Seed Sort

Students sort seeds to discover their properties.

Indoor

Time
20 minutes, or until students lose interest

Related Subject
Math

Process Skills
Observing
Comparing

Materials
For the Class:
(6 or 8 students at a time)

- 1 pint of seed mix from Seeds Explorer Post, p. 143, or a mixture of popcorn, peanuts, sunflower seeds, various dried beans, and one type aromatic seed (e.g., cumin, coriander, anise, fennel, dill)
- 12–16 lids from plastic containers of yogurt, cottage cheese, etc.
- 6 or 8 plastic containers from yogurt, cottage cheese, sour cream, etc.
- 1 shallow tub or pie plate

Outcome

Students practice sorting.

For the Teacher

A seed can be as big as a coconut or smaller than a poppy seed. It can be smooth, spiny, ribbed, or rough. It can drift, float, drop, or hitchhike. The different shapes and sizes have evolved due to the success of their design in protecting the embryo, providing a food supply, and dispersing the seed. All seeds have a hard, durable seed coat to protect the embryonic plant and its food supply inside. Some seed coats are so tough that they must be worn away by digestive juices, exposed to fire, or rolled in a stream bed before they can sprout. Children will enjoy sorting mixed seeds. Some, like sunflower seeds or peanuts, they will pick out because they recognize them; others they will sort by color or shape. Do not expect students to sort by more than one characteristic at a time, but do encourage them to expand their categories to include various textures and even smell.

Teacher to Teacher

To help my children develop their sorting skills, I make sorting "mats" out of folded paper. For example, an 8½" x 11" piece of paper folded into fours will encourage the children to look for four different ways to sort. After we practice sorting, I integrate math by making a graph of the different ways children found to sort the seeds (color, size, shape, texture, edible/non-edible) and count how many children sorted by that characteristic.

–Cassandra Thompson, Oakmont Elementary School, Columbus, OH

Preparation

1. To help students connect seeds with plants, take them to the garden to collect ripe fruits, vegetables, or weeds like dandelions that have gone to seed. Or bring in a few apples, citrus fruits, winter squash, or other large-seeded fruits or vegetables.

2. Ask students to help you harvest the seeds. If they are wet, dry them in a sunny spot or slow oven. Add the seeds to the lesson's seed mix.

3. Mix the seeds together in the tub or plate.

4. Teach in teacher-directed groups of 6 or 8.

Getting Started

Encourage students to examine the properties of seeds.

Give each student a handful of seeds. Tell each student to choose one seed to put on a lid, and ask how the seeds are alike and different. **Did any of you choose the same kind of seed? How can you tell? How are the seeds you chose alike? How are they different? How could we sort our seeds?**

Action

1. Give each student a lid, and start with one student selecting a seed and placing it on the lid.

2. Ask the student to tell you something special about the seed. For example, the child might say, "It is black," "It is pointed," or "It is big."

3. Ask the others if any of their seeds have the same property. One at a time, let students place in the lid seeds with the same property as the first seed. Check to see if everyone agrees that the seed should go on the lid.

4. Repeat the sequence, encouraging another student to select a seed and describe a property. Then the rest of the group adds seeds with a similar property to the lid.

5. Continue with any other seeds that have not been categorized.

6. Pair up students. Each pair should have 2 lids, a container, and a magnifying lens. Let them each take a handful of seeds to put in the container.

7. Ask the pairs to agree on one property they will look for in their seeds. Tell them to put all the seeds with that property on one of the lids.

8. After they have sorted for a few minutes, ask the pairs to think of another property they

could use to sort more of the seeds. Ask them to sort seeds with the new property onto the second lid.

9. Record students' ideas about seeds as you hear them. After students have sorted for a few more minutes, ask each pair to tell the group how they sorted their seeds.

Assessment

Show students a handful of seeds and review their discoveries.

How are the seeds the same? How are they different? How can you tell if something is a seed?

Digging Deeper

- Take students on a trip to the garden to collect seeds and discover where they come from. Display a collection of garden and other seeds at the Life Lab Center.
- Make a seed soup. Cook barley, rice, beans and other seeds along with garden vegetables. Add seed seasonings, such as cumin, dill or anise. While the soup is cooking, make a list of all the seeds we eat, and hang it in the Life Lab Center.
- Create seed mosaics. Let children write their names or make a pretty design by gluing seeds to construction paper.
- Plant some of the seeds the children sorted.

Teacher Reflections

- Were students able to work together as they sorted?
- Were they aware that seeds come from plants?
- Were they interested in sorting the seeds in different ways?