



TEACHERS AND RESEARCHERS EXPLORING AND COLLABORATING

## **PolarTREC Lesson Resource**

**Amanda Ruland**

### **Fire and Carbon in Siberian Forests**

PolarTREC Expedition Page

<https://www.polartrec.com/expeditions/fire-and-carbon-in-siberian-forests>



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## Overview

Scientists in Siberia are seeing trends of more severe and widespread wildfires. Larch seeds are dispersed by wind. Experimentation is currently underway to determine distances larch seeds can disperse from viable, mature larch trees. Students will explore how various types of seeds are dispersed to get what they need to survive.

Timeframe: 90 minutes

Grade: K-2

## Objectives

Students will use one method of seed dispersal to move as many seeds as they can in 3 minutes.

## Key Terms

- Seed
- Wind
- Water
- Animal
- Bursting
- Humans

## Lesson Preparation

- Download and watch YouTube videos listed in Resources
- Acquire and read the book "Seeds Move" by Robin Page
- Collect materials
- Prepare seed cards for sorting

## Instructional Procedures:

1. Preassessment: Give students a piece of paper. Have students draw and label a picture of how seeds travel to the places they grow. Challenge students to draw more than one mode of transportation
2. Distribute seed cards to students
3. Have students sort the seeds into groups that show how they move
4. Ask students how they would move if they were a seed
5. Roleplay moving like a seed (i.e. floating in the water, floating on the breeze, attaching to animal fur, etc.)
6. Divide students into groups based on how they would move
7. Provide students with materials to move lima beans from one part of the room to the other

## Resource Details

### Date

29 February 2020

### Region

Arctic

### Completion Time

About 1 period

### Grade

Elementary and Up

### Permission

Download and Share

### Expeditions

Fire and Carbon in Siberian Forests

### Author(s)

Amanda Ruland

### Related Members

Amanda Ruland

Jennie DeMarco

### Materials

Computer with Internet  
Access for YouTube Videos

Book "Seeds Move" by Robin  
Page

Gloves

Tape

Velcro

Cups

Construction Paper

8. Challenge the students to be creative in moving their seeds across the room as far as they can. For example, the floating group may use a styrofoam cup to float lima beans, the animal group may use the tape to attach seeds to gloves or Velcro to hold seeds onto the gloves, the wind team may attach their seed to a balloon and propel it by a fan.
9. Set a timer
10. After a given amount of time students will demonstrate their modes of transportation to the class
11. The teacher and students will determine which seeds moved the farthest.
12. Have a discussion about seed dispersal. and conduct a final assessment.

Glue  
Paper Towel Rolls  
Fan  
Balloons  
Lima Beans  
Large Basin

**Topic**  
Ecology

## Differentiated Instruction

Students can demonstrate their learning through illustration, essay, song, or dance.

## Extension

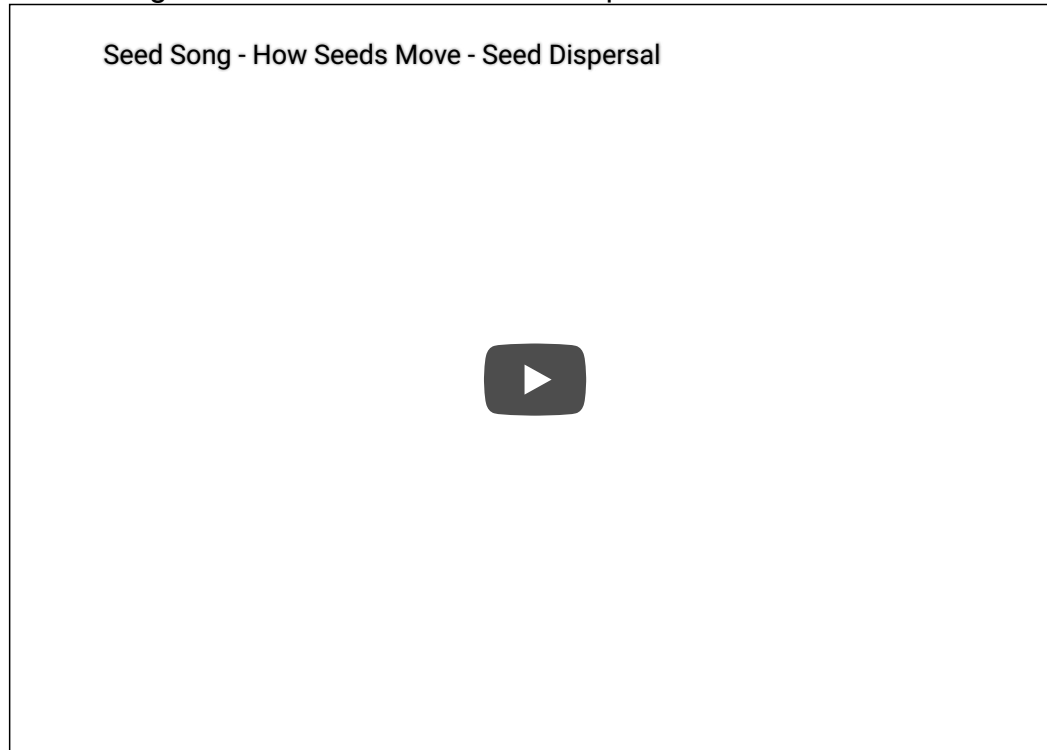
Go into the field and collect seeds. Divide them into varied groups of dispersal.

## Transferability

Older students can use their library and internet resources to expand their knowledge of seed dispersal.

## Resources

- Seed Song - How Seeds Move - Seed Dispersal:



- Seed dispersal -- The Great Escape: <https://youtu.be/xY4JFOSugvY>
- Image of various seeds for sorting

## Assessment:

Students will draw and label 3 or more ways seeds can move. Students will explain why it is important that seeds move to new places.

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## How Seeds Travel

### by the wind



milkweed

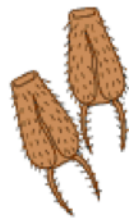


dandelion



maple

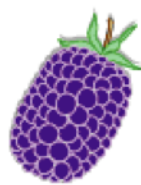
### by animals



beggar-ticks

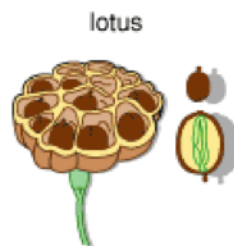


sandbur



blackberry

### by water



lotus



cattail



coconut

### by bursting



violet

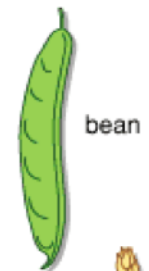


jewelweed



witch hazel

### by humans



bean



wheat



cherry