 -- Grass Anatomy

Name _____

GRASS SEDGE RUSH (Circle one)

Draw the full plant, a close-up of the flower, and any other identifying features. Record the identifying characteristics of the plant.

Specimen number _____ Draw entire plant	Detail of the flower
	Unique characteristics (inflorescence, stem cross-section, leaf attachment, etc.)
	List identifying characteristics of this plant