



Quarrybrook

EXPERIENTIAL EDUCATION CENTER

Program Title: **Habitat Investigation**

Theme: Wildlife populations fluctuate based on their habitat's available resources.

Audience: 4th grade students

Next Generation Connections:

Science and Engineering Practices:

- Developing and Using Models
- Planning and Carrying Out Investigations
- Analyzing and Interpreting Data
- Constructing Explanations and Designing Solutions

Crosscutting Concepts:

- Patterns
- Cause and Effect
- Systems and System Models

Goals: Students will investigate a sample area within a forest habitat to determine its plant and animal interrelationships. Students will then engage in a simulation activity to better understand the balance between resources and populations within a habitat.



Included in this outline are notes on how teachers and other grown-ups will be asked to participate and help us with the learning adventures on the trail.

Program Outline:

Activity 1: HABITAT TRANSECT (70 min.) – Students will investigate a designated sample area in the forest and create a species map based on their observations. Using line transects, student sub-teams will explore what plant and animal species are present and use that data to infer what other life forms can be supported by the resources available within the habitat.

Objectives: Student sub-teams will identify the vegetation, invertebrates, decomposers, and any wildlife evidence found above and below their transect line. Students will understand that there are interconnecting relationships between various elements within a habitat and how those elements affect one another.

Measure: Student sub-teams will record their findings on a datasheet. Students will be able to explain the relationships between what they have found and other life which could be supported in the area studied.



Teachers and chaperones will be helpful in guiding the sub-teams to observe thoroughly, and in prompting questions to students as they investigate their line transects.

Activity 2: OH DEER! (40 min.) – This simulation activity asks students to alternate between role playing as a deer and as its essential habitat resources. Guiding discussions in each round will help the group to better understand the direct relationships between the available resources in a habitat and an animal’s ability to survive.

Objectives: Students will learn the key for wildlife survival and reproduction: good habitat. Students will know the three essential resources of a habitat. Students will understand the factors that affect wildlife populations in continually changing natural systems.

Measure: Students will identify the three essential habitat resources of food, water, and shelter. Students will be able to define what limiting factors are, give examples, and explain how they contribute to fluctuations in wildlife populations. Students will be able to interpret a graph illustrating the simulated fluctuations in deer population over the course of the activity, and apply that information to real-life scenarios.



Quarrybrook instructors will lead multiple rounds of the simulation activity. Teachers and chaperones will be helpful in ensuring that students are following the procedures and safety precautions. Teachers are encouraged to make any classroom connections as we analyze the outcome of each round and the activity’s real-life implications.

Conclusion/Wrap-up: (10 min.) Student sub-teams will be asked to create their own graph based on the information from the “Oh Deer!” simulation activity, and present their graph to the group.