



**Welcome to the 18th Annual  
Peterborough Children's Water Festival!  
May 28<sup>th</sup> – 29<sup>th</sup>- 30<sup>th</sup> 2019**



Dear Teachers,

On behalf of our organizing committee, I welcome you to the 18<sup>th</sup> annual Peterborough Children's Water Festival!

The Peterborough Region has many natural gifts, and one of those is the many lakes, rivers, streams and ponds that nurture life and bring joy to the thousands of residents both human and non-human that call Peterborough their home.

As a community we have a responsibility to protect water in all its different forms, and we are happy that in our 18<sup>th</sup> year we are now offering our educational programs in both English and French. Thanks to the hard work of local high school students and teachers students will have the option to participate in our activity centres in both of Canada's official languages.

Our organizing committee continues to focus on making every student's visit to the Festival a memorable part of their school's curricular program. The learning stations are designed to be hands-on, stimulating, fun, and further students' understanding of water concepts taught through the school curriculum.

We hope that as teachers you find this annual festival an engaging and useful learning opportunity for your students. In our pursuit of adapting to changing learning needs and curriculum we hope you will share your feedback so that this festival will stay at the forefront of water education.

I encourage you to visit our website [www.pcwf.net](http://www.pcwf.net) which will provide you with additional information about the Festival, and links to other sites related to water education.

See you in May!

Yours truly,

Patricia Skopelianos  
Chair, Peterborough Children's Water Festival

## **This Teacher's Planning Guide is designed to:**

- ◆ Give you an overview of the Festival and its purpose
- ◆ Help you get organized for the Festival
- ◆ Suggest ways to prepare your students and volunteer adults in order to maximize fun and learning!
- ◆ Provide ideas for further study back at school

For more detailed information on our website and links to the activity centres visit:

<https://pcwf.net/educator-information/registration-getting-ready/>



**The Peterborough Children's Water Festival brings together the expertise of educators, water quality and quantity specialists, community volunteers, conservation groups, industry and government to provide the regions elementary students with the opportunity to discover the importance and diversity of water.**

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Activity Centres and Curriculum Connections can be found for your specific Grades at <https://pcwf.net/educator-information/registration-getting-ready/>

## Learning in Context

### Water globally, nationally and provincially

Water covers 75% of the planet, and also makes up about 75% of a person's body weight. Water is essential for all life on Earth. Without it, nothing lives.

Civilization depends on the availability of clean freshwater – for growing food, drinking, washing, traveling and playing. All cultures and faiths around the world recognize the sanctity of water. Throughout history, water has turned mill wheels, carried ships, provided steam and produced electrical power. Today, water continues to be essential to the health of human beings and the natural environment, as well as our economies.

In Ontario, we enjoy what appears to be an abundance of water. The word 'Ontario' is actually from a Haudonasonee (Iroquoian) language and means 'beautiful water' or 'sparkling water'. There are approximately 250 000 lakes in Ontario, and water covers about one sixth of our province. Nearly 17 per cent of Ontario's land area consists of lakes and rivers, many of which form the province's boundaries, like the Great Lakes and the Ottawa River.

Ontario residents and businesses draw 58% of their water supply from lakes and rivers (surface water), and 42% from ground water. Human activities can negatively affect water sources, sometimes with irreversible outcomes. People are beginning to realize that our water supply is becoming contaminated and over utilized. This in turn can endanger the health of people, plants and wildlife. In order to keep water sources clean and plentiful, human behaviour must change.

Some other interesting water facts include:

- Water Consumption usually drops 18-25% after a water meter is installed
- One Litre of oil can contaminate up to 2 million Litres of water
- Many homes lose more water from leaky taps and toilets than they use for cooking and drinking
- A five minute shower with a standard shower head uses 100 L of water, while the same length of shower with a low flow shower head uses only 35 L
- A single lawn sprinkler spraying 19 L per minute uses 50% more water in just one hour than a combination of ten toilet flushes, two five minute showers, two dishwasher loads, and a full load of clothes.

## **Water in the City and County of Peterborough**

Maintaining a clean water supply is key to the economic, environmental and human wellbeing in the Peterborough region. Below are characteristics of the Peterborough Region that reinforces the importance of having a community that cares for this valuable resource.

- The Peterborough region has 134 lakes
- The City of Peterborough is located in the Otonabee Region Watershed
- Residents and businesses rely on piped, municipally treated Otonabee River water in urban areas, and ground water in rural areas (for private or communal wells).
- Peterborough contains many of the province's important natural features, as well as habitats for many regionally and provincially significant flora and fauna. On a local, regional and provincial scale, these natural features provide essential ecosystem functions that support the health of the land, air and water.
- During the summer months the Peterborough region is visited by over 30,000 tourists and cottagers, looking to enjoy the regions natural characteristics suitable for outdoor recreation (waterways, forests, caves etc.), festivals and tourist attractions.
- Environmental features in Peterborough are also recognized as a significant resource for recreational and leisure activities. The Trent-Severn Waterway, waterfront parks, conservation areas, and provincial parks offer both passive and active recreational opportunities. Activities such as hiking in Petroglyphs Provincial Park and Warsaw Caves Conservation Area, or fishing in the Otonabee River contribute to the quality of life experienced by Peterborough residents.

## **Water Festival Objectives and Themes**

Two of the primary objectives of this event are to develop personal awareness of the importance of water, and to foster respect for the natural environment. It is hoped that increased individual awareness and respect will contribute to developing a community that is committed to using natural resources wisely.

The Peterborough Children's Water Festival motivates students to become caretakers of water in their classroom and community. By combining hands-on interactive activities with messages relevant to their daily lives, students 'soak up' knowledge concerning the properties, uses, connections and importance of water. With this knowledge, students become aware of the value of conserving and protecting water.

Activities at the Festival are grouped into five theme areas:

### **Water Conservation**

- Examines using water wisely in our homes, schools and communities.

### **Water Attitudes**

- Introduction to historical uses of water compared with present uses.
- Exploration of common attitudes toward water, and ways to promote an appreciation of water as a natural resource.

### **Water Technology**

- Looking at the role of water in energy production.
- Examine how water is treated, stored and distributed

### **Water Protection**

- Examination of the connections between soil, air, water, plants, people and animals.
- Consideration given to the positive steps we can take to keep water clean.

### **Water Science**

- Introduction to the physical science of surface water and ground water.
- Introduction to the hydrological cycle.
- Exploration of the role of water quality and quantity to aquatic life.

Overall, these themes all convey the message that water is essential to people, to the natural environment, and to the economy – including business, industry and transportation. The Peterborough Children's Water Festival provides hands-on activities, discussions, demonstrations, displays and exhibits that challenge students (and teachers!) to consider the importance of water to human and environmental health, as well as the role of water in economic development.

Interaction with industry professionals, water experts and enthusiastic educators highlight the environmental education messages of the Festival.

## Getting Ready for the Festival

Please consider the following suggestions when preparing for the Festival:

- ◆ **Read through this planning guide**- it will give you a good idea of what to expect, and suggest ways to incorporate this visit into your class's studies. Visit <https://pcwf.net/educator-information/registration-getting-ready/> for activity centre and more information about the festival
- ◆ Divide your class into groups of **five**. Please ensure the groups are no larger than five students for supervision and safety reasons.
- ◆ Assign one adult supervisor to each group of **five** students. Children requiring medical attention (administering medication, epilepsy, special physical needs, etc.) should be in a group supervised by the teacher, or by their parent/guardian.
- ◆ Discuss the Festival and the role of adult supervisors with your volunteers/helpers.
- ◆ Encourage your adult supervisors to read the **Chaperone Information Guide** (available at <https://pcwf.net/educator-information/registration-getting-ready/>)
- ◆ Any student who is not to be photographed or interviewed should be pointed out to the adult supervisor, and photo release form (<https://pcwf.net/educator-information/registration-getting-ready/>) should be submitted.
- ◆ Copy and distribute copies of the **Festival Itinerary template** (see page 15 of this guide) to all adult supervisors.
- ◆ Download the **map** and plan ahead by suggesting activities and exhibits that best suit the learning objectives of your program. The Festival Itinerary Template is for you to list preferred activities for each group of students. This will assist your adult supervisors in identifying those activities that you are interested in having your students visit.
- ◆ Start each group at a different activity to avoid congestion and maximize learning time.
- ◆ Encourage everyone to bring '**litterless lunches and snacks**', including a refillable water bottle!

- ◆ For easier identification, prepare a sign with your school's name on it which you can ask the school bus driver to display in the front window of the bus when they return to pick you up at the Festival.
- ◆ Please discourage students from getting too close to the riverbank.
- ◆ Please discourage students from feeding the waterfowl that may be found along the riverbank. They have plenty of natural foods available to them.

**An adult supervisor must accompany students at all times!**

**By planning ahead and preparing all your adult supervisors for your visit, everyone can take an active role in this valuable learning experience.**

### **On the Day of the Festival**

- ◆ The Festival is held **rain or shine**. Please ensure that everyone is prepared and dressed for the weather. The site may be wet in places, so waterproof footwear is a good idea.
- ◆ Upon your arrival at the Riverview Park and Zoo, please have all students remain on the bus until you receive instructions to unload. At registration teacher will collect their identifying wrist band please keep on for duration of day.
- ◆ Check that everyone knows when and where to meet the bus to go back to the school.
- ◆ Ensure each adult supervisor has a Festival Site Map and their group's itinerary. We ask each group to start their day at a different activity to avoid congestion.
- ◆ The Peterborough Children's Water Festival puts safety first. If any of your students or adult supervisors have medical conditions (diabetes, epilepsy, severe allergies, etc.) please report to the First Aid station, located in the registration tent, and submit a written description of the person and the condition(s) before beginning your Festival visit.
- ◆ You may stop for lunch and snacks at times that are convenient for you. Activities will close for the volunteer lunch between 11:30- 12:00.
- ◆ You can identify Festival volunteers by their bright yellow pinnies or green t-shirts with the Peterborough Children's Festival logo on them. Festival Organizers will be wearing green t-shirts with the Peterborough Children's Festival logo on them. First Aid personnel will be wearing red pinnies. Staff

and volunteers will be located throughout the site. Should questions or problems arise, do not hesitate to approach them. They are here to help, and are happy to do so.

- ◆ Remind your students about the importance of being careful around the riverbanks. The current in the Otonabee River can be strong, especially when water levels are high.
- ◆ A lost and found will be set up at the registration tent. Please bring any found items there, and check in at the tent before leaving the Festival to make sure your class hasn't left anything behind. Remaining items will be left at the Riverview Park and Zoo Lost and Found.
- ◆ Activity Centres will close at 2 p.m., at which time, entertainment will be provided for the children while you wait for your bus at your classes designated waiting area. This entertainment period will run until 2:30 p.m. when all classes should be boarded on their buses and on their way back to school.

**TIMELINE FOR THE DAY:**

8:00 – Volunteers arrive  
9:00-9:30 – Buses with students arrive  
9:30-11:30 – Students visit activity centres  
11:30-12:00 – Activity centres close for lunch  
12:00-2:00 – Students visit activity centres  
2:00-2:30 – Buses load and depart

# Directions to Peterborough Children's Water Festival

May 28<sup>th</sup> – 29<sup>th</sup> – 30<sup>th</sup> 2019

Riverview Park and Zoo

Peterborough, Ontario



Riverview Park and Zoo is located on Water Street North in Peterborough, Ontario. Bus entrance to the parking lot is located at the lights by Carnegie Avenue.

Peterborough Utilities Services Inc.  
1867 Ashburnham Dr., Peterborough, ON K9J 6Z5  
(705) 748-9301, ext. 299 fax (705) 748-0120

Peterborough Children's Water Festival  
c/o GreenUp  
378 Aylmer Street North, Peterborough, K9H 3V8  
(705) 745-3238 x208 fax (705) 745-4413

## Festival Itinerary

Name of Adult Supervisor: \_\_\_\_\_

Start at the following activity centre:

Activity Centre Name	Site Map Location

After the first activity, please try to visit the following activities:

Activity Centre Name	Site Map Location

Lunch will take place from 11:30 to Noon. At this time all activity centres will be shut down.

Students in your group are:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

## Expanding the Festival: Planning Lessons around the Festival

We hope that the Festival will be a fun and educational day of activities for your students. The day can be a "stand-alone" experience for your class, or it can be the focal point for a variety of related lessons and classroom activities before and/or after Festival Day.

### Festival Follow-Up Activities

In this section we offer suggestions for assessing how much your students 'absorbed' during the Festival, and include some suggestions on how you might expand the Festival experience into your classroom program.

The Curriculum Reference section matches the activities at Festival Day with sections of the Curriculum.

In general, curriculum most directly involved with this event is:

Grade 2: English Language - Oral & Visual Communication  
Mathematics - Measurement  
Physical Education & Health - Active Participation  
Science and Technology - Matter and Energy  
Science and Technology - Earth and Space Systems  
Social Studies - Features of Communities Around the World  
Physical Education & Health - Fundamental Movement Skills  
Physical Education & Health - Active Participation

Grade 3: English Language - Oral & Visual Communication  
Mathematics - Measurement  
Science and Technology - Understanding Life Systems  
Science and Technology - Matter and Energy  
Science and Technology - Earth and Space Systems  
Social Studies - Early Settlements in Upper Canada  
Social Studies - Urban and Rural Communities  
Physical Education & Health - Fundamental Movement Skills  
Physical Education & Health - Active Participation

Grade 4: English Language - Oral & Visual Communication  
Mathematics - Measurement  
Science and Technology - Understanding Life Systems  
Science and Technology - Matter and Energy  
Science and Technology - Earth and Space Systems  
Social Studies - Canada's Provinces, Territories and Regions  
Physical Education & Health - Fundamental Movement Skills  
Physical Education & Health - Active Participation

Grade 5: English Language - Oral & Visual Communication  
Mathematics - Measurement  
Science and Technology - Understanding Life Systems  
Science and Technology - Matter and Energy  
Science and Technology - Earth and Space Systems  
Physical Education & Health - Fundamental Movement Skills

### Physical Education & Health - Active Participation

The Learning Expectations description in the Festival Activities and the Curriculum section of this guide suggests ways to have students show that they know the various concepts involved in the activities. Each grade level and class will have different methods of providing students with an opportunity to demonstrate their knowledge. It may help to discuss many of the ideas with the class before going to the Festival, and make note of the knowledge/skill levels at that time. Then the follow-up work can focus on assessing the change in knowledge and values after the Festival Day.

Follow-up activities might involve:

- allowing each group of students time to prepare and present a report to the class on what they saw, did and learned on Festival Day. If groups of five are unwieldy for such an assignment, they might be split up and each part of the group given a specific part of the day to present.
- as you move around the Festival, develop some questions about the Activity Centres your students are visiting, and present them to the students back at school to see what they have retained. The questions could be delivered orally to the class in discussion, or as a quiz or True/False list.
- using some of the resources shown in this Guide, prepare further activities that students can do that require them to go back to information and values learned at the Festival.
- assign individuals, or preferably pairs or groups, to prepare reports that they can present to classes that were not at the Festival. Ask the teacher and students of that class to tell you how familiar your students were with the water material they were presenting. Having students prepare skits, plays or puppet shows with a "water" theme can also do this.
- choose some "big ideas" from the festival and have students create posters or magazine-style advertisements to put up around the school.

### ***Please note-***

***We love to see what your students are learning at the Festival please consider sharing assignments or activities that you do with your class with us! Please contact the Festival Coordinator ([info@pcwf.net](mailto:info@pcwf.net) or 705-745-3238 X.208)***

## **Activities for Before and After the Festival**

The Festival can be a "stand-alone" event, or it can be the focal point for a variety of related lessons and classroom activities before and/or after Festival Day. To expand the event into a larger unit involves more planning and preparation, and requires you to either start earlier and use the Festival as the culmination of a series of lessons and activities, or to use the Festival as the starting point for a week or two of further review and study. Either method suggests that the curriculum focus for your grade level be developed into a study-series with the Festival as a key focus. This might be work on Pioneer Life, Wildlife Habitats, Urban Water Systems, Conservation and/or Pollution Studies, Human Body Systems and Need for Water, the Chemistry and Physics of Water – all depending on the content strands your grade is responsible for.

Other subjects can easily be included in the program; Language skills involving critical reading, writing descriptive narrative material, creating stories or scripts, developing arguments - again depending on your grade level and the curriculum objectives – are natural extensions to the water theme and the Festival activities; Mathematics skills involving measurement of speed, volume, temperature, time, and problems involving water scenarios can be practiced or taught in the classroom or in the schoolyard; Art and Drama offer many interesting ways to express and record information and values – some activities were suggested in the Assessment section above.

The resources listed at the back of this guide contain many lesson plans and further suggestions on how to involve your class further with the Water theme.

### **Ideas to get you going:**

- Invite a local water expert from the community to talk to your class. For older grades, have the students prepare and interview the guest.
- Have students prepare a Water Cycle chart and explain the terms evaporation, condensation, ground water, precipitation, etc.
- Use a video camera to have groups of students organize a video-team and prepare a video about some aspect of the water topic.
- Take an erosion hike in a local park or conservation area and spot examples of water damage – natural or man-made.
- Take a map of the area and sketch out the watershed nearby.
- Take a poll of materials that enter the water treatment system from students' homes – or the storm sewer system from the yards in students' neighborhoods.
- Study water legends and stories from Indigenous cultures.
- Have the class develop a resolution to save water and have it signed by the Principal and announced to the school community.
- Post posters and displays throughout the school with tips on how to conserve water.
- Have students study the source of their water supply. Investigate any possible sources of contaminants to the water.
- Choose an animal, describe its habitat and give examples of how it uses water.
- Study the habitat and life cycles of native aquatic species.

## Resources for Teachers

### **Books**

Available at the Peterborough Public Library

*The Amazing Water Book*: Deborah Seed: Kids Can Press. ISBN 1550740032

*Earthcycles and Ecosystems*. Beth Savan. Toronto: Kids Can Press. ISBN 155074013X

*The Jumbo Book of Science, 136 of the Best Experiments*: The Ontario Science Centre. ISBN 1550741977

*Scienceworks: An Ontario Science Centre Book of Experiments*: Kids Can Press. ISBN (bound) 0919964818 (paperback) 0919964613

*A Drop of Water: A Book of Science and Wonder*. Walter Wick. Scholastic Press. ISBN 0590221973

### **Videos & Periodicals**

Available at Peterborough Public Library and Online

*Journey of the Blob*.

A boy makes a decision about how to dispose of a green glob he has concocted. What will happen if he dumps it into a stream? Where does water come from and where does it go? This film illustrates the water cycle and raises many questions about environmental responsibility and the consequences of our decisions.

[https://www.nfb.ca/film/journey\\_of\\_the\\_blob/](https://www.nfb.ca/film/journey_of_the_blob/)

*Paddle to the Sea*.

Based on Holling C. Holling's book of the same name, *Paddle to the Sea* is Bill Mason's film adaptation of the classic tale of an Indigenous boy who sets out to carve a man and a canoe. Calling the man "Paddle to the Sea," he sets his carving down on a frozen stream to await spring's arrival. The film follows the adventures that befall the canoe on its long odyssey from Lake Superior to the sea.

[https://www.nfb.ca/film/paddle\\_to\\_the\\_sea/](https://www.nfb.ca/film/paddle_to_the_sea/)

What is Acid Rain?

*What is acid rain? What are its causes and effects? Learn about the role of fossil fuels and pollution, where acid rain occurs, and solutions to reducing the amount of sulfuric and nitric acids in the atmosphere.*

<https://www.youtube.com/watch?v=1PDjVDIrFec>