

Seed Dispersal

Grades K-4

Big Ideas: Cycles, Interdependence, Diversity, Limits

Fall is the perfect time to look at cycles as plants and animals prepare for winter. As educators we can foster a connection between our students and the natural world. When students recognize their connection to nature this creates a context for understanding how a place, organisms, and systems depend on one another. This leads to a deep understanding of interdependence and supports global decision making in the future.

Activity Description:

Plants need water, sunlight, nutrients and space in order to grow. They also compete with other plants for these resources. If a plant dropped all its seeds around the parent plant, the seeds would have to compete with the parent plant in order to grow. By dispersing seeds, there is a greater chance some seeds will fall where there are enough resources for it to grow. In this activity, students will look at the various ways plants disperse seeds.

Students will be able to...

- Identify the different methods of seed dispersal.
- Explain how plants adapt to their environment by dispersing their seeds in various methods.

Essential Questions:

- What happens with a system reaches its limits?
- Why is diversity important?
- How are humans and natural systems interdependent?

You will need:

Per Class

- Paper bags-one per child*
- Posterboard
- Fan
- Worksheet or science notebook

Per Group

- Seeds: maple, acorn, milkweed, coconut, burrs, fruits with seeds* (Can be brought in ahead of time or collected.)
- Basin of water

- Towel
- Any additional materials needed to test the seeds

**If there is a park, wooded or weedy area around your school, the class can collect seeds as a group. Give each student a small paper bag to collect the seeds. Give your students guidelines to protect the plants you will see: A seed on the ground can be collected. If you take a seed off of a plant, make sure there are plenty of seeds left.*

Time:

45 minutes-1 hour

Before the Activity:

Review Plant life cycles, and introduce the concept of seed dispersal. Bring a variety of seeds to class, and have students examine the seeds using 4 out of their 5 senses (eliminate taste) Brainstorm ideas as to how the seeds are dispersed and create a chart.

Example

Seed Dispersal Method	Type of Seeds
Wind	Maple seed, Dandelion, milkweed
Animal	Acorn, berries
Add more	

Before you begin:

- 1) Set up each table for groups of 4-5 students, with a towel, a small pan of water, and a variety of seeds.
- 2) Set up a small fan in an area of the class so that students can test seeds they predict are dispersed by wind.
- 3) Ask the students how they would find out which of the dispersal methods the seeds actually use. If students come up with a way to test the seeds that requires additional materials, make sure you gather those before starting the activity.

Activity Instructions:

- 1) Have the students work in groups to examine their seeds.
- 2) On the worksheet or in a science notebook, have the students draw each seed and predict how it is dispersed.

- 3) Conduct the tests they suggest.
- 4) Some possible tests are...
 - Dropping the seed in front of the fan
 - Placing the seed on a towel to see if it sticks
 - Trying to float the seed in a basin of water

Debrief and Reflection Questions:

Here are some sample questions to consider when engaging your class in the debrief discussion after they have completed the activity.

- Does the shape of a seed relate to the way it is dispersed?
- Why don't seeds all have the same dispersal method?
- Why do some plants disperse many seeds and others just a few?
- Do people disperse seeds? If so, how does this affect the natural system?

Variations and Extensions:

1. Seed Display
 - a. Set up a seed display.
 - b. Sort the seeds into sets containing some seeds from each dispersal method.
 - c. Have students collect seeds over the next 2 weeks, and add them to the display.
2. Seed Exchange: Set up a seed exchange at your school or local library.
 - a. check out the seeds like a library book
 - b. grow the plants in their home or school gardens,
 - c. collect the seeds
 - d. return them to the library.