

Field Ecology

Successful Seeds

Post-Visit activity, grades 3+

Objective

Students will review concepts of seed dispersal. They will then start the process of change on their own small "field" with different seed designs.

Materials

- 3'x3' fabric or paper square, preferably brown
- Seed style cards (see Procedures below for instructions)
- Q-tips, cotton balls, construction paper, Velcro, glue, tape, cloth, straws, popsicle sticks, rubber bands, etc. for creating "seeds"
- Piece of fur or fuzzy cloth to represent animal fur
- Tub of water
- Scent that can be added to seeds that animals eat (strawberry extract, for example)

Background

During the introduction at the nature center, the concept of seed dispersal was introduced. Seed dispersal is the process of seeds moving away from a parent plant. Even though plants don't move around, their seeds do. Plants have many strategies for moving seeds around to the best place for a new plant to grow. Seeds are shaped to facilitate the way they travel whether by floating on water, flying on the wind, sticking to a passing animal, getting eaten by an animal and passing out in droppings, or being fired away from the plant like a cannonball.

Seed dispersal is one of the important ways we see change occurring in a field. Other changes in a field occur through fire or flood or by plowing and clearing land for farming. If the disturbed area is left alone, over time seed dispersal will change the field back to something like its natural state. Usually, the first plants to move in will be weeds that like disturbed soil, then perennials, and finally shrubs and trees. It can take a long time for a disturbed area to return to its native state. The Ogden Nature Center has been in a state of change for at least 30 years and is being managed to create a diverse wildlife habitat. It is still changing.

Procedure

1. Before the lesson, prepare seed-making materials. Each child will design one kind of seed. They can work in teams or individually. For each child or team, prepare a card describing the type of seed to be designed. Use the following categories:
 - Make a seed like a helicopter that will drop from a tall tree and land at least a foot away.
 - Make a seed that will float on air for at least 10 seconds.
 - Make a seed that looks good for a bear to eat (This seed travels by animal express).
 - Make a seed that a bird will love (This seed travels by air).
 - Make a seed that can float like a boat for at least a minute.
 - Make a seed that is a hitchhiker. It will stick to fur and fall off in a new place.
2. You may give each child the same materials or prepare stations with materials suited for different types of seeds. Make sure there is an area where the field square can be laid down flat and all the students will be able to see when seeds are planted there.
3. Begin the activity by reviewing the ideas of seed dispersal.
4. Show the class the brown square. Explain that the square is a field that has been left alone and it needs help to turn into a natural space for animals to live. Tell the students that this is their chance to be a plant with a traveling seed that will move to this great new place to live. The

students will have to "think like a plant" since they will not be able to use people to plant their seeds; they must use the elements and other animals to get their seeds to the field.

5. Assign each student or team to build a certain type of seed. Tell them to be creative but that their seed must be a good traveler. Tell them to test their seed design to make sure it works. Have them float the seeds in a tub of water, drop them from a height (safely), or try to stick the seed to their clothes or a piece of fur. Allow time for building and testing.
6. Once the seed building is done, it is time to plant the field. Call the students to a clear area in the classroom or outside so they can all see the square "field." Call out a type of seed and have those students show the class how their seed travels. Have students "plant" their seeds on the field square. Repeat this for each kind of seed. The seeds could be glued in place to make a display.
7. After all the seeds have been planted, discuss which seeds seemed to travel the best. Are there some designs that the students have seen in real seeds? (See seed list below.) Why would it be important to have many traveling seed designs? (Because there are so many things that can spread seeds, but they may not all be available at the same time.) Why is it important to have more than one kind of plant in the new field? (If the new field is to be a good home for wild animals, there need to be many kinds of plants for them to eat or use for shelter.)

Seed List:

Helicopters: maple and ash samaras

Parachutes: dandelions, milkweed

Animal droppings: pine nuts, raspberries, apples

Boats: coconuts, cranberries, Russian olive and other seeds that will float

Bird droppings: cherries, berries, sumac berries

Hitchhikers: burdock, houndstongue