



EVERGREEN

# Teacher's Corner Lesson Plans

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

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## Is This Habitat For Me? – Part 3 (of 3)\*†

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Grade level: 4

Provincial curriculum links: Ontario

Subject: Science and Technology

Keywords: earthworm, population, habitat, environmental conditions

### Description

Students answer the question "Where in the schoolyard will you find the greatest number of earthworms?" This is lesson 3 out of a total of 3 lessons.

### Curriculum Framework

- See Part 1

### Preparation

Preparation Time:

- 10 minutes

Length of lesson:

- Part 3: 80 min
  - 10 min Introduction to Data Drawings
  - 30 min Making drawings and captions
  - 10 min Sharing and group conclusions
  - 30 min Concept Mapping

Resources required:

- Per Research Team
  - Student worksheets: This is the habitat for me (2)
  - Lg Cartridge paper for concept map (1 per student)

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

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## Procedure

1. Have the students combine the class data into drawings and then write captions that explain the relationship of the data depicted in the drawings.
2. Using the student sheet as a guide, do the first study area drawing and captions as a class. Divide the remaining study plots between the research teams and let them do the drawings and captions on their own. Post the class drawings and captions.
3. Have the research teams create a new concept map based on the class drawings and captions. Through the drawings, captions and the concept map, the goal is to enable the students to recognize and describe patterns in their data when comparing the variables of worms and environmental conditions within a habitat.
4. Have students post and compare their drawings, captions and concept maps with each other. Lead the class to develop a group conclusion regarding the ideal habitats for earthworms based on the experiments and the general relationships between environmental conditions and habitats.

*(Living creatures often have a range of conditions in which they can survive. Some living creatures can adapt to a wide range of environmental conditions. For example, goldfish are able to withstand a large range of temperature and oxygen level variations whereas rainbow trout cannot and must live in highly oxygenated, cold waters. When environmental conditions are at the edge of the organism's range of tolerance, the organism may depend on other factors being in the ideal range to survive, i.e. plenty of food or no competition, or the organism may not be as robust and healthy as those organisms in an ideal habitat.)*

## Student Assessment and Evaluation

Brainstorm with the students expected standards for the following processes and products to create class generated rubrics, checklists, rating scales and standards for anecdotal feedback.

Research Submissions:	Look for understanding of concepts, details in methods and materials, connections made in predictions.
Field Work ( <i>Process</i> ):	Anecdotal or Checklist: Observe on-task behaviours, responsibility re: following procedures, equipment, living organisms, teamwork.
Field Work ( <i>Product</i> ):	Data Collection Worksheets. Look for completion, accuracy
Data drawings and captions:	Accuracy, ability to communicate and portray data through words and pictures
Concept Map:	Compare initial and final concept maps. Look for increase in complexity and accuracy with connections and relationships between habitat concepts.

## Enrichment and Extension Activities

- Ask students to change the focus from worm populations to other soil dwellers, macro and/or microscopic. Design and conduct simple scientific investigations regarding their habitats and populations in the schoolyard.
- Design the ideal school yard, balancing the needs of students and student activities but also of earthworms and their habitats.

## Educator Notes

- Although combining Parts 1 & 2 into one field work session will maximize time outside, it is recommended to complete the field work over a number of days.
- Part 3 gives the background necessary for the literacy activity "Postcards from the Perfect Plot"

## References/Resources

The Schoolyard Ecosystem, Mid-Hudson Urban Ecosystem Studies Project  
Soil Dweller Experiment, Mike Schneider, Students in a Project Learning Approach to Schoolyard Habitat Development, <http://web.stclair.k12.il.us>