

Seed Adaptations for Dispersal

Lesson Concept Plants depend on various methods (adaptations) for seed dispersal.

Link In the last lesson, students learned living things have specific adaptations that make them well suited for their environment. In this lesson, students learn many plants have adaptations for seed dispersal. In the next lesson, students experience a field trip, which incorporates the ideas of interdependence and adaptation.

Time 1 hr 15 minutes

Materials Whole Class

1 Document camera (or use the pictures)

1 Projector

1 Set of sample seeds

Per Group (Partners)

1 Baggie of sample seeds (burrs, foxtails, dandelions, berries, sunflower seeds, pine cones)

Individual

Recording sheet: Seed Adaptations

Materials for designing seeds: beads (for seeds), Playdough/clay, tape, toothpicks, cotton, bits of paper, etc.)

Resource

Powerpoint slides in file if you wish to use it.

Advance preparation

1. Collect samples of seeds or make pictures of the various types.
2. Make copies of data charts.
3. Create the 4-column poster with these column headings: sketch, characteristics, possible purpose/advantage, dispersal method.
4. Gather materials to design seeds. Art from Scrap is a great resource.

Procedure:


Engage (10 minutes) *Seeds germinate in various environments*

1. Write the word seed on the board. Ask students what they know about a seed. Chart their ideas.

- Ask students how many have ever pulled a weed out of the ground? Have you ever wondered how they got there? And have you noticed that even after pulling them, the weeds seem to return?
- Ask students why they think that happens. Chart their ideas.

Explore (20 minutes) The shape of the seed has a specific design (adaptation) which enables its dispersion.

- Distribute the bags of seeds to partners and ask students to carefully observe the seeds. Ask if students recognize any of them.
- Distribute the student chart.
- Model how to complete the chart by placing the burr under the document camera to enlarge the view. Ask students what they observe about the shape and texture. Draw a picture of it in column one and write the characteristics in column two. Have students discuss how the shape/texture are adaptations that provide an advantage. What might the advantage be? Write that idea in column 3. Finally ask students how the adaptation might help the seed get transported to different locations.

Sketch	Characteristic	Possible Purpose/Advantage	Dispersal Method
 burr	tiny hooks, it's roundish, small, very clingy	It is not very noticeable and clings to fur or clothing	Carried by animals

- Ask the students to continue to observe the seeds in their bags and complete the chart.

Explain (10 minutes) Seeds are adapted for dispersal.

- Ask partners to team up with 2 other partner set so that there are groups of six. Ask students to discuss their observations about the seeds adaptation and how that helps the seed get dispersed.
- Ask several partner groups to share their ideas. Call on students to share their analysis using the sentence frame: The seed's adaptation includes _____ (propellers, sharp point, little hooks, flat wings, etc), which helps the seed _____ (float, attach to a sock, dig into fur, float on water).

Extend/Evaluate (25 minutes) A seed has specific adaptations that enable it to be dispersed in its environment.

- Tell students that they will have an opportunity to apply what they know about seed adaptations for dispersal.

11. Seat students in groups of 4 or 5 (in order to share materials) and ask them to discuss a particular ecosystem or biome. Make a list of some of the biotic and abiotic factors found in this area.
12. Then ask each student to design a 3-D version of a seed that is adapted for dispersal in this ecosystem. Provide materials from Art from Scrap or other sources for students to build their seeds. As students wait for materials, they can begin by sketching some ideas for their seed models.
13. Ask groups to share their ecosystem and its abiotic and biotic features and then describe how their seed is adapted to this environment and how it would be dispersed.

Evaluate **(10 minutes) Plants depend on various adaptations for seed dispersal.**

14. Have students create an exit card in which they answer these prompts: “Why are seeds important?” “What types of adaptations do seeds have for dispersal?” “Which adaptation do you think is most effective?” “Why?”

Name _____

Seed Adaptation

Sketch	Characteristics	Possible Purpose/Advantage	Dispersal Method







