

Seed Dispersal Techniques

Kereth Curliss

Synopsis of the Activity: Have visitors run different dispersal methods on seeds to identify what seeds use which technique. Visitors will also learn the different dispersal methods while doing the activity.

Audience: Kindergarten and up. Want children with basic previous knowledge on plants. Activity isn't suited for extremely small children (don't want them eating the seeds) but may be a little too simple for older children. Preferably presented at a family or school fair/activity.

Activity (Learning) Goals OR Learning Objectives: To learn the seed dispersal of different plants and why seed dispersal it important.

Materials:

- **Seeds- maple seeds**
- **Dandelion (if available)**
- **Apple (whole apple)**
- **Berries (any type)**
- **Burrs, acorn**
- **Foxglove seeds(if available)**
- **Water lily seeds**
- **Pinecone**
- **Lupine seeds and seed pod**
- **Coconut.**
- **Container**
- **Felt paper**
- **Water**
- **Large bowl**
- **Poster with definitions**
- **Plant ID book(optional)**

Est. total: 15\$, most materials can be collected outside

Preparation and Set-up:

Overall Set-up: Have four testing stations on a table, each with a sign determining which one is which. Have a small container of various seeds at each station. Time estimate of 10-15 minutes.

Specific Test Set-ups:

- **Water dispersal:** Clear container filled with water
- **Animal dispersal:** Felt

Guiding Questions:

- Do you know what seed dispersal is?
- Do you know how seeds travel?
- How do you think this seed travels?
- Why would it do that?
- Why is it important for seeds to travel?
- Why do some plants have different methods than others?
- Do all plants with the same dispersal method have the same seeds?
- What features of the seeds help with dispersal?

Activity Description:

Visitors will go through three tests to determine how a specific seed disperses. Testing wind dispersal is difficult, as dropping the seeds won't actually carry them. Try to have lots of dandelion seeds and have the visitors blow them away (preferably outdoor setting). Ask what other seeds might be able to be blown away. Can also try dropping maple seeds but this only works from tall heights. As they test out the different seeds the activity leader should explain wind dispersal. They will then be asked what seeds would use wind dispersal and why. Next test is water dispersal; visitors should try placing seeds in the water and see which ones float. Try to always ask if they think the seed will float (especially the coconut) before they test it. Water dispersal should be explained as they do this. Animal dispersal is in two parts, first should be the felt test to explain how some seeds stick to animals to be dispersed. Visitors should try attaching seeds to the felt and see which one stick. Also try to ask why they would stick. The second animal test is about how animals eat seeds; visitors should try and guess which seeds would rely on animals eating them. Have acorns, lupine seeds and apples to be the unique dispersal method, with apple being gravity, acorn being a unique animal method and lupines being force created by the plant. At the end try to go over the different methods and why they are important. Visitors may want to play with the different seeds during the tests, which is fine. The main focus is on trying out the different methods; just try to ask why they would test the seeds like that.

Teaching Strategies:

Try to engage by asking if they know what the seeds are or what plant they belong to. Encourage the visitors to explore by having them run the tests. Try to get the visitors to explain what they think the dispersal method is before explaining it. If able to try to use invasive species as an example for animal dispersal (both goose grass and Himalayan blackberries use this method and are highly invasive.) End with asking why seed dispersal is important and what types of plants would use the different types.

Vocabulary:

Seed dispersal: Movement of seeds from the parent plant

Dispersal: Spreading out from a starting point

Parent plant: Plant the seeds come from

Gravity Dispersal: Seeds that drop down and either roll or split open

Wind dispersal: Seeds use the wind to either float away or be blown away from the parent plant

Water dispersal: Seeds use water to float away from parent plant

Animal dispersal (epizoochory): Seeds transported outside of the animals

Animal dispersal (endozoochory): Seeds are transported inside of the animal by being eaten

Science Content Background and Additional Resources:

<http://www.mbgnet.net/bioplants/seed.html>

<http://theseedsite.co.uk/dispersal.html>