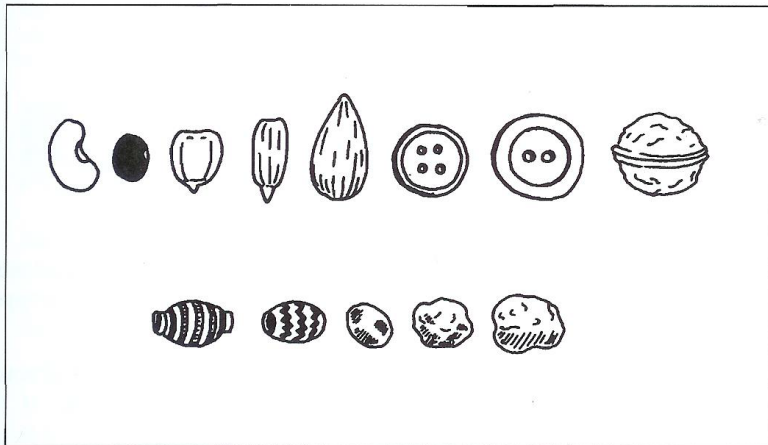


Is It a Seed?

Students sort objects according to whether or not they are seeds.



Outcome

Students share what they know about seeds and develop an understanding of the characteristics of various kinds of seeds.

For the Teacher

Seeds come in a variety of sizes, shapes, and colors. They also vary in other ways. Some are edible, while others are not. Some seeds are designed to be tossed in the wind. Others have a shape that allows them to float in water. Still others stick to fur or feathers. Many seeds are encased in a fleshy fruit that is attractive to birds and other animals. Yet despite such differences, all seeds are alike in two important ways. Each is alive and capable of developing into a plant.

As students separate seeds from other objects, encourage them to express and discuss their opinions. As they do so, you will discover what ideas they have about seeds. You will also learn what students mean by the terms *living* and *nonliving*. The activities in this unit and discussions that accompany them will help students refine their understanding of both concepts. They will also discover that many of the foods they regard as vegetables are really fruits. Scientists regard squash, tomatoes, and bean pods as fruits because they grow from flowers and contain seeds.



Indoor



Time

20 minutes

Related Subjects

Math

Process Skills

Observing
Comparing



Materials

For the Class:

- 1 bean seed
- 1 small eraser
- 1 clear plastic cup filled with soil
- butcher or chart paper

For Each Group of 6–8 Students:

- 5–8 different seeds (e.g., pumpkin, peach, sunflower, pea, coconut, walnut, and popcorn)
- 5–8 small, round objects (e.g., bead, pebble, button, magnet, shell, and coin)
- 1 small paper bag
- 2 18-inch pieces of string

Teacher to Teacher

This activity helped get my students thinking about seeds and what distinguishes seeds from other objects. I could see quickly what students already knew and what they needed to learn. About one third of the class classified a pellet of rabbit food as a seed. I let them decide how they could find out if it was a seed. After a quick discussion, they decided to plant the pellet and observe it for a few weeks to see if it would grow.

– Jacqui Dozier-Bardini, Mariposa Elementary School, Mariposa, CA

Preparation

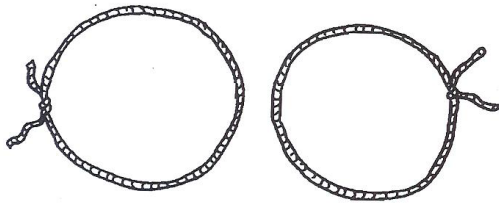
For each group of 6–8 students, fill a small bag with seeds and other small objects. Then create two string circles for each group by tying the ends of a piece of string together. Note: If taught at a station, with one group at a time, only one set of materials will be needed.



Getting Started

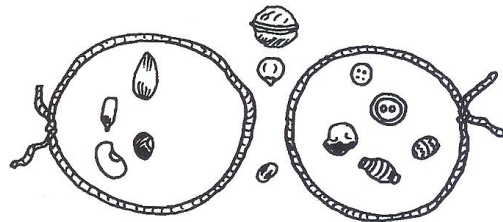
Involve students in thinking about what a seed is.

Show them a soil-filled cup and say that you are going to plant two different objects—a bean and an eraser—in the cup. **What do you think will happen? Why? What kinds of things can I plant?**



Action

1. Work at a table with a group of 6 to 8 students at a time or divide the whole class into groups and give each group a set of materials.
2. Place the 2 string circles on the table and pour the contents of the bag near the circles.
3. Ask each student to pick an object and use 3 or 4 words to describe to the others what it looks and feels like. Discuss whether the object is a seed.



4. Use the string circles to sort the objects into 2 groups: seeds and non-seeds. If students disagree on the classification of an object or are not sure where an object belongs, ask them to place it outside the 2 circles to indicate their lack of certainty.

5. Do not correct the way students classify various objects. Instead, use their discussion and groupings to assess their understanding of seeds.

6. Send home the Parent Letter. As students bring in Mystery Seeds, mount them on a bulletin board labeled "Mystery Seeds." Keep the seed identities secret. As part of the last lesson in this unit, students will try to identify the seeds.



Assessment

List student ideas on a sheet of butcher or chart paper titled "Our Ideas and Questions About Seeds." Refer to the list throughout the unit.

What senses did you use to sort these objects? What is a seed? How do you know if something is a seed? How do you know if something is not a seed? Where do seeds come from? What does "alive" mean? Do you think

a seed is alive? Why or why not? What questions do you have about seeds? Add these questions to the chart.

Digging Deeper

- Encourage students to sort the seeds and objects into categories of their own choosing.
- Use the string circles or hula-hoop Venn diagrams to compare other things, like shoes or animal pictures. Count the number of objects in each group and help students make comparisons like "greater than," "less than," and "equal to."

Teacher Reflections

- Did students share their ideas?
- Were shyer students comfortable expressing their opinions?
- Did students come up with the idea that seeds grow when planted?
- Were students able to make guesses about seeds based on their observations?