



Adapt a Seed

Lesson

Goals

Students will learn about various seed dispersal mechanisms.

Objectives

Students will investigate different types of seeds and how they travel. Students will then use their imagination and team building skills to invent their own seeds.

Standards

Science: Life Science

GR.1-S.2-GLE.2

GR.2-S.2-GLE.1 & GLE.2

GR.4-S.2-GLE.1 & GLE.3

GR.5-S.2-GLE.1

Total Time – 60 minutes

Materials

- Assortment of seeds (or pictures) that are dispersed in different ways
- Hand lenses
- Traveling seed cards, cut out (end of lesson)
- Healthy seed-based snack

Did you know?

Some plants distribute their seeds by violently ejecting them so that they fall far away from the parent plant. Examples of this include plants from the pea family. As the two halves of the pod curl back, they suddenly release like a tense spring and flick out the seeds in an explosive manner.

Background for Teachers

This lesson works best as a follow up to the *Seed Collecting* lesson.

Method

Introduction (10-15 minutes)

1. Tell the class that you need help solving a gardening mystery. Plants cannot move, yet some new plants have recently appeared in the garden. Can the students help you discover how the new plant seeds have found their way into your garden? Show a selection of two or three different types of weed seeds. Pass out one seed to every two students. Have them examine these seeds carefully, using hand lenses and looking specifically for features that help the seeds travel. Discuss the students' ideas about how these different seeds might have found their way into your garden.
2. Before moving on to the activity, make the connection between healthy plants and healthy bodies. Remind the students that only healthy plants are able to disperse their seeds so they can spread and continue living. Ask the students about things a plant needs to be healthy (air, water, soil and nutrients in the soil). Ask the students what people need to be healthy.

Activity (30 minutes)

1. Explain that even though plants do not move, seeds do travel. Challenge the students to invent or design their own seeds that travel in different ways. Explain that each group will be choosing a traveling seed card that will describe a particular seed's way of being dispersed. Ask them to use their imagination and the materials provided to create a seed on the go that fits this description.
2. Divide the class into small groups and have a member of each group pick a traveling seed card (see end of lesson). The students will create their seeds and then test them to make sure they meet the dispersal requirements detailed on their cards. Each group should give their seed a name and think about the life history of the plant from which the seed came.

Snack & Conclusion (15-20 minutes)

1. When everyone is finished, gather the students together and have them demonstrate how their invented seed travels. Have them tell their seed's name and parent plant's story. Compare their seeds to the real seeds they examined earlier. Do they see and similarities? Can they think of other seeds that travel?
2. Have seed based snack, such as peas, beans, peanuts, etc.

Assessment Tools

- Group work
- Participation

Possible Modifications and Extensions

- Discuss how plants in the same family have similar looking seeds.
- Have the students write about and draw their invented seed in their journals.

Suggested Products

- Some seed ideas include:
 - Helicopters – maple and ash samaras
 - Air Passengers – cherries, berries and grapes
 - Parachutes – milkweed and dandelions
 - Hitchhikers – burdock and bidens
 - Animal Express – blueberries, raspberries and apples
 - Boats – coconuts and cranberries

Sources

Parrella, Deborah, and Cat Bowman Smith. *Project Seasons: Hands-on Activities for Discovering the Wonders of the World*. Shelburne, VT: Shelburne Farms, 1995.

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ADAPT A SEED

DENVER URBAN GARDENS' SCHOOL GARDEN AND NUTRITION CURRICULUM

Traveling Seed Cards

Make a seed like a helicopter, which can spin, twirl or fly through the air when dropped from a height of 8 to 10 feet and land at least one foot away.

Make a seed that is carried by the wind like a parachute for at least 10 seconds.

Make a seed that can hitchhike on a person or animal by sticking to it and going wherever it goes.

Make a seed that looks good enough for a bear to eat.

Make a seed that is thrown through the air like a cannonball and lands at least two feet away.

Make a seed that can float like a boat for at least one minute.

Make a seed that a bird might eat. This seed travels as an air passenger.