Teacher's Guide

Quest for Water Safety: A Wizardly Adventure
Interactive Water Safety Program

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Introduction

Quest for Water Safety: A Wizardly Adventure is an interactive, educational CD-ROM program. It has been created to help educators teach students about Ontario Power Generation's (OPG) hydroelectric generating facilities and the potential dangers surrounding them. Students will learn about the safety procedures people should follow near dams, hydraulic stations and their waterways, and are encouraged to inform their families about these procedures. The overall message of the program is that students should *stay clear to stay safe.*

The program is intended for students in grades 4 and 5. The main elements of the program have been developed based on the Health and Physical Education: Healthy Living component of Ontario's Elementary School Curriculum. It covers the curriculum expectations for Grade 4 of using living skills to address personal safety and injury prevention, and for Grade 5 of applying strategies to deal with threats to personal safety.

Learning Objectives

This program includes the following learning objectives:

- To provide students in grades 4 and 5 with information about the safety threats around OPG's dams and hydraulic plants.
- Engage students in using their personal decision-making skills.
- To give students the opportunity to understand how their decisions and actions can affect their personal safety.
- To offer students an experiential activity that allows them to identify dangerous situations, make decisions and take actions to keep themselves safe.

The program has been structured to offer teachers flexibility in how they can use it in the classroom.

- Students can work through the program independently at individual computers.
- Students can work through the program in small groups.
- The program can be presented to the class using a single computer, with the students working as a group or in teams to respond to each lesson.

In all cases, it is recommended that the CD-ROM exercises be combined with classroom discussions. This will help to ensure that students understand the material being presented, and will enable students to ask questions and further explore the implications of the material they have learned.

Program Outline

Quest for Water Safety: A Wizardly Adventure is an interactive CD-ROM safety adventure. It provides students in grades 4 and 5 with a challenging, entertaining and fun educational experience in which "learning just happens."

The narrator is Whirl-on the Super Safety Wizard from the Kingdom of Ontario. Whirl-on is "wizardly challenged" and wants to earn his Wizard Certificate. But to do so, he first needs the students' help to protect people from the water dangers around hydraulic stations and dams. He starts students on a quest to navigate through eight danger zones.

To begin, Whirl-on leads the students to the "Secrets of Hydraulic Stations." In this section, he explains how hydraulic generation works using an animated diagram, and introduces students to the various water hazards around the plant.

Whirl-on then explains the Quest game, and what each student must do to identify the danger and choose the correct answer. Now it's up to the student! When the student has successfully completed all the Quests and also the General Water Safety Quiz, they receive a Wizard Certificate and a page of Water Safety Tips.

In addition to the Quest exercises focusing on hydroelectric generating stations, other activities have been included to further enhance the learning experience.

General Water Safety Quiz
Hydroelectric generating stations are not the only place where water dangers are found. There are other water safety rules of which students should be aware. This quiz provides six scenarios about swimming and boating safety.

For each scenario, an illustration of a safety rule is presented. Two statements are given. The student selects the correct answer by clicking the appropriate box on the screen.

Games Module
This section includes a series of word puzzles that further reinforce the messages and safety lessons learned during the Quest.

Ontario Power Generation Internet Link
The program provides an Internet link to a specially-designed student learning page, www.opg.com/watersafety on OPG's web site. For complete instructions on how to access the web site, please see "Internet Link Instructions" on page 11 of this Teacher's Guide.

Program Structure

Select English/Français

↓

Type in User/Group name

↓

Title Screen

↓

Main Menu Screen

↓	↓	↓	↓	↓
Teacher's Guide	**Secrets of Hydraulic Stations**	**Quest**	**Internet Link**	**Games**

The Language Screen appears and the user is prompted to choose between English and Français.

On the next screen, the Log In Screen, the user types in their name or the name of their group.

Then the title screen appears and the adventure begins.

The Main Menu Screen appears. Whirl-on the Super Safety Wizard appears and establishes the scenario.

Whirl-on presents the "Secrets of Hydraulic Stations" video.

Whirl-on directs the user to the "Quest" button.

The "Internet Link" and "Games" can be accessed at any time.

Quest Structure

Each quest is comprised of four components:

Introduction of the Water Danger
A video clip showing the dangerous water situation is presented.

The Safety Quiz
A three-question quiz appears on screen and is read by Whirl-on. Students can test their knowledge of water safety around hydraulic stations and dams, as well as their general understanding of safety.

Identifying the Safe Choice
Students select the correct safety choice by clicking the box on the screen. They must answer correctly before they can move on. If they answer incorrectly they will have the chance to choose again. Ultimately, they will need to choose the right answer in order to move on.

Safe Choice Explanation
Once they have answered correctly they will see a video clip, narrated by Whirl-on, explaining why this is the safe choice. This helps to reinforce the safety rule.

The Dungeon!
If the student answers more than three questions incorrectly, they will be thrown in the Dungeon. To get out of the Dungeon and return to the game, the student must first work their way through a medieval maze and get past the dragon.

Safety Lessons

Hydroelectric Generating Station Water Safety

Quests

1. **In a Blink of a Dragon's Eye**
The level of the water and how fast it flows can change very quickly, so stay clear and stay safe.

2. **Winter Warning Wonderland**
Never walk, ski, sled, ice-fish or snowmobile on rivers or lakes near generating stations and dams. The fast moving water can make the ice very thin and unsafe.

3. **Reading Forbidden Signs**
Always obey warning signs, and stay away from fences and safety booms.

4. **Spring, Summer, Never Fall!**
Stay away from the edge of rivers and waterways where footing may be slippery, and don't wade into moving water.

5. **Canoe Stay Safe**
When hiking or portaging, make sure you stay on well-marked trails and paths.

6. **Don't Dare Stand There**
Never stand below a dam or tie your boat there.

7. **Aware…Is Where You Want To Be**
Keep an eye on the water and if there is a sudden change in water speed or level, get out of the water or move your boat downstream.

8. **Big Spills, Big Danger**
Stay away from spillway channels that can suddenly be flooded by rushing water.

General Water Safety

1. **Never swim alone**
You should never swim alone, even if you're a strong swimmer, because there will be no-one to call for help if you get in trouble.

2. **Don't dive in the shallow end of a pool**
Most backyard pools aren't really designed for diving – they're just not deep enough – and you should definitely not dive in the shallow end.

3. **Don't dive or jump in unfamiliar water**

If you can't see the bottom of a lake or river, you don't know how deep it is or if there are rocks or other dangers hiding under the water that could hurt you.

4. **Always wear a life-jacket when boating**

When out in a boat, it's important to always wear a life-jacket or PFD which stands for Personal Floatation Device.

5. **Never stand up in a small boat**

If a person stands in a small boat, they could lose their balance and fall overboard, or even tip over the boat.

6. **Don't overload a boat with people or gear**

If there are too many people or too much gear in a boat, it could cause the boat to tip over.

Learning Activities

The following are learning activities for the classroom, developed for the ***Quest for Water Safety: A Wizardly Adventure*** CD-ROM program. Activities include the areas of language arts, art, social studies and personal health and safety. They have been designed to fit the objectives of the current Ontario curriculum.

Language

1. Write a letter to Ontario Power Generation requesting more information about hydroelectric generating plants (see www.opg.com for contact information). When the information is received, write a one-page report.

2. Use the library or Internet to find news stories about people who were harmed due to a hydroelectric generating station accident or other water safety hazard. Write a report on what happened and how the accident could have been prevented.

3. Find articles about safety in magazines, newspapers, or from news reports. Create a scrapbook of this information. Choose one or more articles and write a summary of the information provided. Present it to the class.

4. Use the library or Internet to find three water safety rules not covered on the CD-ROM. Create a collage using pictures and words, and explain your project to the class.

5. Create a water safety spokesperson – it could be a superhero like Spiderman, an animal like Elmer the Safety Elephant or another character of your choice. Write a story about how they helped keep people safe in a dangerous situation. Share the story with the class.

6. Write a 30 second radio commercial about a water safety rule. Present the commercial to the class.

7. Interview an authority about water safety procedures (lifeguard, swim instructor, OPG employee). Write up the interview and publish it in your school/classroom newsletter.

8. Have you, a family member or friend ever been involved in a personal safety situation (water, road, bicycle, recreational, home)? Write a story about it. Tape the experience and make it available at the listening center.

9. Write a 1 to 2 minute speech on water safety in general or a specific water safety rule and present to the class.

10. Write an opinion paper on the importance of water safety.

Arts

1. Create a poster for the school demonstrating one of the water safety rules, using the various elements of design (line, shading, colour). Explain the design choices for this project.

2. Individually or in small groups, create a character like Whirl-on the Super Safety Wizard as the main character in a comic strip demonstrating one of the safety rules. This may also take the form of a sculpture.

3. Draw a graphic organizer showing how hydroelectric generating plants work. Remember to use both pictures and words.

4. Create a water safety spokesperson – it could be a superhero like Spiderman, an animal like Elmer the Safety Elephant or another character of your choice. Draw a poster or advertisement demonstrating a water safety rule.

5. Create a water safety web page.

6. Pick one of the safety rules and write a jingle to one of your favourite tunes or compose a tune of your own.

7. Use the library or Internet to find three water safety rules not covered on the CD-ROM. Using images and word, create a warning sign.

8. Create and perform a public service announcement for water safety.

9. Perform a mime of a water hazard situation in front of the class. The class then guesses the hazard and the safety rule.

10. In small groups, develop and perform a skit about a water hazard or other type safety situation.

11. The teacher will have a variety of water or other safety situations in a hat. In groups, students will choose a situation and perform an improvisation for the class on the safety rules for handling that particular situation.

Social Studies

1. Locate a hydroelectric generating plant or other economic resource (farming, manufacturing) and describe the natural and other characteristics of the area that contributed to why this particular location was chosen. This can be done for Ontario only or other regions of the country.

2. Find a location for a new hydroelectric generating plant and explain the decision to locate it there.

3. Ontario is known for its lakes, rivers and forests. Identify an area and write a one-page tourist advertisement about why people should visit Ontario.

Health and Physical Education
Healthy Living

1. Choose a partner, then perform a role-play in which one person is breaking a water safety rule and the other person is trying to tell them why what they are doing is wrong and teach them the rule. Then choose a different rule and switch roles.

2. Have you, a family member or friend ever been involved in a personal safety situation (water, road, bicycle, recreational, home)? In your group, describe the situation and how you would handle it.

3. Choose any personal safety situation (water, road, bicycle), describe the possible dangers and how injury can be prevented.

4. Make a list of people you can call if you are involved in an emergency situation (example, lifeguard when swimming).

Running the Program

IBM Compatible Users – Minimum Requirements
Pentium II 233 MHz or greater
Minimum 32 MB of RAM running Windows 98
256 colours at 640 x 480
8x CD-ROM drive
100% Sound Blaster compatible card

Method One - Autorun
The CD-ROM is designed to run automatically once installed in your computer. Insert the CD-ROM into your CD drive. The CD will automatically begin and open full screen on your computer.

Method Two – Manual
Insert the CD-ROM into your CD drive. On the desktop, select 'My Computer' to bring up your computers installed drive list. From this list, click on the CD-ROM drive icon. This will bring up a menu box with a list of files. Click on the 'Start' file to run the program.

Macintosh Users – Minimum Requirements
Power Macintosh 100 MHz
System 8 or later
32 MB RAM
256 colours at 640 x 480
8x CD-ROM drive

Method One - Autorun
The CD-ROM is designed to run automatically once installed in your computer. Insert the CD-ROM into your CD drive. The CD will automatically begin and open full screen on your computer.

Method Two – Manual
Insert the CD-ROM into your CD-ROM drive. The CD-ROM will initialize and appear on your desktop as an icon. Click on the CD-ROM icon to open the contents menu box.
Click on the 'Start' file to begin the program.

Internet Link Instructions

The Internet link is designed to work with an established Internet connection. Ensure you are connected to the Internet via a dial-up modem, broadband connection, or LAN prior to running the CD-ROM. If you have an Internet connection established, simply click on the Internet Link from the Main Menu screen. This opens a browser window connecting you to a live web site.

For more information about Ontario Power Generation, visit our web site at www.opg.com.