

# Table of Contents

## Seed Sort

Exploring the attributes of seeds . . . . . 2-3

## Fruity Tooty

Students will cut open fruits and observe the seeds . . . . . 4-5

## Do Plants Need Light?

Students will conduct an experiment to determine whether plants can grow in a dark place . . . . . 6-7

## Do Plants Need Water?

Students will conduct an experiment to determine whether plants can grow without water . . . . . 8-9

## Soil Soak

Exploring the properties of soils . . . . 10-11

## Super Stem!

Discovering the function of the stem . 12-13

## Found a Peanut

Measuring and observing a peanut . . . 14-15

## Seed Sprouts

Observing and sprouting seeds . . . . . 16-17

## Herbicides and Pesticides

Students play a food-chain game . . . . 18-19

## Onion-Skin Cells

Observing cells under a microscope . . 20-21

## Dissecting a Flower

Students observe the parts of a real flower . . . . . 22-23

## Life Cycle of a Flowering Plant

Students draw the stages of the life cycle of a plant . . . . . 24-25

## Investigating a Pumpkin

Exploring the attributes of pumpkins . 26-27

## Erosion and Plants

Exploring the factors that reduce erosion . . . . . 28-29

## Performance-Based Assessment

A rubric of student performance . . . . . 30



# 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.



### Process Skills Used

classifying  
graphing  
observing  
recording data

## Guided Discovery

### Background information for the teacher:

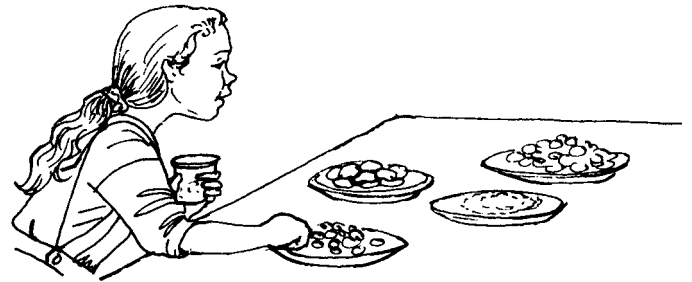
Seeds come in different sizes and shapes and are surrounded by fruit. Different types of fruit have a different number of seeds inside of them.

### 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.

### 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.

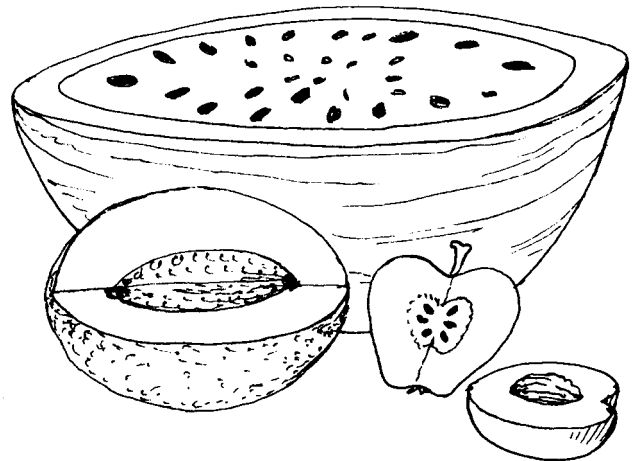


## Responding to Discovery

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.



### 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:

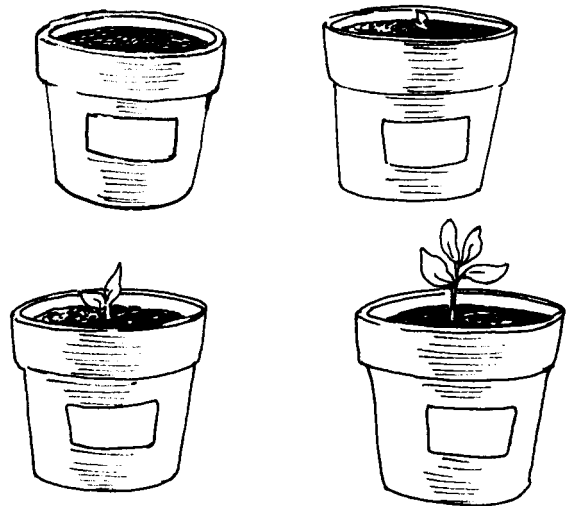
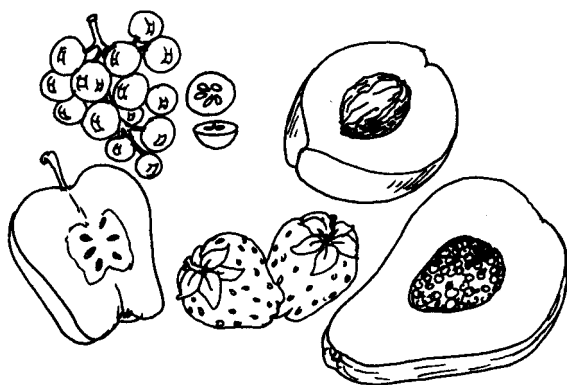
All flowering plants come from seeds. Seeds grow inside and are protected by the fruit of the plant. Seeds contain the food that is needed for a plant to sprout.

### 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.



Name \_\_\_\_\_

# Fruity Tooty



Name the fruit.	Predict how many seeds.	Record the actual number of seeds.

Draw each fruit and one of its seeds.

Seed:	Seed:	Seed:	Seed:	Seed:

- Which fruit had the largest number of seeds? \_\_\_\_\_
- Which fruit had the smallest number of seeds? \_\_\_\_\_