**SNC 1P/1D: Ecology**

**Aquatic and Terrestrial Ecology**

**Program Summary and Curriculum Connections**

**Aquatic and Terrestrial Ecology:**

**Wrigley Corners
Outdoor and Environmental
Education Centre**

***Who are we?***

Outdoor and Environmental Education (OEE) with the Waterloo Regional District School Board.

***What have we done?***

Created a program to help teachers educate students about ecology. The activity is to be used as a summative assignment, however, it will function equally well as an introduction.

The program is broad, and aimed at exposing students to how ecology is practiced professionally with clear connections to current environmental issues and society. This is a field activity with packaged handouts, pre/post trip documents, suggestions for evaluation, presentation material, and alternative assignments all tied directly to the curriculum, but can be applied to other courses (See below for specifics). All of the packaged content can be modified to individual class needs.

***How does the program work?***

There are 3 optional components to the program:

1. Pre-trip class activities
2. The field trip/alternative in-class assignment
3. Post-trip class activities

Each component can be completed separately, but to get the most out of the program we recommend the complete package.

***Program Details***

*Field component includes:*

1. Abiotic sampling and analysis
	1. Aquatic Ecology (Dissolved Oxygen, Conductivity, Carbon Dioxide, Turbidity, Temperature and pH (upon request).
	2. Terrestrial Ecology (Soil Structure, Exposure, topography)
2. Biotic sampling / Inventory
	1. Aquatic Ecology: using sweep nets of macro invertebrates and summarization (sample diversity, species abundance, niche or trophic level, and specific adaptations).
	2. Terrestrial Ecology: Forest structure (Tree diameter/Height, Tree shape, Forest Structure, Herbaceous abundance/diversity).
3. Equipment care, proper scientific method, and demonstration of proper safety practices.

*Alternative Lab component (for students unable to attend the field trip) includes:*

*Aquatic Ecology*

1. Sample data for analysis (Dissolved Oxygen, Conductivity, Carbon Dioxide, Turbidity, Temperature and pH (upon request).
2. **Pictures** of invertebrate samples (buckets) for summary (sample diversity, species abundance, niche or trophic level, and specific adaptations).
3. Question sheet regarding proper scientific method and safety practices.

Pre/Post trip material includes:

1. A Prezi presentation that introduces the students to the aquatic invertebrates that might be found in the pond.
2. Suggested videos
3. Beakes Biotic Index
4. Microscopic study of invertebrates
5. Group Evaluation

Premade class kits are available for loan to interested teachers and include:

* Macro lens set appropriate for an iPad/Chromebook.
* Invertebrate identification keys
* Plankton nets or micro-invertebrate samples taken from Golden Pond.

***Other Program Details***

* The program and program materials are free
* Busing is free
* Can be adjusted to individual classes needs.

***How to book a trip?***

1. Teachers can sign up to attend the program through the annual Outdoor Education booking process in June (same as other field trips). Watch for the OEE bookings system memo in late May or Early June.
2. Class Kits can be borrowed from centers. Kits will be delivered to the school upon request.
3. Program and class activity downloads are free from the website provided below.

***For more information visit or call:***

Levi Moore – (work) 519 632 7503, (cell) 519 501 4031

<http://outdooredguys.wordpress.com/>

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| **Program Outline** |  | **2008 Revised SES 4UI Curriculum** |
| **Pre-trip / In class** |
|  |  | *Fundamental Concepts* |
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|  |  |  |
| **Field Trip** |
|  |  | *Fundamental Concepts -* * S

*A. Scientific Investigation Skills and Career Exploration** A1.1 – A1.13 Initiating, Planning, Performing, Recording, Analysing, and Communicating
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| **Program Outline** |  | **2008 Revised SES 4UI Curriculum** |
|  |  |  |
| **Post-trip / In class** |
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