

## Problem 2.5 Dispersing Seeds

### Introduction

Many of the plants, trees, and flowers that you see started from a seed. As you have learned, a seed is a baby plant that has food and a hard covering to keep it alive until it becomes a young plant.

You have also learned that animals carry seeds away from the parent plant and spread them over a large area. Animals such as birds, bats, monkeys, deer, and squirrels disperse seeds in different ways.

Remember the problem Angelina, Suzi, and Mylo are trying to solve? They need to spread wildflower seeds over a large area at their school. The friends are going to use the Engineering Design Process to solve the problem of spreading the seeds. What would you design and build to help spread the seeds?

In this problem you will design a device to spread seeds over a large area that mimics one of the ways animals disperse seeds. You will need to choose materials that are best suited for the purpose of spreading seeds and describe why you made the best choice in material and design.

### Equipment

- Launch Log
- *Who Will Plant a Tree?* by Jerry Pallotta
- Various items including:
  - Modeling clay
  - Feathers
  - Pipe cleaners
  - Craft sticks
  - Pompoms
  - Plastic spoons
  - Glue
  - Tape
  - Clothes pins

### Procedure

1. Work with a partner to design and create a device to spread seeds across a large area. Your model may spread seeds much like one of the animals you learned about during the module or one of the animals described in the book *Who Will Plant a Tree?* by Jerry Pallotta.

2. As you work on solving this problem, record your work in your Launch Log. You will complete the following sections: Ask, Explore, Model, Evaluate, and Explain.
3. **Ask**
  - a. What is the problem?
  - b. What information do I need to solve the problem?
  - c. Follow your teacher's directions to think about how you did on **Step 1: Ask**.
4. **Explore**
  - a. How can you try to solve the problem? Write or sketch your ideas in your Launch Log. You may have more than one idea.
  - b. Talk to your partner and share ideas. **Circle one idea** you think will work best to solve the problem.
  - c. Follow your teacher's directions to think about how you did on **Step 2: Explore**.
5. **Model**
  - a. Work with your partner to decide the best idea for the model you will build together.
  - b. Draw and label your plan to solve the problem in the space provided in your Launch Log.
  - c. Follow your teacher's instructions on how to build your model.
  - d. Draw or insert a picture of your final design in your Launch Log.
  - e. Follow your teacher's directions to think about how you did on **Step 3: Model**.
6. **Evaluate**
  - a. Follow your teacher's instructions to test your device. Record the data from your test in your Launch Log.
  - b. Draw or insert a picture of you and your partner testing the design.
  - c. Do you think your design worked disperse the seeds?
  - d. Compare your results with another group. Which worked best and how do you know?
  - e. Follow your teacher's directions to think about how you did on **Step 4: Evaluate**.
7. **Explain**
  - a. Did your model solve the problem of spreading seeds? Why or why not?
  - b. How would you change your design? How would these changes improve your design?
  - c. Follow your teacher's directions to think about how you did on **Step 5: Explain**.
  - d. Follow your teacher's directions on how to present your work to the class.

## Conclusion Questions

1. What animal did your device mimic when spreading seeds? Explain.
2. Why did you choose the materials you did for the design? Were they the best materials? Why or why not?
3. If you could start over, how would you design a new, improved model? Draw a sketch of your idea in your Launch Log.