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Seed Sort

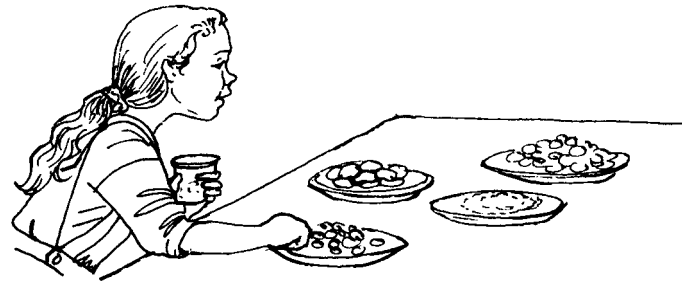
Gearing Up

Hold a discussion about individual differences. Brainstorm a list of attributes such as blue eyes, curly hair and wearing blue pants. Secretly choose two attributes and sort several students according to those attributes. Ask the class why the students were sorted the way that they were. Sort again by different attributes such as size, type of clothing or shoe type. Once students have an understanding about sorting and classifying, explain that seeds can also be sorted by attributes.



Directions for the activity:

Distribute the mixed seeds and beans to each group. Before beginning, have students predict how many of each type of seeds there are. Instruct students to sort the seeds, count how many there are of each, record the number on the data table, and graph the results.

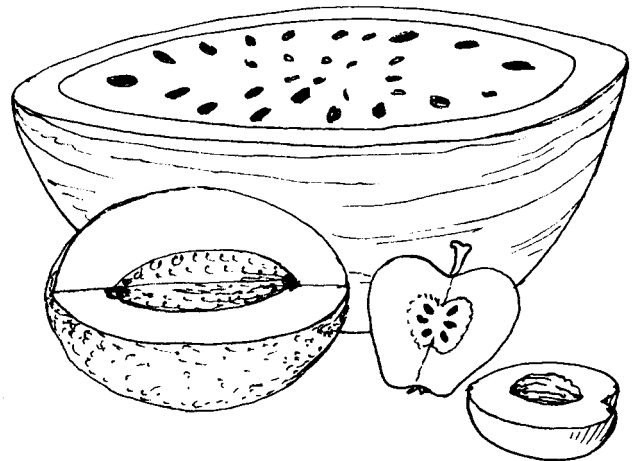


Responding to Discovery

Talk about other ways to sort the seeds such as colour, size and shape.

Applications and Extensions

Compile the data on a class graph. Discuss the data.



Process Skills Used

classifying
graphing
observing
recording data

Guided Discovery

Background information for the teacher:

Seeds come in different sizes and shapes and are surrounded by fruit. Different types of fruit have a different number of seeds inside of them.

Materials needed for each pair:

small cup of a variety of seeds or beans, such as corn (popcorn), lima beans, kidney beans, green peas and sunflower seeds.

Real-World Applications

- Ask students to bring in seeds from different foods.



Name _____

Seed Sort



Data Table

Name the seed.	Draw the seed.	Predict the number of seeds.	Count the seeds.
1.			
2.			
3.			
4.			
5.			

Sort seeds here:

1	2	3	4	5

Graph the number of seeds you found of each kind.

Seed graph

Number of seeds	20				
	18				
	16				
	14				
	12				
	10				
	8				
	6				
	4				
	2				

Types of Seeds

Fruity Tooty

Gearing Up

Ask students to think about the last time they ate a piece of fruit. Did they cut it up and remove the seeds? How many seeds were in the fruit? Ask students to name fruits they like and how many seeds might be in each one.

Process Skills Used

predicting
graphing
observing
recording data
comparing

Directions for the activity:

You can use any type of fruit. Some suggestions: apple, peach, pear, cantaloupe or other melon, and pomegranate. Before cutting open the fruits, have students predict which fruit will contain the most and the fewest seeds. Next, instruct students to remove the seeds and count the seeds in each. Record the number of seeds on the data table.

Responding to Discovery

Which fruit had the most seeds? Which had the fewest? Did the size of the fruit determine how many seeds it had?

Guided Discovery

Background information for the teacher:

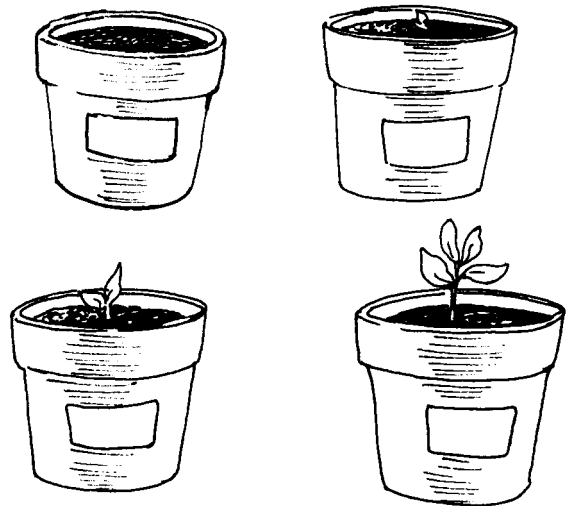
All flowering plants come from seeds. Seeds grow inside and are protected by the fruit of the plant. Seeds contain the food that is needed for a plant to sprout.

Materials needed for each pair:

a variety of fruits (choose fruits with a variety of numbers of seeds inside.)
paper plates
paper towels

Applications and Extensions

Plant the seeds. Label the pots. Keep a record of care and growth.



Real-World Applications

- Think about the foods you eat. List foods that come from seeds.

Do Plants Need Light?

Gearing Up

Ask the class, "Could we live on Earth without the sun?" Hold a class discussion about the importance of the sun. List all the jobs of the sun. Tell students that today's discovery explores one of the jobs of the sun.

Process Skills Used

predicting
observing
recording data



Directions for the activity:

Have students fill both cups $\frac{3}{4}$ full with soil. Plant two to four seeds on the edges of the soil so students can observe the roots of the plants as they grow. Place one plant in a sunny location and place the other in the classroom under a box so that it gets no light. Students fill in their data tables each day while the plants are growing. When the first leaves on the plant in the light can be seen, remove the plant from the box and observe the differences. The experiment may take longer than a week. If so, duplicate the chart and continue making the data.

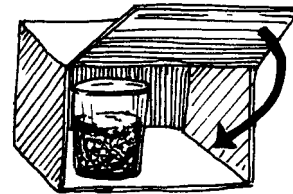
Guided Discovery

Background information for the teacher:

Just as plants need water in order to grow, they also need light. Light is crucial for plants to create their own food. Plants use the energy from the sun to undergo photosynthesis. During the process of photosynthesis, carbon dioxide is changed to carbohydrates and oxygen. In this activity, students will see what an important role light plays in plant growth.

Materials needed for each pair:

2 clear plastic cups
soil
seeds (soaked sunflower seeds grow quickly)
water
one small box



Responding to Discovery

Have students draw conclusions about why the plant in the box did not grow. Ask students if they think plants could have too much sunlight. Discuss a way you could prove that hypothesis.

Applications and Extensions

Place a brick on a patch of grass. Remove it a week later to discover what happens to the grass that does not receive any sunlight.



Real-World Applications

- Discuss the number of daylight hours and the amount of daylight in Antarctica.