



EVERGREEN

Teacher's Corner Lesson Plans

*Helping Teachers and Students Make the Most of
their Outdoor Classroom*

evergreen.ca

Students as Scientists*

OC Institute

Grade level: 4

Provincial curriculum links: Ontario

Subject: Science and Technology

Keywords: observations, questions, habitats, community

Description

Although not directly linked to the Ontario Curriculum, this is an important lesson to build a foundation for other outdoor inquiry activities. Students adopt the role of scientists who are given a "Research Request" from Evergreen to study the habitats and communities on their school ground.

Preparation

Preparation Time:

- 20 minutes to choose research teams and prepare the research request

Length of lesson:

- 40 minutes

Resources required:

- 5 pieces of paper
- chart paper
- marker
- and overhead transparency of the Research Request (or photocopies)

* This exercise is adapted from *Teaching in the Outdoor Classroom*, Evergreen/TDSB Summer Institute, 2007, 82 pages.

Procedure

1. Decide in advance on 5 groups of students.
2. Read the Research Request (see following page). Explain that in order to conduct the investigations as **scientists**, students need to discuss the qualities and behaviours of a scientist.
3. Place students in groups and each is given a piece of paper with a question:
 - 1) Name scientists that you know (actual names of scientists).
 - 2) What makes a good scientist?
 - 3) What do scientists do?
 - 4) List different types of scientists.
 - 5) List what you can study on the school ground.
4. After 5–10 minutes, discuss each question and record results on chart paper. Discuss different types of scientists and which ones pertain to the school ground (entomologist: study of insects, ornithologist: study of birds, ecologists: examine the relationship between the environment and actions that affect it, botanist: plant biology, etc.)
5. Compose a list of what makes a good scientist a good scientist. For example:
 - 1) Work collaboratively
 - 2) Work in a lab and in the outdoors
 - 3) Ask questions and make careful observations
 - 4) Turn questions into hypotheses to study
 - 5) Make mistakes and try again
 - 6) Perform many experiments
 - 7) Record their data and findings in many different ways
6. Students can choose a name for their research team that relates to the habitats and Communities unit. They will stay in these teams for the next lesson.

Enrichment and Extension Activities

- Students may already have questions in the form of a simple hypothesis that can be recorded and kept on chart paper.
- If groups only rotated to 2 locations, the lesson can be repeated to record more observations and questions.

Educator Notes

This indoor lesson is to prepare students for the "School Ground Observations" lesson.

References/Resources

This lesson plan is adapted from Eco Inquiry, Kathleen Hogan, Institute of Ecosystem Studies, Kendall/Hunt Publishing Co.

Example of Research Request



Learning Grounds Program
Evergreen
355 Adelaide Street West, Fourth Floor
Toronto, Ontario M5V 1S2
416-596-1495

To: Mr. Hay's Grade 4 Science Class
From: Cam Collyer, Learning Grounds Program Manager
Subject: A Research Request
Date: May 29, 2007

Evergreen is a national charity that explores the relationship between nature and community in urban spaces. Evergreen's Learning Grounds Program helps schools create outdoor classrooms to provide students with a healthy place to play, learn and develop a respect for nature.

The school ground is a complex ecosystem. Evergreen is interested in identifying the many living and non-living things that are part this ecosystem. It is also important to examine what role humans play in this natural balance.

Out of the hundreds of schools in Toronto, Mr. Hay's class at Maurice Cody Public School has been selected to participate in this important study. As students, you are already familiar with your schoolyard, but as *scientists* you will begin to observe and investigate your schoolyard in a new way. Your investigations will answer the important question:

What are the habitats and communities on the school ground?

Your scientific research will also be used to teach other teachers across Canada how to study their own school grounds with their grade 4 students.

Thank you for helping Evergreen with this important research project. Good luck, young scientists!