

**Locally Developed Course**  
**Grande Yellowhead Public School Division**

**Water Experience**  
**25**

**Parks Canada (Palisades) Stewardship Education Centre**  
**Post-Immersion Course Package**



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## *Water Experience 25 Post-Immersion Sessions*

The following plans and activities are to be completed after the students visit the Palisades Stewardship Education Centre. Within this Post-Immersion package, you will find activities that will cover approximately 3 hours of classroom work.

### **Technology**

Students may require access to various technologies such as internet, PowerPoint, Movie Maker programs, cameras and even video cameras for their final projects in WE 25.

### **Final Presentation**

It is recommended that students have a chance to share what they have learned with their school and community. Whether this is through display boards in the school, participation in assemblies or a Water Experience night – where students can share with parents all that they have done, some sort of sharing is recommended.

### **Assignments**

Unless something different is arranged by the teacher in advance, the students will have completed 40% of their assignments in the Pre-Immersion portion of the course, and another 40% in the Immersion portion at the PSEC. The final 20% of their marks will be completed through two major projects during this Post-Immersion portion, with a reflection assignment as well. The Lifestyle Analysis project, the Invention project, and the Reflection assignment are explained in the student handouts.

In the three levels of Water Experience, there will be the following major final assignments:

WE 15

- Comparison project
- Lifelong Learning project

WE 25

- Lifestyle Analysis
- Invention

WE 35

- Trip Planning
- Careers Profile

## Session 1

Topics this class will cover:

- Reflections on the Immersion experience
- Final assignments

Learning outcomes:

- Students will share their impressions of the PSEC and the activities in which they participated.
- Students will begin to organize their final assignments.
- Students will understand the concept of Water Footprints.

Lesson Preparation & Resources Needed:

- All student handouts are included in this Instructor's Notes package. Copies will need to be made before the course starts.

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1. Sharing time: What did you take away from your experience at the PSEC?
  2. Explanation & discussion of final assignments: There are two major assignments and a reflection that must be completed.
    - Students should be monitored when they are beginning these assignments to make sure they are on the right track with their thinking. Get students to bring out their notes from the Pre-Immersion portion of the course and their journals from their time at the PSEC.
    - In a group, discuss how their ideas of water ecology and protection have evolved since the Pre-Immersion. Explore how water use by the environment/nature and humans are often at odds and how a balance is difficult to find in urban areas.
    - For their partner projects, students will come up with one or several inventions that would help humans to be better users of water. They will describe these inventions in detail, using words and pictures. See the following student handout for more information. Be sure to go over the rubric and the expectations for this project in advance. Visit the Stockholm Junior Water Prize inventions at <http://www.siwi.org/stockholmjuniorwaterprize> and see tomorrow's video clips from TED for inspiration.
    - For their individual projects, students will share their own personal water footprint. To prepare students for this, visit [waterfootprint.org](http://waterfootprint.org) and review what was learned at the Palisades Centre during the footprint activity & presentation. Emphasize the fact that the water footprint calculator is a good place to start, but the final product that this assignment is asking for is not just a number of litres of water that one uses. The analysis of the information on personal water use is the most important part. Be sure to define *direct* and *indirect* water footprints.
  3. Give students time to work on their projects, discussing ideas with their teacher & peers.

## Session 2

Topics this class will cover:

- Water needs & inventions
- Final assignments

Learning outcomes:

- Students will explore the idea of inventions.
- Students will continue to organize their final assignments.

Lesson Preparation & Resources Needed:

- Students will need access to their own computer with internet.
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1. Go to the TED website and show one or more of the following videos which will hopefully inspire the students in their quest to invent:

14 year old who built a windmill

[http://www.ted.com/talks/william\\_kamkwamba\\_how\\_i\\_harnessed\\_the\\_wind.html](http://www.ted.com/talks/william_kamkwamba_how_i_harnessed_the_wind.html)

(Click on *Interactive Transcript* at right to view text, as it may be difficult to understand everything William is saying due to his accent. A really inspiring story, if you want to look into it further.)

Water filter invention

[http://www.ted.com/talks/michael\\_pritchard\\_invents\\_a\\_water\\_filter.html](http://www.ted.com/talks/michael_pritchard_invents_a_water_filter.html)

Learning by doing

[http://www.ted.com/talks/gever\\_tulley\\_s\\_tinkering\\_school\\_in\\_action.html](http://www.ted.com/talks/gever_tulley_s_tinkering_school_in_action.html)

Eco-friendly building material

[http://www.ted.com/talks/kevin\\_surace\\_fixing\\_drywall\\_to\\_heal\\_the\\_planet.html](http://www.ted.com/talks/kevin_surace_fixing_drywall_to_heal_the_planet.html)

2. After viewing, share. What was interesting? What was inspiring? What point are students at in the development of project ideas?
3. Give time to students to work on their projects, discussing ideas with their teacher & peers. Remind students that they will be handing in both major projects next class, and will be presenting one to the group at that time as well. Ensure all students are on the right track and answer any questions they may have.

## Session 3

Topics this class will cover:

- Presentations of final assignments
- Self-evaluations
- Course evaluations

Learning outcomes:

- Students will share one of their major projects with the class (either the partner project or the individual project).
- Students will hand in copies of both projects to their teacher.
- Students will reflect on the course and on their assignments.

Lesson Preparation & Resources Needed:

- Determine the tech needs of the students prior to this presentation day. Ensure that the students' presentations will be able to be shared through the SmartBoard if possible (test the Bridgit connection between sites if necessary).

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1. Sharing time: Students present one project to the group. Have the group ask questions after the presentations and discuss any interesting points of view or topics that arise during the presentations.
  2. Hand out the Reflection Questions. Ask students to complete them during class (if there is time) or have them e-mail their answers by a set date. Ensure that you share the answers the students give with the Palisades staff. Make your own suggestions as well so that the course can be continually improved.
  3. Let the students know when they will receive their final marks for the class, and let them know about WE 35 (when it will run & how to register). Inform students that they will need to have their basic first aid certification (16 hr. course) before the Immersion portion of the WE 35 begins, so they should start thinking about this if they would like to continue on to the next step.

## Lifestyle Analysis



After learning about the eco-footprint and water footprint concepts, it is your turn to do a thorough analysis of your own water usage. Are you really using as much water as other North Americans? Or have you already taken steps to cut down? If you think about it, are there areas where you know you can make a positive difference in your usage?

Your project must outline your water use in the following areas:

- Domestic Use
- Transportation
- Consumerism
- Recreation

**You will describe how much water you use and what it's being used for. You will also present some ways that you could reduce your direct and indirect water footprint.**

Choose one of the following formats to present your project:

• PowerPoint Slideshow	• Video
• Photo Essay (with detailed captions)	• Newspaper Article
• Essay	• Blog
• Or any other format you like (discuss it with your teacher first)	

1. Start your project by looking at one of the following **water use calculators**:

Waterfootprint.org online extended calculator:  
<http://www.waterfootprint.org/?page=cal/WaterFootprintCalculator> .

Canadian water use calculator:  
<http://www.cbc.ca/pei/features/watercalculator/>

Simple British water use calculator:  
[http://news.bbc.co.uk/2/hi/in\\_depth/629/629/5086298.stm](http://news.bbc.co.uk/2/hi/in_depth/629/629/5086298.stm)

Good water use calculator (in US gallons):  
<http://www.h2oconserve.org>

Write down all the questions that you aren't able to answer on your own and talk to your parents about them. After collecting some data (see #2 below), entre your info into the Water Footprint calculator and see what your total is. You may want to try on a few different calculators to see how much your results vary.

2. You can go about **collecting data** in a variety of ways - it's not essential that your data collection methods are the same as your peers', but they must be reported in detail. You can:

- Talk to your parents and get the water usage from your bills (this will vary depending on which community you live in). Divide the yearly total by 12 if possible because if you look at only one month, this may not give an accurate picture.
- If you have access to your water meter, take a reading each day and see what your daily usage is. You may need to contact your local water provider to see how your water usage is measured.
- Put a log-book in the bathrooms and kitchen at your house, and try to write down an approximate number of litres used (or # of flushes, # of minutes in the shower, etc.). If you can get your whole household participating, great. If you can only count on yourself to write usage down, that's OK too. You can extrapolate using your numbers.
- Do an assessment of your washing machine and dish washer. Are they newer, efficient models? Go through your house and check to see the number of litres used by each toilet. Is it 6 L or less or are they older, inefficient models? If you have time, do an assessment of the toilets you use around town - are they low-flush?
- If you cook your own meals, do your own laundry, etc. it's easy to see how much water is directly used to support your lifestyle, but if your parents do these chores, you will have to discuss with them the approximate number of loads of laundry are done, meals are cooked, etc. When you eat out or buy ANYTHING, it is not at all easy to determine how much water is used in the production of the item. Use the [waterfootprint.org](http://waterfootprint.org) site to see what is generally a better choice (coffee or tea? meat or veggies?)

A note about the Water Footprint calculators: Your water usage will always be different depending on which calculator you use. They are not perfect, sometimes calculating only your direct footprint and other times extrapolating your indirect usage based on your household income and country of residence.

3. **Analyze your usage** and describe in detail **what you could change** to become more water wise. List the things that would make the biggest difference and then also list the things that you could actually see yourself doing (for example, becoming a vegan makes a big difference, but are you ready for that?) Make a realistic plan of action for yourself and/or your family. Check out the following site for suggestions: [http://www.h2oconserve.org/?page\\_id=3&pd=tip](http://www.h2oconserve.org/?page_id=3&pd=tip)

Sample Rubric	Lifestyle Analysis /10		
Standard of Excellence 9-10	Proficient 7-8	Acceptable 5-6	Not Acceptable 0-4
Students demonstrate a thorough understanding of their own water footprint. There are many useful descriptions.	Students demonstrate a good understanding of their own water footprint. There are many useful descriptions.	Students demonstrate a basic understanding of their own water footprint. There are some useful descriptions.	Students demonstrate a lack of understanding of their own water footprint. There are few useful details.
Effective and competent communication of key concepts.	Effective communication of key concepts.	Communication of key concepts is evident.	Communication of key concepts is lacking.



## Invention



With a partner of your choice (or on your own), **brainstorm some inventions that would help make the world a better place, water-wise.**



You may decide to focus on one invention in detail, or several in a more general way.

For some inspiration, check out the Stockholm Junior Water Prize inventions at <http://www.siwi.org/stockholmjuniorwaterprize>

You and your partner will need to choose the format with which you feel you could best present your ideas. Here are the format options:

• PowerPoint Slideshow	• Sketches (with detailed captions)
• Photo Essay (with detailed captions)	• Video
• Essay	• Newspaper Article
• Or any combination of these formats	

You will present your invention to others who may not have taken the WE course. Explanations of why the item is necessary or important will need to accompany the invention descriptions.

Remember the 5 Ws as you complete this assignment:

- Who designed it? Who will benefit from it?
- What is its purpose? What does it do?
- Where will it be used? (Is it for industry, households, communities, individuals?)
- When will it be useful? When could it become a reality?
- Why did you invent it? Why should it be developed?

Sample Rubric		Invention /10	
Standard of Excellence 9-10	Proficient 7-8	Acceptable 5-6	Not Acceptable 0-4
Students show very detailed descriptions of the inventions and of the reasons for needing them.	Students show detailed descriptions of the inventions and of the reasons for needing them.	Students show basic descriptions of the inventions and of the reasons for needing them.	Students have limited descriptions of the inventions and of the reasons for needing them.
Effective and competent communication of key concepts.	Effective communication of key concepts.	Communication of key concepts is evident.	Issues are dealt with at a superficial level and/or in isolation.

## Student Reflection Questions

This reflection assignment will contribute to your participation mark in WE 25, but more importantly, the answers you give will help to improve the course for others and potentially yourself if you are interested in continuing on to WE 35.

Please answer questions on a separate sheet of paper, or if completing this electronically, insert your answers after each question and e-mail the file to: \_\_\_\_\_ by \_\_\_\_\_.

- Ideas**
1. What is the most important thing that you learned during Water Experience 25? Why is this important?
  2. What message or ideas have you / will you share with others about water recreation / conservation / rights after this course?
- Assignments**
3. Which in-class activity did you enjoy the most? Why?
  4. Do you wish that you had been given more time to work on the projects? What else would you have done?
- Influences**
5. In what ways did your classmates and teacher influence your learning?
- Technology**
6. Did you find the use of technology appropriate in this course? What would you suggest for next time?
- Collaboration**
7. How did you and your partner make decisions about your invention project?
  8. How did you and your peers work together in class and at the PSEC?
- Course Evaluation**
9. What would you like to see changed in this course? Why?
  10. What part of this course would you keep the same? Why?
  11. Are you interested in taking the next course, WE 35? Why or why not?
  12. What type of person would you recommend this course to? Why?