

DURHAM CHILDREN'S WATERSHED FESTIVAL ACTIVITIES

Activities are linked Ontario Curriculum for Grade 4 students and pending availability may change without notice
 WC: Water Conservation WA: Water Attitudes WT: Water Technology WP: Water Protection WS: Water Science



Area 1			
Activity	Description	Learning Opportunities	Activity#
3 (X) TIMES A DAY WC	In a simulation, students will have the opportunity to examine brushing their teeth and comparing water consumption using a variety of techniques. How much water can you save 3(X) times a day?	Estimate, calculate and record volume using appropriate units. Identify environmental problems and propose solutions to ensure a sustainable future. Use a variety of strategies to pose and solve everyday problems with mechanical, scientific or technical dimensions and evaluate and justify conclusions.	1
ABORIGINAL VOICES WA	Our First Nations existed here long before European settlement. Chief Top Leaf will help you discover the knowledge and values the aboriginal community had toward water.	Understand the ways in which culture affects ideas and behavior. Investigate the contributions of people from a wide variety of cultures to our society. Understand the influence of cultural and family traditions on individuals and groups.	2 Inside Council Hall
BALANCING H2O WS	Students have the opportunity to balance their weight with a water and sand ratio	Student discover via a hands on activity the 70% water to 30% solid mass of the human body	29
BUCKET BRIGADE WA	Fire! Students must work together using a historic method to save the burning building from destruction. Discover how municipal water service is necessary to modern firefighting techniques.	Investigate the effects of changes in technology and describe their impact on society. Work collaboratively and effectively in teams on a common task. Describe and apply safety procedures in the home, school and community. Observe and discuss changes in industrial processes, safety, quality and efficiency.	15
DOING THE LAUNDRY WA	Why was Monday Laundry Day? Try doing laundry using old methods and equipment and compare water consumption to the present day.	Discover the practical application of labour saving devices to water availability. Examine the ways in which technology influences people's daily lives both past and present. Examine the interrelationship of science and technology in making a machine.	5
GO WITH THE FLOW WC	Students simulate daily household routines and evaluate the impacts of their everyday actions on the environment. They investigate the rate of water flow, discover simple home water saving techniques, hypothesize about the impact technology has on the environment.	Investigate the influence of technology on human and natural communities. Examine different solutions to a problem, determine their validity and apply the most appropriate solution. Examine connections between ways people live and work, technology and the environment	10

GREAT GREEN CHOICES – LETS DO LUNCH WP	To teach students the environmental impact of their choice when packing their lunch for school	Students will be able to understand and make better choices that will reduce the amount of garbage created when making their school lunches. Studies show that student lunches are the highest category of waste generated at schools.	40
LATHER UP! WC	How much water do you think you use in a 5-minute shower? See what happens when you shower for three minutes instead or if you use a low-flow showerhead!	Estimate, measure, calculate and record time and volume amounts of water used using appropriate units of measurement. Identify similarities and differences found in various cultures in the past and the present. Identify, describe and explain connections among ideas using simulation as a form of communications	12
OFF I GO! WA	Children in some parts of the world have to walk for hours to fetch water for the family's daily use. In this team relay, students race through an obstacle course with a bucket of water, to experience what is like for children on their water fetching journeys.	Work willingly alone or with others, as required by the project. Identify similarities and differences found in various cultures in the past and present. Identify, describe and explain connections among ideas, cultures or subjects using simulation as a form of communication.	4
PIONEER WATER RACE WA	Students will be encouraged to examine the importance of water to the survival and success of the pioneers. Taking a trip back in time, students can investigate how farm buildings were located near a water source, how pioneers obtained the water needed for animals and the family, and how much water was required. Discover hand power and the role of the child in pioneer families. Help us fetch a bucket!	Develop an understanding of the importance of drawing conclusions based on observation and evaluation. Examine the role of simple machines in our lives. Identify the interrelationship of technology, people and the environment. Show concern and care for the environment and for the wise use of energy. Identify scientific and technological skills and knowledge and relate their importance to society.	17
ROYAL FLUSH WC	How does my toilet work? How does the required amount of water come back every time? Students can examine how a valve works and its importance in a simple, yet indispensable machine. How can science help us make our toilets more environmentally friendly?	Investigate functions of a mechanical control device required to operate systems and mechanisms. Explore the function of a simple machine. Examine the daily water requirements of one person to flush the toilet. Design an experiment to conserve water. Investigate measuring, volume and comparing results of different operations in an experiment. Identify relationships among technology, people and the environment.	20
WE USE THAT MUCH? WC	Students have an opportunity to discover how much water is used in producing everyday items	Develop an understanding of how water is used for drinking and the manufacturing of products	9

WHERE ARE THE TAPS? WA	Students have the opportunity to discover how difficult it is to get water when there are no taps	Develop an understanding and respect for water sources Discuss that water is just as precious as before and not to waste it just because it is easier to obtain in today's society.	34
Area 2			
3 STRIKES YOU'RE OUT WP	The students have the opportunity to see the impact that humans have on wetland habitat.	Through role playing students confront the challenges that many wetland creatures face as they go through their life cycles.	44
AQUATIC ADVENTURES WS	Aquatic habitats such as wetlands and streams are one of the most important links in the ecosystem chain. Streams sustain and support a tremendous variety of plant and animal life. Discover the wonder of streams.	Observe and examine a variety of plant and animal life forms in their habitats. Use scientific and technological methods during inquiry. Understand how science and technology can be used to protect and manage habitats to enhance biodiversity. Suggest positive and negative outcomes of people's interaction with the environment.	33 Samac Lake Dam
ENVIROSCAPE/ Drinking Water & Waste Water Treatment WP	Our hands-on models of typical communities help students understand how water pollution occurs & how we can all help to prevent it. Come and test your theories.	Use models to represent complex concepts (point & non-point source pollution; how a watershed works). Design & perform experiments in which particular physical properties of materials are compared. Formulate practical solutions to environmental problems	8 Inside Tent
KNOW BEFORE YOU THROW	Students will learn to properly sort their waste at home in a fun relay race.	Identify waste items that are acceptable in the Region of Durham's Blue Box Recycling and Green Bin Composting programs. Use the Region's online tool, Know Before You Throw (durham.ca/waste), when unsure about where a waste item belongs.	3 Inside Tent
NO WATER OFF A DUCK'S BACK WP	Students take the role of wildlife biologist observing feathers when they are wet, dry or soaked in oil and give verbal descriptions of their observations. Students are encouraged to think about ordinary actions, such as pouring used oil or other contaminants down road sewers or household drains and how these could cause pollution that endangers wildlife habitats and damages ecosystems.	Identify, through observations, various factors that affect plants and animals in a specific habitat. Show the effects on plants and animals of the loss of their natural habitat. Describe ways in which humans can affect the natural world. Formulate questions about and identify the needs of animals and plants in a particular habitat and explore possible answers to these questions.	14 Inside Tent
SO YOU THINK	Students test their knowledge on	Students are asked questions while	41

YOU CAN ENVIRO DANCE? WP	environmental issues covered at the Festival	dancing	
THE SCOOP ON POOP – PROTECT THE WATERSHED WP	Students are reminded of connections existing throughout the watershed and why dog feces should be picked up and disposed of properly.	Use appropriate vocabulary in describing their investigations and observations. Analyze ways in which humans and natural systems are connected. Describe ways in which humans can affect the natural world.	48
WELL SEALED WP	Wells sometimes dry up or are just not used any longer, but when you leave them unprotected our groundwater is at risk!	Use models to represent complex concepts (Point and non-point source pollution) Suggest positive and negative outcomes of people’s interaction with the environment. Formulate practical solutions to environmental problems.	32 Inside Tent
Area 4			
“AQ” THE AMAZING AQUIFER WP and WS	Students will be encouraged to investigate groundwater, how it gets there and how it is extracted for our use. Find out how pollutants affect our groundwater.	Describe cyclical occurrences in the natural world and develop time lines to track and record them. Design and perform experiments in which particular properties of materials are observed and compared. Identify ways in which technologies modify environments.	43 OPG activity upon availability
CAN WE DRINK THAT? WA	Test your knowledge on safe water practices	Investigating some common practices that may or may not be safe for water.	22
CLIMATE CHANGE - WEIGHING THE FACTS WS	This activity is designed to show the effects of making different choices in the students daily activities on the earth’s climate	Students have the opportunity to see how delicately balanced our environment is.	19 Inside Tent
DOWN THE STORM DRAIN WP	Students categorize a variety of hazardous and non-hazardous waste material containers. They learn the meaning of the warning symbols that are common on household items.	Describe ways in which humans can affect the natural world. Discuss the effects of dumping household hazardous waste in the storm sewer or down the drain.	14 Inside Tent
EGGS TO ADULTS WP	Did you think hatching was just for chicks? Not a chance! Students will learn the importance of clean water for fish as well as the different life stages of salmon.	Recognize that animals and plants live in specific habitats because they are dependent on those habitats and have adapted to them. Use appropriate terminology, in observing and describing their explorations and observations. Describe ways in which humans can affect the natural world	7 Inside Kitchie Lodge
Low Salt Diet WP	Canadians know the importance of snow and ice removal. Salt is most often used to	Use investigation skills to gather, analyze, interpret and evaluate information.	51

	<p>get rid of ice because it melts ice and is inexpensive. When salt melts ice it dissolves into the water and is carried into streams and lakes (surface water) or is absorbed into the ground (groundwater). This impacts our drinking water quality. The goal is to keep people safe from ice and safe from salty drinking water. Can we do both?</p>	<p>Suggest positive and negative outcomes of people's interaction with the environment. Describe ways in which humans can affect the natural world.</p>	
MEDICAL MYSTERY WA	<p>Students are called upon to solve the historical medical mystery. Diagnose the patient's illness and determine how did they get sick? Students can compare medical and scientific knowledge from the past to present day.</p>	<p>Use investigation skills to gather, analyze, interpret and evaluate information. Identify needs and systems functions of the human body and apply that knowledge to healthy living. Identify and explain relationships among technology, people and the environment. Describe environmental cause and effect relationships, explain how or why they occur and suggest possible solutions to environmental problems.</p>	37
Migration Station WS	<p>Students learn about coastal wetland habitats in the Durham Region and their importance to migrating birds, the impacts of human actions and why they need to be protected.</p>	<p>Describe ways in which humans can affect the natural world. Recognize that animals and plants live in specific habitats due to dependency and adaptations. Identify a variety of interrelationships in natural environments. Analyze ways in which humans and natural systems are connected.</p>	47
OIL SLICK! WP	<p>Students create an oil slick in a pool and then attempt to get the oil out of the water using real-life techniques. Discover the challenges in cleaning up this environmental mess!</p>	<p>Recognize that animals and plants live in specific habitats due to dependency and adaptations. Describe ways in which humans can affect the natural world Show the effects on plants and animals of the loss of their natural habitat</p>	16
OSPREY SURVIVOR WS	<p>Students role play as osprey parents searching for suitable food for their offspring</p>	<p>This exercise provides an understanding of survival if the food chain is impacted by pollution. Math skills are used to calculate their scores to see if they survived</p>	46
POROSITY & PERMEABILITY WA	<p>The pore spaces within earth materials and their ability to conduct water are key factors in determining how groundwater moves.</p>	<p>Use appropriate vocabulary in describing their investigations and observations.</p>	18 Inside Tent
ROLLING THRU THE SHED WP	<p>Students pretend to be drops of rain which, through precipitation, enter into the watershed. They move through a model watershed to see how water in the air and on land, interacts with pollutants, soil and human development.</p>	<p>Students use verbal descriptions to pose questions, predict results and relay their observations. Describe ways in which humans can affect the natural world. Define a watershed and learn the various forms of precipitation. Identify ways in</p>	13 Inside Tent

		which people can help to protect their watersheds.	
SHAPING WATERSHEDS – AUGMENTED REALITY SANDBOX	This activity gives students the opportunity to interact with sand in order to understand watersheds and how topography impacts water runoff.	Predict some changes in the world. Analyze ways in which humans and natural systems are connected within a watershed.	50 Inside Kitchie Lodge
SOMETHIN’ FISHY’S GOIN’ ON WP	Students discover what lives in lakes of different pH. They compare each lake’s pH to the pH of common household materials (cola, vinegar, orange juice, water). Students conclude that as the acidity increases, the search for aquatic creatures becomes very challenging.	Investigate the influence of technologies on human and natural communities. Predict some changes in the world. Explain how difference in some characteristics of individuals of the same species allows them to survive and reproduce when their living conditions change. Analyze ways in which humans and natural systems are connected.	25 Inside Tent
THE INCREDIBLE JOURNEY WS	Student have the opportunity to role play as a water molecule	Children make the connection that the water cycle is more than a predicable two dimension path	45
WATER CYCLE MADNESS WS	The model and study cards show how the water cycle is a continuous repetition of events	This activity introduces students to the water cycle model	28 Inside Kitchie Lodge

Special Guests (Area 2)

- Oshawa Fire Department - Available to speak to students during 11-1 unless called out for an emergency (Parking lot)
- Durham Region Waste Management - Works Department (Mon – Fri) “Know Before You Throw” activity (Area 2 tent)

Monday (2 guests)	<i>Science Rendezvous Canada Wide Experiment</i> Water Quality Index evaluation test <i>Toronto Zoo Great Lakes Program</i>
Tuesday	<i>World Wildlife Fund Canada/Great Canadian Shore Cleanup</i>
Wed (2 guests)	<i>Ontario Turtle Conservation Centre</i> <i>Forests Ontario “Forest Activity”</i>
Thursday	<i>WaterKeepers Canada “WaterMark” and “Redside Dace” Activities</i>
Friday	<i>Ontario Turtle Conservation Centre</i>