Seed Dispersal

What you need

Wind Dispersal Model
- 1 bead (or some other small object like a button)
- 1 paper helicopter template, included on the final page of this activity guide
- 1 pair of scissors
- 1 roll of tape

Heat Dispersal Model
- 1 bead (or some other small object like a button)
- 1 piece of tissue paper
- 1 roll of tape

Animals (External Transport) Dispersal Model
- 1 craft pom

Water Dispersal Model
For model using a balloon:
- 1 bead (or some other small object like a button)
- 1 balloon
- 1 container filled with water

For model using wax paper:
- 1 bead (or some other small object like a button)
- 1 piece of wax paper
- 1 roll of tape
- 1 container filled with water

Preparation

The instructions outlined on the following pages describe how to build each seed dispersal model.
Wind Dispersal Model

Step 1. Gather materials. The paper helicopter template can be found on the last page of this activity guide.

Step 2. Cut along the four solid black lines of the paper helicopter template. You should have a rectangle when this step is complete.

Step 3. Cut the remaining solid lines of the paper helicopter.

Step 4. Fold the pieces of the helicopter labeled 1 and 2 along the dashed line. Each piece should be folded in opposite directions.

Step 5. Fold the pieces labeled 3 and 4 along the long-dashed line. These pieces should be folded towards each other.

Step 6. Fold the bottom along the dashed line up, towards the now-folded pieces, 3 and 4.

Step 7. Tape a bead or some other small object to represent a seed at the end of the paper helicopter. (The end is where you folded the bottom in Step 6.)

Step 8. Holding the paper helicopter at its end, throw it away from you (and away from other people), and watch it spin!
Heat Dispersal Model

Step 1. Gather materials. You may need scissors to cut the tissue paper.

Step 2. Take a piece of tissue paper and fold it in half.

Step 3. Grab tape. Use enough pieces of tape to close the sides of the tissue paper. Don’t completely close it just yet!

Step 4. Take a bead, which represents a seed, and place it inside the folded tissue paper.

Step 5. Close the remaining sides of the tissue paper together using tape.

Step 6. Hold the model between your hands, and then rub your hands together to apply friction, or heat, to break and open the tissue paper protecting the bead.
**Animals (External Transport) Dispersal Model**

**Step 1.** Gather material.

**Step 2.** Take one craft pom, which represents a seed, and place it in your hair or somewhere on your clothes where it ‘hooks’ or attaches. In this image, I put a wool sock on my hand and attached the craft pom that way!
Water Dispersal Model

The following instructions describe how to build this model using a balloon.

**Step 1.** Gather materials.

**Step 2.** Take a bead to represent a seed, and place it into the balloon.

**Step 3.** Blow up the balloon so that a little air is inside it, and then tie it at the end. This will keep the air from escaping.

**Step 4.** Place the blown-up balloon containing the bead into a container filled with water. Look to see if it floats and if it can move on the surface of the water in the container.
Water Dispersal Model

The following instructions describe how to build this model using wax paper.

**Step 1.** Gather materials. You may need scissors to cut the wax paper.

**Step 2.** Take a piece of wax paper and fold it in half.

**Step 3.** Grab tape. Use enough pieces of tape to close the sides of the tissue paper. Don’t completely close it just yet!

**Step 4.** Take a bead, which represents a seed, and place it inside the folded wax paper.

**Step 5.** Close the remaining sides of the wax paper together using tape.

**Step 6.** Place the model into a container filled with water. Look to see if it floats and if it can move on the surface of the water in the container.

**What to do**

Use your seed dispersal models to study adaptations in seed-bearing plants.

**What is happening?**

Plants that have seeds are adapted to live in various habitats besides damp, moist environments where you find plants like ferns. The seeds of seed-producing plants, which protect a plant embryo (the combination of male and female parts that will grow into a plant), can survive without immediately needing water to grow like the reproductive parts of ferns. They do need to find ways to move, though, sometimes far distances. Different plants have adapted different seed dispersal strategies.
Different forms of seed dispersal include wind, heat, external transport by animals, and water. These forms of seed dispersal can be observed in various environments as adaptations of the plants that live there.

**Wind**

Seeds of many pines are winged so they can be carried by wind to develop into a new plant some distance away from where the seed was formed.

**Heat**

Cones, which protect fertilized seeds, of some species of pine stay closed for long periods of time and only open when exposed to high temperatures caused by forest fires.

**Animals**

Animals can distribute seeds, either by eating a seed at one location and defecating the remains elsewhere or carrying the seeds from one place to another. Some plants produce seeds protected by a dry fruit with hooked spines that attach to animal fur. These seeds are dispersed by animals via external transport.

**Water**

Some plants, like those of tropical trees, produce seeds that drift in water for long periods of time. These seeds need to have internal structures that allow the seed to float and an external structure that can keep water, especially salt water, out of the seed.