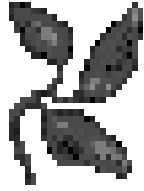


Planting Time

In school, the children explored how different conditions or variables affected seed germination and plant growth. This activity allows you and your child to further investigate one of these variables.

WHAT YOU NEED:

- 4 cold cups
- soil
- bush bean seeds
- centimeter ruler
- pea seeds



WHAT TO DO:

Discuss with your child the variables which affect seed germination:

- amount of water
- temperature
- depth at which the seed is planted in the soil
- soaking of seeds

We will test the variable - depth of the seed.

Note: It is important for your child to understand that only one variable should be tested at a time.

Have your child follow these steps:

1. Punch drain holes in the bottom of four plastic cups.
2. Label the cups A, B, C and D.
3. Fill each cup with soil to a depth of 3 cm.
4. Place a bush bean seed on the surface of the soil in each cup. Cover up the seed with soil to a depth of 1 cm in cup B, 3 cm in cup C and 5 cm in cup D.
5. Add water to each cup until the soil feels damp.

6. Place all of the cups in the same area of your home.
7. Observe the cups each day and record your observations on a chart similar to the one below.
8. Continue to water each cup whenever the soil feels dry.
9. At the end of one week, discuss the results of your investigation. How does the variable of depth affect the seeds' germination? It may be necessary to continue this investigation for more than one week.
10. Write a short paragraph explaining the results of your investigation.

Record Chart

Variable Tested: Depth of Seed				
Days after Planting	Cup A 0 cm	Cup B 1 cm	Cup C 3 cm	Cup D 5 cm
1				
2				
3				
4				
5				
6				
7				

SUMMARY: The variable of depth affects the germination of a seed.

EXTENSIONS:

Further Investigations:

1. Repeat the experiment using bush bean seeds that have first been soaked overnight in water. How do the results vary?
Remember: Change only one variable at a time.
2. Repeat the experiment using pea seeds. How do the results vary?
3. Plan an activity with your child to find out how each of the remaining variables listed above affects seed germination.

Related Excursions:

Brooklyn Botanic Garden
1000 Washington Street
Brooklyn, New York 11225
(718) 622-4433

Queens Botanical Garden
43-50 Main Street
Flushing, N.Y. 11355
(718) 886-3800

Literary Connections:

- Bates, Dr. Jeffrey. *Seeds to Plants*. Gloucester Press, 1991.
- Bumie, David. *Eyewitness Books: Plant*. Alfred A. Knopf, 1989.
- Demi. *The Empty Pot*. Holt and Co., 1990.

Related Web Sites:

<http://explorer.scrtec.org/explorer/explorer-db/html/835378166-81ED7D4C.html>

<http://explorer.scrtec.org/explorer/explorer-db/html/835765203-81ED7D4C.html>