A Teacher's Guide to

Nature's Food Chains

LESSON PLANS TO TEACH NATURE'S FOOD CHAINS

Using the book *Pass the Energy, Please!* by Barbara Shaw McKinney

By Carol Malnor

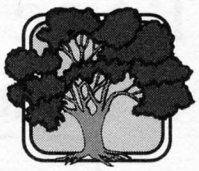
In addition to classroom teaching in four states, Carol Malnor has developed educational programs for zoos, high school drop-outs, and a jail. She and her husband Bruce (co-author with her for some of this series of teacher's guides) have conducted teacher training workshops throughout the U.S. and overseas, and distance learning programs on the internet. Currently, Carol is an instructional designer for Performance Learning Systems and editor of *The Heart of Teaching*, a nationwide newsletter for K-12 teachers.

SHARING NATURE WITH CHILDREN SERIES

Center:

A Seedy Activity

Multiple Intelligence: *Naturalist*



Objective: Categorize seeds using a criterion.

Benchmarks:

Knows that objects can be classified by their physical properties. (Science 10, Level I)

Knows that living things can be sorted into groups in many ways using various properties to decide which things belong to which group; features used for grouping depend on the purpose of the grouping. (Science 4, Level II)

Effectively use mental processes that are based on identifying similarities and differences [compares, contrasts, classifies]. (Life Skills: Thinking and Reasoning 3, Levels I, II, and III)

Skill for Living: Organization — The ability to plan, arrange, and implement in an orderly way.

Materials:

- ❑ Assortment of at least 12 varieties of seeds such as squash, corn, bean, marigold, sunflower, carrot, beet, lettuce, pumpkin, pea, cucumber, cosmos, buckwheat, rice, wheat, lentils
- ❑ Paper towel — one sheet per student at the center
- ❑ Plastic baggies — one per student at the center
- ❑ Optional: Pictures (from seed packet) of each of the plants that the seeds will produce mounted on a piece of poster board; tape or glue

Teacher Preparation:

- ❑ Put an assortment of twelve different seeds into plastic baggies. The seeds should look different from each other and have different qualities; for example, a large seed, a tiny seed, a vegetable seed, a flower seed, a seed that can be eaten as it is (e.g., pumpkin seed).
- ❑ Tear apart sheets of paper towel.
- ❑ Copy and laminate *Center Directions*.
- ❑ Optional: Tape or glue plant pictures to a piece of poster board. Prepare a "key" of the seeds with their corresponding plants on the back of poster board.

Reflection Questions:

1. Into how many different categories were you able to sort the seeds?
2. What was the most unusual criterion you used?
3. How successful were other students in figuring out the criterion for your categories?
4. How did you decide on the way you organized the seeds?

Center Directions:

Seedy Activity

At this center you will:

Sort seeds into categories using your own specifications.
Determine the specifications that someone else used to sort their seeds.

Materials you should find at this center:

A plastic baggie filled with seeds.
A sheet of paper towel.
Optional: A poster board with a picture of each plant that the seeds will produce mounted on a piece of poster board.

What you need to bring to this center:

Pencil or pen
Two pieces of paper
Organization — the ability to plan, arrange, and implement in an orderly way.

Student Directions:

1. Empty a baggie of seeds onto a sheet of paper towel. Look carefully at each seed noticing its size, shape, and color. Identify any seeds that you can. For example, you may easily recognize a pumpkin seed.

2. Sort the seeds into three or more groups based on specifications that you decide. For example, some groups might be "seeds that grow vegetables," "seeds that are oval-shaped," "seeds that are larger than 1/4 inch long." Be creative and look for unusual and unique ways to group your seeds. Write down the names of your seed groupings on one of your pieces of paper.

3. When you are finished, turn the paper over and switch places with another student. Carefully look at their seed groups and guess what specifications they used to group their seeds. On your other piece of paper, write the names of what you think their groupings might be. Turn their paper over to check your answers. Continue until you have looked at everyone's seed groupings.

4. When finished, put the seeds back in the plastic baggie.

If you have additional time, do one of these activities:

1. Look at the pictures of the plants that are grown from the seeds and match the seed to the correct plant.
2. Choose one seed and write a detailed description of it. Pair up with one other student, read your description, and ask that student to choose the seed that was described. Switch roles and identify his/her seed.
3. Rearrange your seeds to group them in entirely different ways.