

### Finally Fall: Seed Dispersal: Part 1

*In this resource, find out how seeds move from the initial seed producing plant. We will be discussing 3 different ways that seed are dispersed including “exploding” seed pods and the influence of humans and animals!*

Seed dispersal is the movement of seeds from the parent plant to different areas of the environment. Plants disperse their seeds throughout an ecosystem, which limits competition and may provide stronger survival rates for young plants to grow.

### Seed Dispersal by Animals

Seed dispersal by **animals** can happen in several different ways. Use the space below to explain how you think animals are involved in seed dispersal.

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Some animals store seeds over the winter. For example, squirrels collect seeds and nuts from one place and hide them on and under the ground so they have food sources readily available during the colder months when food may not be as easily accessible. Although squirrels strategically hide their food, sometimes they forget where they left their seeds! By next spring there might be an oak tree or walnut tree beginning to grow from that seed the squirrel had buried.



*A grey squirrel eating a nut.*



*A bird eating a berries from a tree.*

Another way animals disperse seeds is through their waste. When animals like birds eat berries, they only digest the fleshy part of the berry, not the seeds. When birds defecate, the seeds are expelled and are ready to be planted in a new area!

Animals also transfer seeds from place to place just by walking into them. For example, seeds known as *burs* are covered in tiny hooks or spines that grab onto animals’ coats. Eventually, the burs will get knocked off the animal and at that point the seeds have been successfully moved into another section of the environment.



*An example of a bur.*

### Seed Dispersal by Humans

Seed dispersal by **humans** can happen in several different ways. Can you name some?

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Humans move seeds from one place to another in some of the same ways as animals. Historically, and prior to indoor bathrooms, seed dispersal may have occurred through human waste. During long-ago periods where hunters and gatherers were prevalent, this occurrence may have been widespread.

Also, similarly to animals, burs will stick to us too! If you have ever walked through a meadow path (...have you done so at Duke Farms?) chances are, burs have hitchhiked onto your clothing and have been transported to another location.



*A lot of burs stuck to my pants!*

Finally, by eating fruit and tossing out the seeds or pit when finished, you have helped with seed dispersal. The seed may have found its way into the soil and might even have germinated if the growing conditions were favorable.

### Seed Dispersal by Exploding Seedpods

Seed dispersal by **exploding seed pods** was much more common before humans started domesticating plants but does still happen today. **Why do you think that is? Use the space below to make predicts about how bursting seed pods can help with seed dispersal.**

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Watch [this short video](#) of an exploding jewelweed seed pod! Milkweed seed pods also pop open, but not at such a high velocity as the jewelweed. The more intense the seed explosion is, the farther the seeds will go! Scientists believe that exploding seed pods were much more common prior to the onset of when humans began gathering, planting, and cultivating plants. Over the years, some plants may have been modified and as a result do not “explode” in the same manner.



*Exploded milkweed seedpods.*

### **Activity: Exploding Seed Pod Demo**

This demonstration models a bursting seed pod.

#### Materials:

- Balloon (any size)
- Funnel
- Small handful of seeds (you can use peas from the freezer or seeds you have harvested outside, as an example) or something to represent seeds (if you want to do this multiple times you can use seeds of different shapes and weights)
- Toothpick or skewer

#### Instructions:

1. Insert the funnel in the opening of the balloon and fill the balloon with your seeds.
2. Blow up the balloon.
3. Make sure you are outside and then pop the balloon! If you are using a different material to represent seeds make sure it is something that can safely enter the environment. Items like glitter and confetti are **NOT** recommended. Also remember to pick up all pieces of the balloon and throw them in the trash. Limiting the use of balloons is also important for the safety of the environment.

#### After the Experiment:

- Why do you think it is beneficial for seedpods to explode?
- What are your observations after you popped the balloon? How far did the seeds go?
- How do you think the experiment would work differently with seeds of assorted weights?
- To extend this lesson to math, record the distances of x number of seeds and graph. Compare and contrast your results with classroom groups, or even virtually with individuals.

### Activity: Socks and Seeds

This experiment has been documented by popular nature magazines and blogs and goes by many different names: Seed Hunt, Sock Walk, Plant your Socks. But, in a nutshell...

Participants walk outside through a meadow or natural area wearing a pair of old cotton, or wooly and fuzzy socks. Groomed lawns will not demonstrate results! Discussion Point: Why are groomed lawns and manicured grassy areas not a good place to collect seeds on your socks? Try it yourself and compare the results from two different areas.



*Photo Source: sturdy for Common Things*

NOTE: Socks are worn *over* shoes, so tender feet are not injured! Seeds will attach to the socks and then can be studied to identify the different types.

The activity can be extended to a growing phase, and there are a few options.

#### Option 1 – On a Window

Socks can be placed in plastic sandwich style bags (to cut down on the use of plastic, try using some that were previously used and rinsed out) and placed near a window or taped to the window itself. If socks are kept moist, not wet, seeds may sprout and be studied further.



*Photo Source: sturdy for Common Things*

#### Option 2 – On a Flat Area

Socks can be placed on plastic sheets or aluminum baking sheets and misted to keep moist. Tilt the pan so excess water will run off the socks. You may notice that the seeds sprout in just a few days in a warm and sunny spot.

#### Option 3 – Buried and Planted

Place the sock in a recycled plastic container and place some potting soil in top. You are planting the entire flattened sock, so the plastic container should accommodate this. Place a few holes in the bottom to allow for drainage when you water.

*For more ideas for developing seed dispersal studies including those connected to writing projects and journaling at home or for your class, contact Kate Reilly, Manager of Education, Duke Farms at [kreilly@dukefarms.org](mailto:kreilly@dukefarms.org)*