

Activity 4



GROW A SNACK

STUDY QUESTION:

How long do plants take to produce food?

THE ACTIVITY:

Students plant and grow seeds of various vegetables then record the time it takes to produce a crop.

CURRICULUM FIT:

DIVISION ONE - LANGUAGE ARTS

- Record a sequence of events.

DIVISION ONE - SCIENCE

- Living things.
- Plant growth, observation, measurement.

AGRICULTURE CONCEPTS: Diversity
Dependence on Soil and Water

PURPOSE:

To develop students' abilities to observe carefully and record results over a long period of time.

MATERIALS REQUIRED:

Planting mix.
Vegetable seeds: e.g. radish, lettuce, carrot, pea, bean, cabbage.
Plant pots or growing flats.

TIME REQUIRED:

One class period to set up.
Five minutes per day for several weeks to observe.
One day for conclusions.



BACKGROUND - For the Teacher

This activity requires that your students exercise or develop skills in observation and measurement. These are essential skills on which all science depends.

Even if all students use the same kind of seeds, they will be able to observe the pattern of seedling development typical of higher plants. By having students work with several plant species, you can demonstrate how plants differ in rate of growth and maturation, how they supply different tissues for food and the way they vary in the relative development of different structures.



PROCEDURE

Part 1

Preparation

1. Obtain or prepare a planting mix that includes soil, peat and sand or perlite.

NOTE

If you are going to make your own mix, put in more of the coarse sand or perlite than seems necessary (as much as 50% by volume). Then make the remainder equal volumes of soil and peat.

2. Fill the plant pots or flats with the mix.
3. Obtain seeds of several different vegetables.

NOTE

Radishes and lettuce will produce quick results; carrots, beets or beans all take several weeks to yield food. Cabbages, beans, brussel sprouts all need much longer. If you are tempted by squash, pumpkins, or potatoes, make certain you have a very large room and will have the same class next year.

Most plants will need cool temperatures and bright light to develop well. You may want to consider a cold frame in spring or a growlight bulb for winter.

Part 2

Introduction

4. Explain to your class that, as a science project, they will be growing some plants for food.
5. Assign or have students choose which vegetables each will grow. Give each student 10 seeds of their chosen vegetable.
6. Distribute Student Resource Sheet One and have students fill it in.

Part 3

Activity

7. Have the students plant their seeds evenly over a plant pot and press them lightly into the soil.
8. Have students sprinkle a layer of soil over the seeds and water their plant pot lightly.
9. Distribute Student Resource Sheet Two and explain its use.
10. This will complete the set up work for the day.

Continuing days

11. For the duration of this experiment students must check their plants daily and water them when the soil surface feels dry.
12. Continue the experiment until all students plants have produced something edible. Students whose crops develop fast can reseed as needed to match the time for longer season crops.

Part 4

Conclusion

13. Have each student draw a line that is one centimeter long for every day it took their seeds to produce a snack.
14. Glue each line onto a master sheet to show the variety in growing period.

DISCUSSION QUESTIONS

1. What days would we have to plant each crop to have them all be ready on August 5?
2. Why do we eat different parts of different plants?
3. What are some other food plants and how long do they need to grow?
4. Where can we find out how long plants have to grow outside in our community?

RELATED ACTIVITIES

1. Invite a gardener in to tell about what they grow and how they do it.
2. Arrange for the class to visit a commercial garden or greenhouse and see different plants being grown.



STUDENT RESOURCE

SHEET ONE --

The Beginning



My name is _____

I began this work on _____

My vegetable is _____

I began with seeds that looked like this:

I planted _____ seeds

I covered by seeds with _____ mm of soil mix.

STUDENT RESOURCE

SHEET TWO -- The Middle and the End



I watered my seeds every _____ until
plants appeared.

My plants looked like this:

I watered my plants every _____.

Plants first appeared _____ days
after I planted seeds.

My plants grew for _____ weeks
before I had anything to snack on.

The _____ part of my plants
became the food.

