Seedy Character

Description

In Part One, students examine and classify different type seeds. In Part Two, soaked pinto beans are dissected.

Objective

To observe, classify, and identify different kinds of seeds and seed parts.

Teacher Background

Seeds come in different sizes, shapes, and colors. Some are edible, some are not. The reason for the diversity is related to the seeds' need to disperse and grow. Some seeds are light so that they can be carried by the wind; some float; some stick to animal fur; some are brightly colored to attract birds who carry them to other locations. Others are eaten by animals and then deposited in the ground as part of the animals' waste. However, all seeds have the same parts: a seed coat to protect it; an embryo that is the baby plant; endosperm that is the food that feeds the embryo until it is a seedling and can make its own food.

Materials

A tray containing a variety of seeds: coconut, avocado, apple, nuts, beans, pumpkin, popcorn
One soaked pinto bean per student
Life Lab journals
Magnifying glasses
Black construction paper

Preparation

Soak pinto beans in water one day prior to the activity.

Some seeds are very nutritious. They are very rich in protein, minerals, fats, and vitamins. Why are they so nutritious? Life comes from seeds. A whole plant grows from a seed. The core of every apple has seeds that could grow into apple-bearing trees.

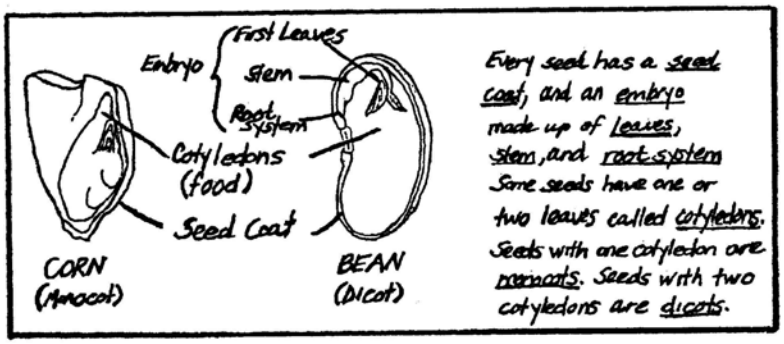
Part One:

1. Divide students into groups of three and have one person in each group be the recorder.
2. Have each group examine the seeds on the tray and list three general observations about the seeds. Discuss the observations. Have students guess why the seeds have the characteristics they observe.

3. Have each group classify the seeds: size, color, texture, edibility.
4. Give each group a handful of seeds and have them sort the seeds on a piece of black construction paper according to one of the classifications.
5. Have each group display and describe their classification to the rest of the class. Can the class guess the classification scheme used?

Part Two:

1. Pass out a pinto bean to each student and have the class follow your step-by-step dissection.
2.
   - Peel off the outer skin or seed coat.
   - Split pinto bean in half lengthwise.
   - Identify the following parts: seed coat (outer protection of seed—usually paper-thin); embryo (part that will grow into plant); root system and shoot system that will grow from embryo; food (surrounds the embryo for use until it is big enough to produce its own food).
3. Have students make scientific illustrations of the seed and its parts in their Life Lab journals.



What is the function of the seed coat? The food? The root system? The shoot system? Can a seed sprout without soil? Why? Why are seeds different in size, shape, color, and so on? How is classification helpful?

1. Have students go into the garden and collect seeds from different plants. The seeds are ready when seed pods are brown and dry. Describe and categorize home-grown seeds.
2. Cook with seeds. Have students research how different cultures cook with seeds by reviewing ethnic cookbooks. Have an international seed meal, and taste your learning!
3. Have students bring in seeds from home and prepare a class display of different seeds.
4. Have students glue seeds onto black paper and write a description of each kind. Make a class display.
5. Use the seeds for art projects.