

**Kristina Navarro
2nd Grade Teacher
Alphonsus Academy & Center for the Arts**



**Archdiocese of Chicago
Office of Catholic Schools Tech Mentor Program
Final Project 2017-2018**

Seed Dispersal with Ozobot

Objective

Students will create and code a path for an Ozobot that tells the story of a seed being dispersed. Students will indicate whether their seed is being dispersed by an animal dropping them, burying them, eating and digesting them, or by having the seed stick to their fur and falling off. After coding, students will draw out their seed stories with the Ozobot acting out the role of the seed.



Standards

2-LS2-2

Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

2-LS4-1

Make observations of plants and animals to compare the diversity of life in different habitats.

W.2.8

Recall information from experiences or gather information from provided sources to answer a question.

SL.2.2

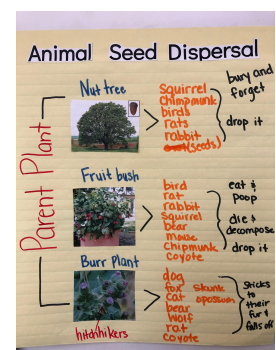
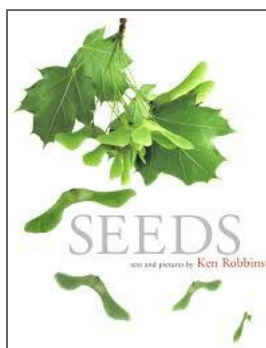
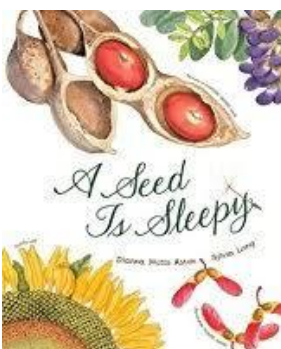
Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

Pre-Planning & Timeframe

Students will need to have basic knowledge of how to code an Ozobot. They will also need basic knowledge of the plant life cycle and the various ways animals help disperse seeds before creating their Ozobot landscapes. You will need approximately 3-4 1-hour time slots to complete this lesson.

Materials

- 12" x 18" white construction paper, 1 per student
- Markers, crayons, and glue sticks for decorating your landscapes
- Red, green, blue, and black markers for coding the Ozobot
- Pictures of various seeds that can be dispersed by animals
- *A Seed is Sleepy* by Dianna Aston
- *Seeds* by Ken Robbins
- Ozobot tiles coding tiles
- Ozobot Bit Coding Robot



Instructions

Day 1 - Whole Group (45 minutes)

1. Show the class an image of a city landscape with wild trees and plants growing. These images are readily available on Google Images. Ideal photos have landscaped areas in the background and wild growing areas in the foreground.
2. Ask students, "How do you think these plants got here?" Students will likely say, "Someone planted them."
3. Explain that there are many different ways that seeds travel around the world and we are going to learn about them.
4. Read *A Seed is Sleepy* by Dianna Aston and/or *Seeds* by Ken Robbins.
5. As a class, create a tree map that displays the three types of seeds students will be using for their Ozobot landscapes (nut trees, fruit trees/bushes, and burr plants), the types of animals that may disperse them (e.g. squirrel, bear, fox, rabbit), and the method of dispersal (dropping them, burying them, eating and digesting them, or by having the seed stick to their fur and falling off).

Days 2-4 - Individual Work (45 minutes - 1 hour per day)

1. In a bag, place a variety of nuts, fruits, and burr seeds. Have students draw a seed at random.
2. Using Ozobot tiles, students will create a path for the Ozobot and code various stops and speeds that will tell the story of their seed. For example, if they draw an acorn from the bag, the Ozobot may start along the path and **stop** at an oak tree, Ozobot could then continue along the path and **spin** because it is digging a hole to bury the seed.
Tip: Ozobot tiles can be purchased on Teachers Pay Teachers or created ahead of time using the pre-made paths and stickers included in your Ozobot kit.
3. When students have finished creating and coding their path, they can decorate their paper to accurately depict their story.
4. On the final day, students will write a paragraph describing their seed story. Their paragraph must include the type of seed, the animal that is helping to disperse the seed, and must show that the seed is traveling from one location to a new location.

Modifications

- If your students need to be challenged at a higher level, you can have them research their specific seed and have their stories be habitat-specific. For example, certain types of burr seeds only grow near water sources.
- Students that struggle with writing can use an app like SeeSaw to record their stories orally.

Assessment

After drawing a seed at random, students are expected to know how that particular seed is dispersed by an animal (burying it, dropping it, digesting it, or having it stick to their fur and falling off). Their Ozobot stories need to be coded correctly and their codes need to make sense. For example, if they make their Ozobot go fast of spin, there needs to be a logical reason why they chose this particular code.

Student Work Samples

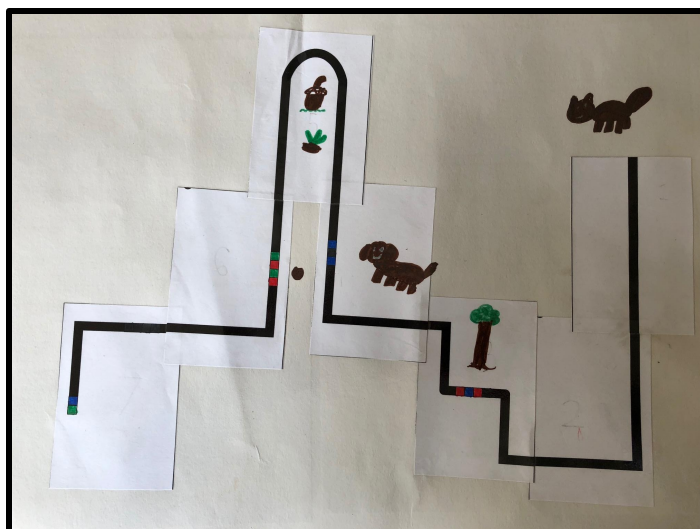


's Story (Digesting)

My rat sees a watermelon vine and eats a watermelon. The rat gets scared of a bear and starts to run away. The rat stops to sleep. The next day, the rat wakes up and poops the seeds out and waits until there is enough sunlight and water. The seeds will sprout and start to grow.

's Story (Burying & Dropping)

First, a squirrel stops by a tree and picks up some acorns. Next, the squirrel gets scared by a dog which makes the squirrel run and causes the squirrel to drop an acorn. Last, springtime comes and the squirrel digs and gets the acorn, but forgets the acorn that he dropped. He gets scared by the dog again and runs back to the tree. The next day, it rains and an acorn tree starts to grow.



's Story (Burr Seeds)

This is my seed story. I take my dog Bailey for a walk. He walks by some plants that have some hitchhiker seeds. They stick to Bailey's fur as he walks by. He is walking when suddenly another dog walks by. The dogs go crazy and spin around. Then the other dog walks away. Then a squirrel comes. The dog starts chasing after the squirrel. In that process, the seeds fall off. A few months later, the seed grows into a burr tree.

