



CANADIAN WILDLIFE FEDERATION  
FÉDÉRATION CANADIENNE DE LA FAUNE

[www.cwf-fcf.org](http://www.cwf-fcf.org)

## Sewage Lesson Plan

**Date:**

**Time:** 1 Period (45 minutes)

**Grade:** Science 9

**Unit:** Fresh and Saltwater Systems

**Topic:** Water Quality and Living Things

**General Learning Objective:** *Students will...*

- Analyze human impacts on aquatic systems; and identify the roles of science and technology in addressing related questions, problems and issues

**Specific Learning Objectives:** *Students will...*

- Analyze human water uses, and identify the nature and scope of impacts resulting from different uses
- Identify current practices and technologies that affect water quality, evaluate environmental costs and benefits, and identify and evaluate alternatives

**Attitudes IS** - Show interest in science related questions and issues

**Attitudes C** - Work collaboratively in carrying out investigations and in generating and evaluating ideas

**Attitudes C** - Demonstrate sensitivity and responsibility in pursuing a balance between the needs of humans and a sustainable environment

**Skills PI** - Identify science-related issues and problems and identify questions to investigate, arising from science-related issues

**Skills RR** - Research information relevant to a given issue.

**Skills CT** - Use appropriate vocabulary, including correct science and technology terminology, to communicate ideas; communicate questions and ideas; defend a given position on an issue, based on their findings.

**Learner Objectives:** Students will...

- Identify factors affecting water quality
- Explain the relationship between water quality and living things

**Materials:**

Rivers to Oceans Episode - Sewage	Camera with video recorder
Laptops or access to computers	
Water Environmental Tips Web Quest Sheet	



## Organization to Achieve the Objectives

	Time	Teaching Activities	Student Learning & Activities	Modification
<b>Introduce / Set</b>	5 min	<p>Pose a Question to Invoke Interest</p> <ul style="list-style-type: none"> <li>Through observations (colour and transparency etc), students will assess which glasses of water are safe for humans and animals to drink?</li> <li>Students will assess and describe properties of the solutions and interpret what the chemicals are, who uses them and how they get in the a local water system</li> </ul> <p>(Due to safety reasons ensure glasses are on teaching table – teacher directed activity)</p>	<ul style="list-style-type: none"> <li>Assess and communicate opinions</li> </ul>	<p>Visual use of chemical bottles and solutions</p> <p>-Common chemical names and potential issues written on board</p>
<b>Body (in steps)</b>  <b>(37.5 minutes total)</b>	5 min	<ul style="list-style-type: none"> <li>Rivers to Oceans Webisode – Sewage</li> </ul>	<ul style="list-style-type: none"> <li>Explain water quality issues and impacts in our local neighbourhood</li> <li>Research and explain household environmental alternatives</li> </ul>	<p>-Work in groups based on weaker/stronger matches and on student leadership skill and</p>
	2.5 min	<ul style="list-style-type: none"> <li>Students will understand the relationship between water quality/environmental health and household chemicals</li> </ul>		
<b>Body (in steps)</b>	12.5 min	<ul style="list-style-type: none"> <li>Using your Cities website (<i>city of lethbridge</i>) and the Yellow Fish Road Website, students will investigate sustainable alternatives and technologies that benefit and protect water quality</li> </ul> <p><a href="http://www.lethbridge.ca/home/City+Hall/Departments/Environmental+Management/Programs+and+Initiatives/default.htm">http://www.lethbridge.ca/home/City+Hall/Departments/Environmental+Management/Programs+and+Initiatives/default.htm</a></p> <p><a href="http://www.yellowfishroad.org/index2.html">http://www.yellowfishroad.org/index2.html</a></p>	<ul style="list-style-type: none"> <li>Develop a skit describing an environmental water tip of your choice</li> </ul>	<p>-Work in peer groups based weaker/stronger matches and on student leadership skill</p>
	15 min	<ul style="list-style-type: none"> <li>In groups, students will develop 2 short skits (one to demonstrate the Don't and one to demonstrate Do's) on a chosen water environmental tip</li> </ul>		



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		<ul style="list-style-type: none"> <li>Students will present and communicate environmental tips to the class through dramatic role play</li> </ul>		and
<b>Closure</b>	3.5 min	Students will answer questions pertaining to water issues with increase development and human impacts -Students will summarize and describe potential water conservation differences observed during the field trip and today's skits.		
<b>Anchor Activities</b>	-Reflective journal response for field trip and skits. Must deal with water quality issues and environmental tips.			
<b>Assess &amp; Evaluate</b>	<b>Summative</b> -Understanding of questions through the reflection of correct answers on Webquest assignment		<b>Formative</b> - Questioning/checking for understanding - Performance task demonstrates understanding and clear communication of environmental tip	



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### Science 8 - Web Quest Assignment

#### Environmental Water Tips You Can Make a Difference

##### **PART I**

##### **Your Task**

Go to the [City of Lethbridge Website](http://www.lethbridge.ca/home/default.htm). Here you will go to the top of the screen and place your mouse over 'For Residential' then on 'Your Family and Community'. You will then select 'Environmental Tips'. Lastly, select the Water category and answer the following questions.

<http://www.lethbridge.ca/home/default.htm>

1. Explain 2 household practices that contribute to poor water quality?
2. Describe 2 tips that help protect water quality?
3. Describe 3 other environmental tips found on this website, they can be for water, transportation, energy or recycling. You choose.

##### **PART II**

Once you have answered the first two questions you will go to the [YellowFishRoad website](http://www.yellowfishroad.org/index2.html) and answer the next 2 questions.

<http://www.yellowfishroad.org/index2.html>

4. Why is the YellowFish Road program important?
5. Why is it critical to have 'ONLY RAIN DOWN THE STORM DRAIN in our local communities?



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### **PART III – Role Playing**

You will select one environmental water tip and develop two short skits, the first one will be what not to do and the second will display what you should do to help the environment. Work with your group to create a 1-minute skit for each Don't and Do.

#### **Environmental Tip Used for Skit**

Our skit is on the \_\_\_\_\_

#### **Ideas:**