



Quarrybrook
EXPERIENTIAL EDUCATION CENTER

Program Title: Seed Dispersal in the Forest

Audience: 6th-8th grade students

Program Theme: Plants have evolved to use many different methods for dispersing their seeds. Students will explore the forest and use their observations to catalog seeds by how they are dispersed in the wild. Students will then design and test their own seed creations to see how well they are dispersed by wind and gravity.

Program Goals: After a brief discussion of plants and the importance of seed dispersal, students will be in the field making observations and determining how seed dispersal can vary from plant to plant. Students will make an observation log to bring home with them for future learning. Students will discuss how some animals and plants have co-evolved to both benefit during seed dispersal.

Next Generation/Common Core Connections:

Topics: MS-LS1 From Molecules to Organisms: Structures and Processes
MS-LS4 Biological Evolution: Unity and Diversity

Program Outline:

Note: This lesson fits into the two-hour field class time slot. However, progression of activities will be determined by understanding of lesson materials, not listed times.

Activity 1: SEED DISPERSAL MATCH-UP (15 min.) – Students will conduct a card matching activity as an introduction to the varying ways that plants disperse seeds.



Teachers and other adults will be helpful by participating in the activity or encouraging the students to remain on task. Teachers are always welcome to make any classroom-connecting comments that contribute to student understanding.

Objective: Students will understand that plants use different methods to distribute their seeds.

Intended Outcomes: Students will correctly match plant seed cards with their appropriate dispersal technique. Students will be able to correct mistakes and explain their choice of correction.

Activity 2: SEED ROUND-UP (60-90 min.) – Students will be making and recording observations in the field to determine how Quarrybrook’s forest plants disperse their seeds, and what adaptations these plants have that aid in this process.



Teachers and other adults will be helpful in keeping students focused and on task while working with their small groups. This could also be in the form of offering observations or clues if the students need assistance.

Objectives: Students will identify different plant seed dispersal methods in the forest, and be able to connect them with the different adaptations that aid in this process. Students will learn that some animals and plants have evolved together to both benefit during seed dispersal.

Intended Outcome: Students will complete a data log, including sketches, which outlines different seed dispersal techniques and the adaptations that aid in this process.

Activity 3: BUILD-A-SEED CHALLENGE (30-45 min.) – Students will design and test a model seed to see how well it travels.

Note: This activity may be expanded or cut based on the understanding and progression of students through the previous activities.



Teachers and other adults will be helpful by participating in the activity or encouraging the students to remain active, in building their model or in watching other teams test their models.

Objectives: Students will build a model seed and test it with the seed-spreading technique of wind dispersal. Students will work together to develop a solution to a problem.

Intended Outcome: Each student team will have a finished model, and test it.

Conclusion/Wrap-up: Students will share their observations on seed dispersal techniques and adaptations.

Successful completion of this program will help support your students' proficiency in NGSS

Performance Expectations:

MS-LS1-4 Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

MS-LS1.B: Growth and Development of Organisms

Plants reproduce in a variety of ways, sometimes depending on animal behavior and specialized features for reproduction.

MS-LS4.C: Adaptation

Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common. Thus, the distribution of traits in a population changes.