

WATER WISE IN GREATER VICTORIA



KEY CONCEPTS

- THE GREATER VICTORIA DRINKING WATER SUPPLY SYSTEM IS DEPENDENT ON ANNUAL PRECIPITATION, WHICH FALLS MOSTLY AS RAIN.
- HABITATS AND ECOSYSTEMS WITHIN THE GREATER VICTORIA WATER SUPPLY AREA NEED ENOUGH CLEAN WATER TO SURVIVE.

METHOD

Students will watch the video *Water and Watersheds*, complete a worksheet, and participate in a review activity to identify a “Water Wise” team.

ACTIVITY INFORMATION BOX:

TIME REQUIRED: 50-60 minutes

GRADE LEVEL: Grades 8-12

KEY WORDS: *water supply, watershed, “clean water factory”, wetlands, green infrastructure, turbidity*

MATERIALS:

- *Water and Watersheds* Video
- Student worksheets
- 3X5 cards (or pieces of paper)
- pen/pencil

SETTING: indoors

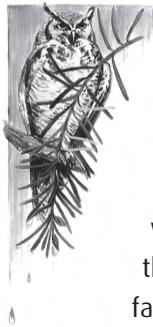
SKILLS: listening, observing, gathering information, recall

SUBJECTS: Science 8-10
Earth Science 11
Biology 11-12,
Resource Science 11-12

LEARNING OUTCOMES:

IT IS EXPECTED THAT THE STUDENT WILL:

- Be able to identify the source of tap water in the Greater Victoria area;
- Understand the local water cycle and its impact on water supply;
- Practice problem solving;
- Demonstrate their knowledge of the local water and watersheds by participating in the *Water Wise* game.



BACKGROUND

This lesson is intended to be used with the *Water in our Community* video: *Water and Watersheds*. The video looks at where our tap water comes from: the Greater Victoria Water Supply Area. Viewers are taken to the watershed in the Sooke Hills and Sooke Reservoir. They are shown the physical features of this area and the local water cycle is described. They visit with a CRD watershed specialist who points out and explains various species that depend on this area for their habitat; and how a healthy watershed acts as a natural filter or “clean water factory” for our water. This function by the watershed is sometimes called a “green infrastructure” as it fulfills an important role in the operations of our water systems. The video also describes the uses of forest species such as red cedar by coastal First Nations.

PROCEDURE

1. Before the video is shown, ask students:
 - Where does the water in your taps come from?
 - Where is the Greater Victoria Water Supply Area located?
 - What do you know about the Greater Victoria Water Supply Area?
 - How does CRD Water Services protect the Greater Victoria Water Supply Area?
2. Handout copies of the Student Worksheet to each student and review.
3. Challenge students to gather facts about Greater Victoria Water Supply Area as they watch the video using the video worksheet.
4. Show the video *Water and Watersheds*.
5. Explain that students will now participate in the “*Water Wise*” game (see box for instructions).
6. Wrap up by discussing any questions, misunderstandings, or other issues that come up during the game.
7. Score the correct responses and appoint the winning student team as the “*Water Wise*” team.

EVALUATION

Have students:

- Complete the worksheet as they view the video;
- Describe what they have learned about the Greater Victoria Water Supply Area by creating questions for a game called “*Water Wise*”.

EXTENSIONS

Ask students to identify local watersheds and learn about their particular characteristics.



WATER WISE GAME

1. Divide students into two teams and ask each student to record one question from their video worksheet on a 3x5 card or piece of paper.
2. Ask the team members to organize the questions in a logical order, eliminating any duplicates. If there are duplicates, ask them to create a new question to replace the duplicate. Each team should record the team questions and discuss the correct answer to each question that will be posed to the opposite team. Distribute cards amongst team members so that each student has a question card. Ensure that there are an equal number of question cards for each team.
3. Tell students that the aim of the game is to get the correct answer as quickly as possible.
4. The game begins by the first team selecting an individual member from the other team to pose the first question. Points are awarded according to the following criteria:
 - Gain 2 points for giving the correct answer without consulting with other team members;
 - Gain 1 point for giving the correct answer after consulting with other team members;
 - Lose 1 point for giving an incorrect answer without consulting with other team members;
 - Lose 2 points for giving an incorrect answer after consulting with other team members.
5. Begin the game, ensuring that each team poses all their questions to the other team and that all team members participate.
6. The team with the most points at the end is declared the “Water Wise” Team.

COMMUNITY CONNECTIONS

Invite a biologist or a forester from your community to visit the classroom and have him/her discuss the importance of protecting watersheds.

VIDEO STUDENT WORKSHEET – CRD WATER AND WATERSHEDS

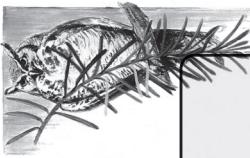
NAME:

INSTRUCTIONS: Use this worksheet to assist you in gathering information to help carry out the "Water Wise" game.



1. How big is the Greater Victoria Water Supply Area? Where is it located?	2. Approximately how many people depend on this water supply?	3. What type of climate does Greater Victoria have?	4. Why did the CRD buy the Leech River watershed?
5. Describe the precipitation pattern in the South East area of Vancouver Island.	6. Name two types of trees often seen in the watershed and give some characteristics of each.	7. What kinds of wildlife can be found in the watershed?	8. How does a healthy forest clean water?
9. What are the names of the CRD Water Services Reservoirs?	10. What is the agreement between the Tsouke First Nation and the CRD about?	11. Wetlands are sometimes called "Nature's ____" Why?	12. When does our watershed receive most of its water and why?

INTERESTING FACTS FROM CRD WATER AND WATERSHEDS VIDEO



<p>1. How big is the Greater Victoria Water Supply Area? Where is it located?</p> <ul style="list-style-type: none"> • 20,700 hectares or 207 square kilometres • It's located northwest of the city of Victoria. • Sooke Hills 	<p>2. Approximately how many people depend on this water supply?</p> <ul style="list-style-type: none"> • 340,000 people 	<p>3. What type of climate does Greater Victoria have?</p> <p>Northern Mediterranean</p> <ul style="list-style-type: none"> • Dry summers • High water evaporation during summers • Wet winters • Similar to Italy or Greece 	<p>4. Why did the CRD buy the Leech River watershed?</p> <ul style="list-style-type: none"> • For future water supply
<p>5. Describe the precipitation pattern in the South East area of Vancouver Island.</p> <ul style="list-style-type: none"> • Mountains capture rain in rainy season (winter) • We are in a rain shadow of the Olympic Mountains 	<p>6. Name two types of trees often seen in the watershed and give some characteristics of each.</p> <ul style="list-style-type: none"> • Douglas-Fir (thick bark, big fissures in bark, needles are bottle brush-like, main lumber tree in B.C.) • Western Red Cedar (thin, stringy bark, "tree of life" for coastal First Nations, needles are scaly). 	<p>7. What kinds of wildlife can be found in the watershed?</p> <ul style="list-style-type: none"> • woodpeckers • birds • deer • bears 	<p>8. How does a healthy forest clean water?</p> <ul style="list-style-type: none"> • forests hold soil in place • soils filter water • wetlands store and filter water • creates natural filtration system • process sometimes called green infrastructure
<p>9. What are the names of the CRD Water Services Reservoirs?</p> <ul style="list-style-type: none"> • Sooke Reservoir • Goldstream Reservoir • Lubbe Reservoir • Butchart Reservoir • Deception Reservoir 	<p>10. What is the agreement between the Ts'ouke First Nation and the CRD about?</p> <ul style="list-style-type: none"> • Traditional fishing rights on the Sooke River. • Water levels are maintained by the CRD via the Deception Reservoir to the Sooke River to protect fish habitat. 	<p>11. Wetlands are sometimes called "Nature's _____. Why?"</p> <ul style="list-style-type: none"> • Sponge Because they hold and release water slowly 	<p>12. When does our watershed receive most of its water and why?</p> <ul style="list-style-type: none"> • Winter, because of the Mediterranean-type climate • 1460 mm per average winter