



## Exploring Seed Pods



### OVERVIEW

In this activity, children will explore the garden, fields, backyards or parks nearby and collect seed pods from wildflowers, trees, and garden vegetables. The shapes, textures and colors are amazing! When each child has a collection, they will open the pods, examine the shapes of the pods and seeds, how they are attached to the pod or the dried flower, and observe, hypothesize and draw conclusions about how seeds survive and spread. A discussion of the life cycle of plants is an integral part of this experience.

### OBJECTIVES

After this experience, children will be able to:

- explain the life cycle of a plant, starting with a seed and ending with a new seed or seed pod (seed germination, stems and roots, leaves, flowers, pollination and new seeds).
- describe how seeds have a protective coat and the beginning of a baby plant inside.
- describe the differences in color, texture, shape and size of various types of seed pods.
- identify and name several different plants and their seeds.
- describe some of the ways that seeds travel through air, water or via animals to a new location.

### ESSENTIAL QUESTIONS

- What is the life cycle of a plant?
- What is inside a seed?
- What is a seed pod and what does it do?



- How does each seed protect itself and find a way to travel to a new location where it can safely grow?

### BACKGROUND

When the growing season is coming to an end, flowers, fruits and vegetables make their seeds. To help seeds survive the winter and find the right place to grow, some seeds make pods that hold many seeds. The pods or their contents often provide a specific method for dispersal to help the seeds spread themselves.

Seed pods are a protective coating that shelters the seed from weather and predators. Some seed pods have a nutrient layer that helps seeds develop. Some familiar seed pods are peas, beans, and peppers. Common trees with abundant seed pods are pine (pinecone), maple and oak. Some familiar flowers with interesting pods are milkweed, poppy, and columbine. Tomatoes and green peppers are edible seed pods.

The main methods of seed dispersal are wind, gravity, water, sticking to animals, birds and other animals who eat them, and by exploding out of the fruit. Each type of seed has specific methods to help itself spread and survive. For example, milkweed and dandelion seeds have long, silky parachutes that help them fly in the wind; apple and coconut seeds are waterproof and float. Squirrels bury acorns over a wide area, and don't always find them later to eat. Echinacea flowers and burrs have tiny hooks on their seeds that attach to animal fur. Animals eat small seeds and excrete them in a new location.

Refer to the *Exploring Seeds* activity for more detail on the anatomy of a seed. The most important thing for children to know is that inside every seed is the beginning of a new plant and this plant will be the same type of plant that the seed came from. If you open a large seed, such as a mango or avocado, the part of the seed that provides nourishment for the sprout, and the beginning of a new root and stem are visible. Seeds have a protective coat, a cotyledon and endosperm which store nutrients, a shoot and a root. There are many online resources for pictures of seed germination.

### MATERIALS

- *Plant Life Cycles* by Julie Lundgren or other book about seeds and plant life cycles
- Plant Life Cycle Poster or screen image
- Collection containers
- Child-size scissors and an adult scissor or garden pruner
- Magnifying glasses (optional)



### PREPARATION

Acquire a *Plant Life Cycle Poster* or screen image (see *Resources* below). Alternately, have the children help make a life cycle drawing and engage them in the discussion of plant life cycles on another day prior to the seed pod exploration.

Check the outdoor area around your location so you are familiar with where the most interesting seedpods are located. If you have a wildflower meadow or pollinator garden, there will be many shapes to choose from.

Have collection containers and magnifying glasses ready.

### PROCEDURE: FACILITATOR'S ROLE

- Before hunting for seed pods, read a book about plant life cycles, look at a diagram of plant life cycles, and lead a discussion focused on how plants make seeds to create new baby plants for the next season. Explain that children will be collecting seeds and seed pods from flowers, trees and vegetables in the area.
- Hand out collection containers and bring children to areas that have an interesting selection of seed pods.
- Help children detach the seed pods from their stems. This may take a scissors or a small garden pruner.
- Ensure that each child gets a variety of seed pods.
- Gather the children at a table or workspace. Supervise or help as they open the seed pods. Some are brittle and tough. Others may crumble. Echinacea seeds are all stuck to an inner core, like a pincushion, and can be plucked off to reveal the center of the flower within.
- Lead discussion about what children see and help them identify the varieties of seeds they found. Children enjoy learning new names of plants and saying them aloud, i.e. “echinacea,” “campanula” and “columbine” are all fun words to say.
- Ask what might be the way that those particular seeds protect themselves and travel to a new place. Discuss the ways that seeds find new homes.

### PROCEDURE: CHILD'S ROLE

- Listen to the book about plant life cycles. Ask questions and make comments.
- Hunt for interesting seed pods. If possible, cut them off the stems, being careful not to uproot the plant. (Ask an adult for help if needed).
- Open the seed pods, pick out the insides, and study them with a magnifying glass.



## FALL ACTIVITIES

---

- Notice all the parts of the seed pod, the seed and anything attached to the seed that might help it travel or survive in harsh weather.
- Learn the names of the plants that these seeds come from.
- Think, hypothesize, and discuss: What do I see? How do these seed pods look and feel? How are they different from each other? How might each type of seed travel to a new home? (wind, water, animals, explosion, gravity, burrs)

## ADAPTATIONS FOR AGE AND ABILITY

Cutting with scissors may be difficult for younger children. Help them if needed. Older children could make a poster or picture that shows the different types of seed dispersal, draw pictures of what they find and make charts that match dispersal methods with specific types of seeds and seed pods.

## FOLLOW UP

The *Exploring Seeds* activity in the *Winter* section of this book can be done at any time of year.

## RESOURCES

### Books

*The Reason for a Flower: A Book About Flowers, Pollen, and Seeds* by Ruth Heller

*From Seed to Pumpkin* by Wendy Pfeffer

*Plant Life Cycles* by Julie Lundgren

*A Seed Is a Promise* by Claire Merrill

*I'm a Seed* by Jean Marzollo

*How a Seed Grows* by Helene J. Jordan

### Online

[Plant Life Cycle Poster](#) This is our favorite online poster for plant life cycles.

[Seed dispersal methods illustration](#) (Encyclopedia Britannica for kids)

[Encyclopedia Britannica](#): Seed dispersal illustrations are part of an article on seeds and plant reproduction. This is an adult resource.