



Finally Fall: Seed Dispersal: Part 2

In Seed Dispersal Part 2, find out three ways that seeds are dispersed from the initial seed producing plant: wind, water, and gravity.

Seed Dispersal Part 1 focused on the movement of seeds from the parent plant to different areas of the environment and that gravity alone, wildlife and humans are often involved. Plants disperse their seeds throughout an ecosystem and this limits competition of necessary resources like sunlight as they grow and mature.

Seed Dispersal by Wind

Seed dispersal by **wind** is a very common mechanism. **Use the space below to make predictions about how wind is involved in seed dispersal. Do you know any plant species where wind disperses their seeds?**

Wind is the main source of seed dispersal for many native plants. Have you ever seen a little yellow dandelion? Have you ever looked at that same flower and noticed that it has turned fluffy and white? The fluff you may have seen were the seeds of the dandelion! Generally, when flowers are at the end of their life cycle they will go to seed, which means the plant will use its energy to focus on reproduction. In the case of a dandelion, seeds are so light and fluffy, they are easily transported by the wind as it blows.

Other factors can help the wind pick up the seeds. For example, if an animal walks into the dandelion that has gone to seed, the seeds may be released from the stalk of the plant. Seeds then can be transported by the wind even more effortlessly, having gotten a jump start on the process thanks to that animal.

Other examples of seeds that are transported by wind are maple seeds, also called samaras. On a windy autumn day, you can often see samaras getting blown off the trees by the wind and fluttering down to the ground, often far from the tree.



Samaras ready to be picked up by the wind.

[“Seeing Maple ‘Copters’ Here’s What They Are”](#) from the Farmers’ Almanac provides a video and more detailed explanation.



Seed Dispersal by Water

Use the space below and write how water may be involved in seed dispersal.

A well-known seed, the coconut, while it is not native to New Jersey, is dispersed by water. Coconuts that fall from trees, are picked up by tidal waters and taken out to sea. They then may land upon another island where some will root.

Cattails, an important native plant, grow in wetlands and swampy areas and their seeds are dispersed by wind *and* water. Cattails will open up when they have matured to expose their fluffy seeds. At this point, either the wind may take them, or the seeds may fall from the plant into the water and travel to farther parts of the pond or lake. Watch [this video](#) to see how cattails look when they go to seed.



Cattails before they have gone to seed.

Seed Dispersal by Gravity

Use the space below to explain how gravity helps with seed dispersal.

Gravity is often the beginning step to seed dispersal. From there, other influences can also take place. Many fruit trees like apple and peach trees will initially drop their seeds, thanks to gravity. From that point, humans and other animals may disperse the seeds even farther.



Fallen apples.



Activity 1: Which Dispersal Method?

Fill in the chart below with native and fruit plants by assigning their names under the method of seed dispersal that can be identified. You can research different seeds or go for a walk and observe assorted plants and their seeds to get ideas.

Remember that some seeds may be dispersed in a variety of ways.

To get you started, here is a list of seeds and plants, but you may decide to add your own.

- Acorns
- Walnuts
- Burs
- Dandelions
- Samaras
- Coconuts
- Cattails
- Apples
- Peaches
- Sunflower seeds
- Holly berries
- Milkweed
- Gingko berries
- Osage oranges

Animals	Humans	Wind	Water	Gravity	Bursting Seed Pods

Activity 2: Think Tank about Seed Dispersal and Climate Change

Climate change is shifting overall temperatures and weather conditions around the globe. How do you think this will affect plant species and seed dispersal?

Consider these scenarios and discuss with your family or group.

Plants May Live Longer...

Plants may live longer extending into the winter months. They may not go to seed until deeper into the season when there are hard frosts or snowstorms. In this situation, explain how seed dispersal mechanisms may be impacted and how food webs might change as a result.

Planting Zones...

Many plants are categorized by mapped zones that indicate where they survive and thrive. Some plants can grow well in wide ranges, while others grow in narrow and specific zones. Explain how climate change could impact growing seasons and seed dispersal.

Warmer Temperatures...

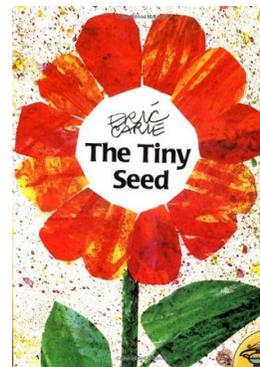
Are warmer temperatures always good for plants? Research a NJ native plant that might not be able to grow as effectively in warming temperatures. If this plant is “stressed” by temperature, what other related conditions might negatively impact the plant’s ability to form and disperse mature seeds?

Trade Books that Teach and Prompt Discussions

The Tiny Seed by Eric Carle

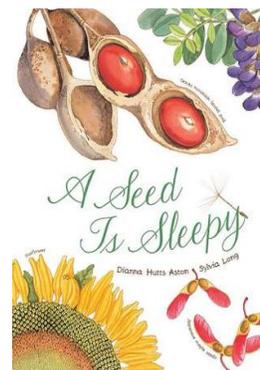
This classic Eric Carle book reviews the life cycle of a plant, and highlights wind in seed dispersal. It also introduces the fact that not all seeds survive natural perils: blown into the ocean, eaten by a bird, or burned to a crisp by the sun. But, in this story, the tiniest seed sprouts and grows into a giant flower which matures its seeds along the way, while other plants are trampled by children or picked before seeds can emerge.

This book is often used for guidance type lessons in topics related to perseverance, resiliency, and inspiration.



A Seed is Sleepy by Dianna Hutts Aston and Illustrated by Sylvia Long

Unusual for a book considered informational text, A Seed is Sleepy employs descriptors of the subject including “A Seed is... sleepy, adventurous, secretive, clever, adventurous”, and more. Although often used for younger children, teachers may want to include this book along with a discussion of why seeds themselves really can’t be those things, but we can imagine them as having those characteristics! For this reason, the book can be a lead into LA and Science lessons together.





Seed dispersal of various types is beautifully illustrated, labeled and described.

Anthropomorphism and Personification... an ELA discussion

Both anthropomorphism and personification are devices in the writer's toolbox and both umbrella human characteristics and behaviors to non-human entities, but in different ways.

Personification may deal with an abstract concept such as the *wind is howling*. Rather, in anthropomorphism, *animals speak like humans, drive cars, have weddings and order take-out from their favorite restaurants*.

How would you classify books such as Watership Down, Animal Farm or The Jungle Book?

For further discussion, can you think of other examples of anthropomorphism and personification used in daily life or literature?

Can a sparrow be *sad* that she can't find seeds, or a mole feel *guilty* that he got into your garden and ate the roots of your plants? Is a bobcat the *personification of evil* when it attacks a baby rabbit? While common to literature, how does the use of anthropomorphism and personification alter our feelings and impressions about wildlife? Is one device used more frequently in children's literature?

For more ideas on how to use this lesson for a variety of disciplines, contact Kate Reilly, Manager of Education, Duke Farms at Kreilly@dukefarms.org