GREY BRUCE CHILDREN'S WATER FESTIVAL

PLANNING GUIDE FOR TEACHERS

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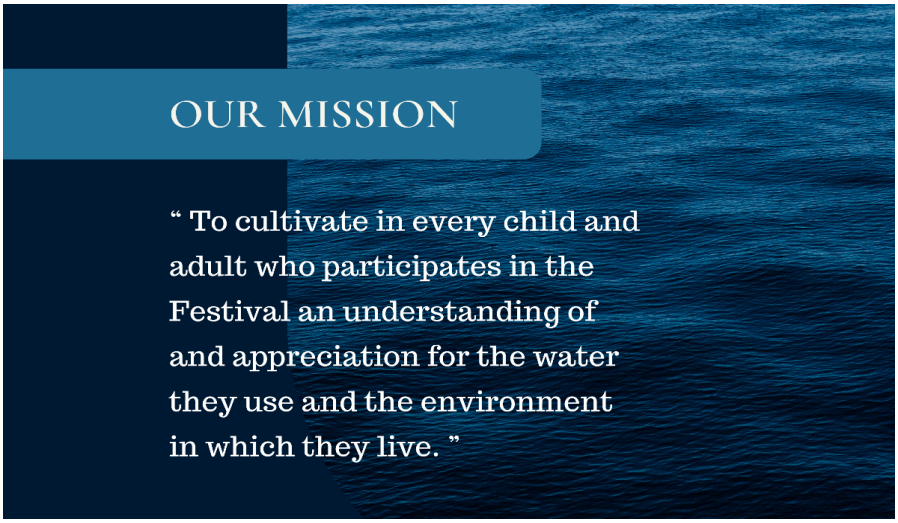


Introduction

Water is the basis of all life on Earth. Without it nothing lives, nothing grows. Civilization was built on the availability of water –to grow food, to drink, to feed livestock, and on which to travel and trade. Water has turned the mill wheels, provided the basis of steam, produced electric power, and has become an element for virtually every industrial process.

In Ontario, we enjoy an abundant supply of water. The province is home to many freshwater lakes and rivers – including the Great Lakes, which are the largest group of freshwater lakes on Earth. We now understand that our water is under pressure and requires significant efforts to preserve and protect it now and for future generations.

Local School Boards, together with the organizing groups and sponsors, share a vision of the future that features informed and responsible citizens who appreciate the environment and proactively deal with environmental issues. The Grey Bruce Children's Water Festival helps nurture this awareness and understanding in the hope that the vision becomes a reality.

This planning guide prepares teachers for their students' participation in the festival and helps them to further develop the festival's themes in the classroom.

All activities:

• Reflect the beliefs that guide education in our region – accountability, quality, equity, partnerships, and a safe environment

• Are connected to the curriculum in ways that help students achieve the desired outcomes

• Are designed to be hands-on and experiential to enhance and personalize the learning experience.

Why is there a Water Festival in Grey Bruce?

Water plays an essential role in the economic, social, and industrial development of Ontario. As individuals we depend on water for our very lives. Communities have developed around water sources to support the growth of commerce, industry, and transportation.

On a provincial level our abundant water supply is a cornerstone of the success of our diversified economy and has played a key role in our ability to create and maintain a standard of living ranked among the best in the world. Our region is surrounded by Lake Huron and Georgian Bay, home to large river systems like the Saugeen and Beaver Rivers and contains several significant wetlands like the Greenock Swamp and the Bognor Marsh.

The Grey Bruce Children's Water Festival brings together the expertise of educators, water specialists and members of industry and government to provide students with the opportunity to discover the importance of water and the diversity of its uses in historical and modern times. Our particular focus is on the unique environmental features of the Grey-Bruce area. Hands-on

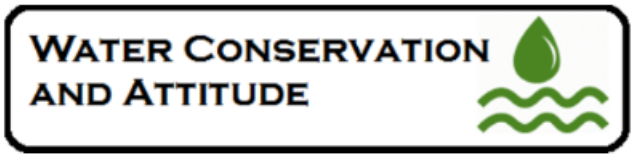
activities, discussions, and demonstrations will challenge students to consider the importance of water to themselves as individuals and society at large. Interaction with industry professionals, water experts and enthusiastic educators highlight the experience.

The Grey Bruce Children's Water Festival inspires students to become water stewards in their classrooms and communities. By combining hands-on activities with messages relevant to their daily lives, students will "soak up" knowledge about the properties, uses, connections, and importance of water. Armed with this knowledge, students become aware of the value of conserving and protecting water.

We look forward to seeing you and your students at the Grey Bruce Children's Water Festival!

Festival Purpose

The key message of the Children's Water Festival is 'all living things need clean water to survive'. Activities are grouped into three themes with three key messages that are repeated throughout the festival to reinforce these learning objectives to the students.



1. We can both protect and pollute water.
2. There is a limited supply of fresh water on earth.
3. Using water wisely saves money and energy and is good for the environment.

1. It is easy to pollute water and much harder to clean it.
2. All living things depend on natural habitats. Protecting them protects water.
3. Clear water doesn't always mean clean water.

1. Water occurs naturally as a solid, liquid, and gas.
2. Water is found everywhere, in the air, on the ground, and underground.
3. We use science and innovation to clean and move water.

Festival Dates & Location

The 2026 festival is being held over 3 days. By now, you will have received confirmation of the date your class is scheduled to attend. If you haven't or if you have any other issues, please contact our coordinator at gbcwf.guests@gmail.com .

Wednesday	Thursday	Friday
May 20th	May 21st	May 22nd

The Festival is being held on the grounds of the Chesley Community Centre

Address: 129 4th Avenue SE, Chesley ON.

Buses will pull up the Community Centre main Arena entrance. Please wait for a volunteer to hop on your bus and give a quick welcome speech before you exit the bus and head in.

A Typical Day at the Festival

A great day at the festival requires lots of advanced planning. Typically, with more than 400 students and 100+ volunteers on-site each day, and nearly 50 activities spread out throughout the grounds, flexibility and patience is necessary.

9:30 a.m.	Students arrive, register and place backpacks and lunches at assigned tables in the arena, then head outside to the activities.
9:45 a.m. – 2:00 p.m.	Students visit indoor and outdoor activities throughout the site, spending approximately 10-15 minutes at each activity.
****NEW** 11:15 a.m. – 12:45 p.m.**	**NO LUNCH SHUTDOWN. The activities will close & re-open in sections, as per below.** Students can eat anywhere on the grounds or at your designated table in Arena, just please be sure to tidy up wherever you eat.
11:15 - 11:45	**CLOSED:** Tent A, A-maze-ing Water Treatment, Pioneer Water Race, Use it or Lose it, Water Main Break.
11:45 - 12:15	**CLOSED:** Tent B, Limbo, Simply Divine, Off I Go, What's Up Doc?, The Curling Rink Area.
12:15 - 12:45	**CLOSED:** Tent C, Oil Slick, Bucket Brigade, Dripial Pursuit, Marsh Monsters.
2:00 p.m.	Activities close. Students head back to the arena, collect their bags and board their bus.

On Your Arrival

Students are to **remain on the bus until greeted** by a Festival Host who will provide initial information and instructions for entering. Please provide the Festival Host with an accurate count of students and group leaders.

Your Student Groups

Divide your students into small groups – 1 Adult : 5 students per group is recommended – and assign them to an adult group leader. Provide each group leader with a copy of the Water Festival Planning Guide for Group Leaders and a copy of the Festival Site Map. These resources will be available on our website under the Teachers tab. Please ensure that group leaders are aware they are to always accompany the students in their assigned group (this includes washroom breaks).

We ask that your students pack a litterless and peanut free lunch to bring with them to the festival. You will not be able to purchase food or drinks on-site. **Refillable bottles are encouraged as we will have a drinking water station available on-site.**

The festival runs in any weather so please ensure your students and group leaders know this and are dressed appropriately for the weather. Some activities will be located indoors or in tents, but a lot of activities are located outside.

Festival Volunteers

Most of our volunteers are high school students, running the activities with support from their teachers and adult volunteers from our member organizations. They are learning about their activity as they present the information to your students throughout the day. **Due to the high amount of snow days in the 2025/2026 School Year, finding enough student volunteers for this year's festival proved to be a great challenge. Please support them where you can.**

Adult volunteers are identifiable by their brightly coloured festival shirts and are stationed throughout the site to oversee activities and provide assistance. Please let one of them know if you have any issues or questions.

Activities

Activities are spread out throughout the site. Encourage group leaders to begin the morning and afternoon sessions at different spots to reduce congestion.

With more than 40 activities, it is not possible to visit them all in one day. A reasonable goal is 15 - 20 activities for the entire day. There are some unique activities noted by a star on the activity listing below. These activities should be a part of every group's schedule if possible.

Many activities share common themes, and this ensures that all students will have a fun and educational day no matter which activities they visit. We recommend you advise group leaders to look for open activities and try to return to busy ones once they are free to ensure the students can enjoy as many activities as possible.

Safety Protocol

If a student goes missing, please advise an adult volunteer immediately. Ensure group leaders are aware of any medical conditions and allergies within their group. A first aid station and responders are located on-site.

In the event of an emergency, such as sudden severe weather, you will hear three long siren blows. All students are to return to the arena to await further instructions.

Participants are asked not to bring two-way radios if possible as they can interfere with the festival emergency communications. Please let us know if you normally use radio communications so we can try to accommodate your group.

It is important to ensure students do not leave the festival grounds. **The adjacent park and playground are out-of-bounds and not part of the festival.**

Additional Information

The Chesley Water Treatment Plant will be open for students to tour though following the A-maze-ing Water Treatment activity. We will have a water station available next to the treatment plant so that students can see how the water is treated and then try it for themselves! Please encourage your students to bring their refillable water bottles.

Smoking and vaping are not permitted anywhere on site.

Lost and found items will be photographed and posted to our social media pages at the end of the festival if one of your students has lost something.

Feel free to bring a camera! Post your photos to Facebook, Instagram or Twitter and tag us!

We will be distributing an evaluation to all educational staff and group leaders to collect feedback at the end of your visit. We ask that you complete this at your convenience to help us make future festivals even better!

Activity List by Theme & Location

The Grey Bruce Children's Water Festival covers three basic water themes. With more than 40 activities, it is not possible to visit every activity in one day. A reasonable number of activities to plan on visiting is 20.

To help with your planning we have grouped the activities by theme and location. A small number of activities (noted with the ★) are "must visits", due to their unique nature and fundamental message.

Water Conservation and Attitude

Tent A	Tent B	Tent C	Curling Rink	Outdoors
• 3 X's a Day • Go With the Flow ★ • Lather Up • Royal Flush			• We Use That Much?	• Dripial Pursuit • Off I Go! • Use It or Lose It!

Water Protection

Tent A	Tent B	Tent C	Curling Rink	Outdoors
	• How Great Is Your Lake? • How Long 'Til It's Gone? • Keeping It Clean ★ • Runoff or Recharge • Treating Trash • Well Drill It	• A Day At The Beach • Erosion Busters • Healthy Streams... Happy People • Save Our Wetlands	• AQ – The Amazing Aquifer • Rolling Through the Shed	• Bucket Brigade • Oil Slick • Pioneer Water Race

Water Science and Technology

Tent A	Tent B	Tent C	Curling Rink	Outdoors
• Water–Go–Round • Where It Goes...When I Go	• Great Water Race • Hazardous Waste	• Water Vital to Health • What Is a Watershed? • You're Mostly Water ★	• Feel The Flow ★ • H2-Ohhhhh • Porosity and Permeability • River Runners • Water Cycle Madness	• A-maze-ing Water Treatment ★ • D.O. The Limbo • Marsh Monsters ★ • Simply Divine • Water Main Break! • What's Up Doc?


Great
Water Race

Activity Descriptions and Learning Outcomes

A summary of all the water festival activities and their learning outcomes is available below.

Activity Name	Theme	Description	Learning Expectations
3 X's A DAY	Water Conservation and Attitude	Using a model of two washroom sinks, students measure how much water is used by brushing their teeth with the water left running and by brushing their teeth with the water used only sparingly. Students are encouraged to ask questions and provide new insights on how we can save water in our homes.	***Grade 3*** *Sci and Tech (Forces and Motion)* ***C2.4*** *identify ways in which forces are used in their daily lives* Grade 4 Mathematics Measurement **E2.1** explain the relationships between grams and kilograms as metric units of mass, and between litres and milliliters as metric units of capacity, and use benchmarks for these units to estimate mass and capacity **E2.2** use metric prefixes to describe the relative size of different metric units, and choose appropriate units and tools to measure length, mass, and capacity Grade 5 Sci and Tech STEM Investigation and Communication Skills **A3.1** describe practical applications of science and technology concepts in various occupations, including skilled trades, and how these applications address real-world problems **A3.2** investigate how science and technology can be used with other subject areas to address real-world problems Grade 5 Sci and Tech Human Health and Body Systems **B1.1** assess effects of a variety of social and environmental factors on human health, and describe ways in which individuals can reduce the harmful effects of these factors and take advantage of those that are beneficial Grade 5 Sci and Tech Conservation of Energy and Resources E1.1 analyze long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts
A DAY AT THE BEACH	Water Protection	This activity demonstrates how water quality can change, public beach signage related to swimming, and why not to drink lake/surface water.	
A-MAZE-ING WATER TREATMENT	Water Science and Technology	Students pretend to be drops of water entering a simulated water treatment plant. Find out what happens to municipally provided water	Grade 3 Sci and Tech Forces and Motion **C1.1** assess the effects of the action of forces from natural phenomena on natural and built environments, and identify ways in which human activities can reduce or enhance these effects **C1.2** assess harmful effects of forces that may result from various human activities, and describe how health and safety devices can minimize these effects Grade 3 Sci and Tech Stem Skills and Connections

Activity Name	Theme	Description	Learning Expectations
A-MAZE-ING WATER TREATMENT CONT'D		before it enters the pipes to come into your home. Students will gain an understanding of how much has to be done to each drop of water that comes out of our taps and sprinklers and that we should conserve water as much as possible. Then tour an actual working Water Treatment Plant on site.	**A3.1** describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems <u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada <u>Grade 4 Sci and Tech Life Systems - Habitats and Communities</u> **B1.1** assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account <u>Grade 4 Sci and Tech Machines and Their Mechanisms</u> **D1.1** assess the impacts of machines and their mechanisms on the daily lives of people in various communities <u>Grade 5 Sci and Tech Human Health and Body Systems</u> **B1.1** assess effects of a variety of social and environmental factors on human health, and describe ways in which individuals can reduce the harmful effects of these factors and take advantage of those that are beneficial **B1.2** evaluate beneficial and harmful effects of various technologies on human health and body systems, while taking different perspectives into consideration
"AQ" THE AMAZING AQUIFER	Water Protection	Students will be encouraged to investigate the source of groundwater, how it gets there and how it is extracted for our use. Find out how pollutants affect our groundwater and how pollution can be prevented.	<u>Grade 3 Sci and Tech Soils in The Environment</u> **E1.1** assess the importance of soils for society and the environment **E1.2** assess the impact of human activity on soils, and describe ways in which humans can improve the quality of soils and/or lessen or prevent harmful effects on soils **E2.1** identify the living and non-living components of soil, and describe the characteristics of healthy soil **E2.2** identify different substances that are commonly added to, or absorbed by, the soil, and describe their effects on soil health <u>Grade 4 Social Studies People and Environments: Political and Physical Regions of Canada</u> **B1.1** analyze some of the general ways in which the natural environment of regions in Canada has affected the development of industry **B2.5** evaluate evidence and draw conclusions about issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in Canada

Activity Name	Theme	Description	Learning Expectations
"AQ" THE AMAZING AQUIFER CONT'D			<u>Grade 4 Sci and Tech Life Systems - Habitats and Communities</u> **B1.1** assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account <u>Grade 4 Sci and Tech Rocks, Minerals, And Geological Processes</u> **E1.1** analyze ways in which geological processes impact society and the environment **E1.2** assess social and environmental impacts of extracting and refining rocks and minerals and of manufacturing, recycling, and disposing of products derived from rocks and minerals, while taking various perspectives into account
BUCKET BRIGADE	Water Protection	Students work together to simulate medieval & pioneer life, including firefighting methods. They also have the opportunity to talk to local firefighters and see modern firefighting technology such as fire trucks and fire hoses. Students line up and pass buckets full of water to put out a "fire".	<u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada <u>Grade 4 Health and Physical Education - Movement Skills and Concepts</u> **C1.3** perform different combinations of locomotor movements with and without equipment, alone and with others, moving at different speeds and levels, using different pathways, and going in different directions (e.g., travel under, over, around, and through equipment in an obstacle course; hop and skip in a zigzag pattern, following a specific rhythm; run and leap over a line; use different levels while performing folk, cultural, and creative dances; perform t'ai chi or yoga movements slowly and at a moderate pace; wheel their wheelchair through an obstacle course, turn, and wheel back) <u>Grade 4 Mathematics Measurement</u> **E2.1** explain the relationships between grams and kilograms as metric units of mass, and between litres and millilitres as metric units of capacity, and use benchmarks for these units to estimate mass and capacity **E2.2** use metric prefixes to describe the relative size of different metric units, and choose appropriate units and tools to measure length, mass, and capacity
D.O. THE LIMBO	Water Science and Technology	Dissolved oxygen is found in water in varying amounts. Many aquatic species	<u>Grade 4 Sci and Tech Life Systems - Habitats and Communities</u> **B1.1** assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account

Activity Name	Theme	Description	Learning Expectations
D.O. THE LIMBO CONT'D		use gills to extract oxygen directly from the water to survive. Certain species require more of this dissolved oxygen than others. Different factors affect the amount of dissolved oxygen present in the water. Students participate in a limbo contest that helps share the importance of the dissolved oxygen present in the water.	**B2.1** describe habitats as areas that provide organisms, including plants and animals, with the necessities of life, and identify ways in which a local habitat provides these necessities **B2.2** describe a community as a group of interacting species sharing a common habitat, and identify factors that affect the ability of a community of plants and animals to survive in a local habitat **B2.3** describe the relationship of organisms in a food chain, and classify organisms as producers, consumers, or decomposers **B2.4** demonstrate an understanding of a food web as the interconnection of multiple food chains in a natural community **B2.5** describe how animals are categorized according to their diet, and categorize various animals as carnivores, herbivores, or omnivores **B2.6** describe structural adaptations of a variety of plants and animals and how these adaptations allow the organisms to survive in specific habitats
DRIPIAL PURSUIT	Water Conservation and Attitude	Teams of students engage in a friendly game of not so "trivial" water facts.	Variety of expectations addressed.
FEEL THE FLOW **FEEL THE FLOW CONT'D**	Water Science and Technology	Using the augmented reality sandbox, students learn about topographic maps and contour lines and how the shape of the earth's surface defines watersheds. Students will learn what a contour map is and how these mapping tools aid in determining how water moves across a landscape. Students will also learn about processes like erosion and the impacts that changes to the	<u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada **A3.4** describe significant physical features and natural processes and events in a few early societies, including at least one First Nation and one Inuit society. **A3.5** describe the importance of the environment for a few early societies, including at least one First Nation and one Inuit society, with a particular focus on how the local environment affected the ways in which people met their physical needs (e.g., food, housing, clothing) <u>Grade 4 Social Studies People and Environments: Political and Physical Regions of Canada</u> **B1.1** analyze some of the general ways in which the natural environment of regions in Canada has affected the development of industry. **B1.2** assess aspects of the environmental impact of different industries in two or more physical and/or political regions of Canada

Activity Name	Theme	Description	Learning Expectations
		environment can have on a watershed.	**B2.5** evaluate evidence and draw conclusions about issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in Canada. **B3.1** identify various physical regions in Canada (e.g., landform, vegetation, and climatic regions), and describe their location and some of the major ways in which they are distinct from and similar to each other. **B3.2** identify some of the main human activities, including industrial development and recreational activities, in various physical regions of Canada. <u>Grade 5 Sci and Tech Properties of And Changes in Matter</u> **C1.1** assess the impacts on society and the environment of various processes used in the manufacture of common products **C1.2** assess how the use of specific materials in the manufacture of common products affects the environment, and identify actions that society and individuals can take to mitigate negative impacts <u>Grade 5 Sci and Tech Conservation of Energy and Resources</u> E1.1 analyze long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts **E1.2** evaluate effects of various technologies on energy consumption, and describe ways in which individuals can use technology to reduce energy consumption.
GO WITH THE FLOW **GO WITH THE FLOW CONT'D**	Water Conservation and Attitude	Students will learn why saving water is important and how they can easily reduce the amount of water they use at home. They will also learn how much water they can save by comparing two different types of water-using devices (aerator and conventional tap).	<u>Grade 3 Sci and Tech STEM Skills and Connections</u> **A3.1** describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems **A3.2** investigate how science and technology can be used with other subject areas to address real-world problems <u>Grade 3 Sci and Tech Forces and Motion</u> **C1.1** assess the effects of the action of forces from natural phenomena on natural and built environments, and identify ways in which human activities can reduce or enhance these effects **C1.2** assess harmful effects of forces that may result from various human activities, and describe how health and safety devices can minimize these effects **C2.2** describe different ways a force can be exerted on an object **C2.3** describe how different forces applied to an object, including forces of varying magnitude, can cause the object to start, stop, or change its direction, speed, or shape **C2.4** identify ways in which forces are used in their daily lives <u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences

Activity Name	Theme	Description	Learning Expectations
GO WITH THE FLOW CONT'D			in environmental practices between these societies and present-day Canada **A3.5** describe the importance of the environment for a few early societies, including at least one First Nation and one Inuit society, with a particular focus on how the local environment affected the ways in which people met their physical needs (e.g., food, housing, clothing) <u>Grade 4 Sci and Tech Stem Investigation and Communication Skills</u> **A1.3** use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems **A3.1** describe practical applications of science and technology concepts in various occupations, including skilled trades, and how these applications address real-world problems **A3.2** investigate how science and technology can be used with other subject areas to address real-world problems <u>Grade 4 Sci and Tech Machines and Their Mechanisms</u> **D1.1** assess the impacts of machines and their mechanisms on the daily lives of people in various communities **D2.1** identify machines that are used in daily life, and describe their purposes **D2.2** identify the parts of various mechanisms and describe the purpose of each part **D2.4** describe how mechanisms transform motion, including how they can change the geometric plane in which the motion occurs and the speed and/or direction of motion **D2.5** explain how forces are changed in a variety of machines <u>Grade 5 Sci and Tech Conservation of Energy and Resources</u> E1.1 analyze long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts **E1.2** evaluate effects of various technologies on energy consumption, and describe ways in which individuals can use technology to reduce energy consumption
HEALTHY STREAMS… HAPPY PEOPLE	Water Protection	Students will review the food chain in a stream ecosystem. Using a "gravity puzzle", students will learn that all the organisms in the stream are connected and that humans are part of the chain. Ultimately, humans can have both a positive	<u>Grade 4 Sci and Tech Life Systems - Habitats and Communities</u> **B1.1** assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account **B1.2** analyse the impact of the depletion or extinction of a species on its habitat and community, and describe possible actions to prevent such depletions or extinctions **B2.1** describe habitats as areas that provide organisms, including plants and animals, with the necessities of life, and identify ways in which a local habitat provides these necessities **B2.2** describe a community as a group of interacting species sharing a common habitat, and identify factors that affect the ability of a community of plants and animals to survive in a local habitat

Activity Name	Theme	Description	Learning Expectations
		and negative influence on streams, so if the streams stay healthy, so will humans.	**B2.3** describe the relationship of organisms in a food chain, and classify organisms as producers, consumers, or decomposers **B2.4** demonstrate an understanding of a food web as the interconnection of multiple food chains in a natural community **B2.5** describe how animals are categorized according to their diet, and categorize various animals as carnivores, herbivores, or omnivores **B2.6** describe structural adaptations of a variety of plants and animals and how these adaptations allow the organisms to survive in specific habitats **B2.7** explain why all habitats have limits to the number of plants and animals they can support
HOW GREAT IS YOUR LAKE **HOW GREAT IS YOUR LAKE CONT'D**	Water Protection	This activity demonstrates the importance of the Great Lakes system to the people and environment in North America. Students will learn details about the lakes and why they are worth protecting.	<u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada **A2.1** formulate questions to guide investigations into ways of life and relationships with the environment in a few early societies, including at least one First Nation and one Inuit society, with an emphasis on aspects of the interrelationship between the environment and life in those societies (e.g., connections between the local environment and settlement, art, medicine, religion, spirituality, types of work; the impact on the environment of agriculture or the development of towns, cities, settlements, communities, and/or villages) **A3.4** describe significant physical features and natural processes and events in a few early societies, including at least one First Nation and one Inuit society. **A3.5** describe the importance of the environment for a few early societies, including at least one First Nation and one Inuit society, with a particular focus on how the local environment affected the ways in which people met their physical needs (e.g., food, housing, clothing) <u>Grade 4 Social Studies People and Environments: Political and Physical Regions of Canada</u> **B1.1** analyze some of the general ways in which the natural environment of regions in Canada has affected the development of industry. **B1.2** assess aspects of the environmental impact of different industries in two or more physical and/or political regions of Canada. **B2.5** evaluate evidence and draw conclusions about issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in Canada. **B3.1** identify various physical regions in Canada (e.g., landform, vegetation, and climatic regions), and describe their location and

Activity Name	Theme	Description	Learning Expectations
			some of the major ways in which they are distinct from and similar to each other. **B3.2** identify some of the main human activities, including industrial development and recreational activities, in various physical regions of Canada. <u>Grade 5 Sci and Tech Properties of And Changes in Matter</u> **C1.1** assess the impacts on society and the environment of various processes used in the manufacture of common products. **C1.2** assess how the use of specific materials in the manufacture of common products affects the environment and identify actions that society and individuals can take to mitigate negative impacts.
HOW LONG 'TIL ITS GONE? **HOW LONG 'TIL ITS GONE? CONT'D**	Water Protection	This activity highlights the consequences of plastic pollution And offers creative alternatives to everyday single use options.	<u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada **A2.1** formulate questions to guide investigations into ways of life and relationships with the environment in a few early societies, including at least one First Nation and one Inuit society, with an emphasis on aspects of the interrelationship between the environment and life in those societies (e.g., connections between the local environment and settlement, art, medicine, religion, spirituality, types of work; the impact on the environment of agriculture or the development of towns, cities, settlements, communities, and/or villages) **A3.4** describe significant physical features and natural processes and events in a few early societies, including at least one First Nation and one Inuit society. **A3.5** describe the importance of the environment for a few early societies, including at least one First Nation and one Inuit society, with a particular focus on how the local environment affected the ways in which people met their physical needs (e.g., food, housing, clothing) <u>Grade 4 Social Studies People and Environments: Political and Physical Regions of Canada</u> **B1.2** assess aspects of the environmental impact of different industries in two or more physical and/or political regions of Canada **B2.5** evaluate evidence and draw conclusions about issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in Canada **B3.2** identify some of the main human activities, including industrial development and recreational activities, in various physical regions of Canada

Activity Name	Theme	Description	Learning Expectations
			Grade 4 Sci and Tech Life Systems - Habitats and Communities **B1.1** assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account **B2.1** describe habitats as areas that provide organisms, including plants and animals, with the necessities of life, and identify ways in which a local habitat provides these necessities **B2.2** describe a community as a group of interacting species sharing a common habitat, and identify factors that affect the ability of a community of plants and animals to survive in a local habitat Grade 5 Sci and Tech Properties of And Changes in Matter **C1.1** assess the impacts on society and the environment of various processes used in the manufacture of common products. **C1.2** assess how the use of specific materials in the manufacture of common products affects the environment, and identify actions that society and individuals can take to mitigate negative impacts.
KEEPING IT CLEAN	Water Protection	Using a hands-on model of an urban and rural landscape, students will discover how we can affect the groundwater and surface water in our environment through non-environmentally friendly practices, in our own backyards. Students also learn how to prevent pollution problems near our homes using more environmentally friendly practices. Nutrient management is also discussed.	Grade 4 Sci and Tech Life Systems - Habitats and Communities **B1.1** assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account **B2.1** describe habitats as areas that provide organisms, including plants and animals, with the necessities of life, and identify ways in which a local habitat provides these necessities **B2.2** describe a community as a group of interacting species sharing a common habitat, and identify factors that affect the ability of a community of plants and animals to survive in a local habitat Grade 4 Sci and Tech Machines and Their Mechanisms **D1.1** assess the impacts of machines and their mechanisms on the daily lives of people in various communities **D1.2** assess and compare the environmental impacts of using different machines designed for similar purposes Grade 5 Social Studies People and Environments: The Role of Government and Responsible Citizenship **B1.1** assess the effectiveness of actions taken by one or more levels of government, including Indigenous governments, to address an issue of national, provincial/territorial, and/or local significance **B3.8** explain why different groups may have different perspectives on specific social and environmental issues significance Grade 5 Sci and Tech Human Health and Body Systems **B1.1** assess effects of a variety of social and environmental factors on human health, and describe ways in which individuals can reduce the harmful effects of these factors and take advantage of those that are beneficial
LATHER UP	Water Conservation and Attitude	How much water do we use for a 5 minute shower?	Gd 3 Social Studies Heritage and Identity: Communities in Canada, 1780–1850

Activity Name	Theme	Description	Learning Expectations
LATHER UP CONT'D		What if we didn't have showers or even piped water? Students compare early medieval & pioneer bathing methods to modern methods. How do we take water for granted now that we have it readily available in our homes? What would medieval/pioneer children think of our running water? What can we do to save water when having a shower? Students enter a model shower to see the difference when a simple technological water-saving device is employed.	**A1.1** describe some of the similarities and differences in various aspects of everyday life (e.g., housing, clothing, food, religious/spiritual practices, work, recreation, the role of children) of selected groups living in Canada between 1780 and 1850 (e.g., First Nations, Métis, French, British, Black people; men and women; slaves, indentured servants, habitants, seigneurs, farmers; people from different classes) <u>Grade 3 Sci and Tech STEM Skills and Connections</u> **A3.1** describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems <u>Grade 3 Sci and Tech Forces and Motion</u> **C2.3** describe how different forces applied to an object, including forces of varying magnitude, can cause the object to start, stop, or change its direction, speed, or shape **C2.4** identify ways in which forces are used in their daily lives <u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada <u>Grade 4 Mathematics Measurement</u> **E2.1** explain the relationships between grams and kilograms as metric units of mass, and between litres and millilitres as metric units of capacity, and use benchmarks for these units to estimate mass and capacity **E2.2** use metric prefixes to describe the relative size of different metric units, and choose appropriate units and tools to measure length, mass, and capacity <u>Grade 5 Sci and Tech Human Health and Body Systems</u> **B1.1** assess effects of a variety of social and environmental factors on human health, and describe ways in which individuals can reduce the harmful effects of these factors and take advantage of those that are beneficial <u>Grade 5 Sci and Tech Conservation of Energy And Resources</u> E1.1 analyse long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts **E1.2** evaluate effects of various technologies on energy consumption, and describe ways in which individuals can use technology to reduce energy consumption

Activity Name	Theme	Description	Learning Expectations
MARSH MONSTERS **MARSH MONSTERS CONT'D**	Water Science and Technology	Students sift through netted materials from the Saugeen River to identify what lives there. A Biologist and volunteers assist in identifying specimens and reviewing the food chain and interdependency.	<u>Grade 4 Sci and Tech Life Systems - Habitats and Communities</u> **B1.1** assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account **B1.2** analyse the impact of the depletion or extinction of a species on its habitat and community, and describe possible actions to prevent such depletions or extinctions **B2.1** describe habitats as areas that provide organisms, including plants and animals, with the necessities of life, and identify ways in which a local habitat provides these necessities **B2.2** describe a community as a group of interacting species sharing a common habitat, and identify factors that affect the ability of a community of plants and animals to survive in a local habitat **B2.3** describe the relationship of organisms in a food chain, and classify organisms as producers, consumers, or decomposers **B2.4** demonstrate an understanding of a food web as the interconnection of multiple food chains in a natural community **B2.5** describe how animals are categorized according to their diet, and categorize various animals as carnivores, herbivores, or omnivores **B2.6** describe structural adaptations of a variety of plants and animals and how these adaptations allow the organisms to survive in specific habitats **B2.7** explain why all habitats have limits to the number of plants and animals they can support
OFF I GO! **OFF I GO! CONT'D**	Water Conservation and Attitude	In Southern Ontario we have many nearby sources of water. In many countries people must travel far distances to obtain clean water. Students participate in a relay obstacle course to simulate the act of carrying water over difficult terrain and long distances. Likewise, water travels long distances through pipes to get to our homes. They will be encouraged to imagine what it	<u>Gd 3 Social Studies Heritage and Identity: Communities in Canada, 1780–1850</u> **A1.1** describe some of the similarities and differences in various aspects of everyday life (e.g., housing, clothing, food, religious/spiritual practices, work, recreation, the role of children) of selected groups living in Canada between 1780 and 1850 (e.g., First Nations, Métis, French, British, Black people; men and women; slaves, indentured servants, habitants, seigneurs, farmers; people from different classes) **A1.2** compare some of the roles of and challenges facing people in Canada around the beginning of the nineteenth century with those in the present day (e.g., the roles of women, men, and children; challenges related to the environment, work, community life, the law) <u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada

Activity Name	Theme	Description	Learning Expectations
		would be like if we did not have water piped into our homes?	Grade 4 Mathematics Measurement **E2.1** explain the relationships between grams and kilograms as metric units of mass, and between litres and millilitres as metric units of capacity, and use benchmarks for these units to estimate mass and capacity **E2.2** use metric prefixes to describe the relative size of different metric units, and choose appropriate units and tools to measure length, mass, and capacity Grade 4 Health and Physical Education - Movement Skills and Concepts **C1.3** perform different combinations of locomotor movements with and without equipment, alone and with others, moving at different speeds and levels, using different pathways, and going in different directions (e.g., travel under, over, around, and through equipment in an obstacle course; hop and skip in a zigzag pattern, following a specific rhythm; run and leap over a line; use different levels while performing folk, cultural, and creative dances; perform t'ai chi or yoga movements slowly and at a moderate pace; wheel their wheelchair through an obstacle course, turn, and wheel back)
OIL SLICK! **OIL SLICK! CONT'D**	Water Protection	What happens when oil is spilled in a natural habitat? Students have a brief discussion of this phenomenon in the context of a large scale (as in oil tanker spill at sea) and on a smaller scale (such as when oil travels through storm drains into our local lakes and rivers). Students use a model to see how real oil and water mix (or don't) and how the animal's habitats, including vegetation, are adversely affected. An actual technique of cleaning up the oil is demonstrated. Students also	Gd 3 Social Studies People and Environments: Living and Working in Ontario **B3.5** describe major types of land use (e.g., for agriculture, industry, commerce, housing, recreation, transportation, conservation) and how they address human needs and wants (e.g., agricultural lands Grade 3 Sci and Tech STEM Skills and Connections **A3.1** describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems **A3.2** investigate how science and technology can be used with other subject areas to address real-world problems Grade 3 Sci and Tech Soils in The Environment **E1.1** assess the importance of soils for society and the environment **E1.2** assess the impact of human activity on soils, and describe ways in which humans can improve the quality of soils and/or lessen or prevent harmful effects on soils **E2.2** identify different substances that are commonly added to, or absorbed by, the soil, and describe their effects on soil health Grade 4 Sci and Tech Life Systems - Habitats and Communities **B1.1** assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account **B1.2** analyse the impact of the depletion or extinction of a species on its habitat and community, and describe possible actions to prevent such depletions or extinctions

Activity Name	Theme	Description	Learning Expectations
OIL SLICK! CONT'D		take the role of wildlife biologists observing feathers when they are wet, dry or soaked in oil; giving oral descriptions of their observations. Then they attempt to actually clean the feathers. Students are encouraged to think about actions such as pouring used oil and other contaminants down storm drains or household drains and how these cause pollution and discuss why prevention is a better strategy than remediation.	**B2.1** describe habitats as areas that provide organisms, including plants and animals, with the necessities of life, and identify ways in which a local habitat provides these necessities **B2.2** describe a community as a group of interacting species sharing a common habitat, and identify factors that affect the ability of a community of plants and animals to survive in a local habitat **B2.4** demonstrate an understanding of a food web as the interconnection of multiple food chains in a natural community **B2.6** describe structural adaptations of a variety of plants and animals and how these adaptations allow the organisms to survive in specific habitats <u>Grade 5 Social Studies People and Environments: The Role of Government and Responsible Citizenship</u> **B1.1** assess the effectiveness of actions taken by one or more levels of government, including Indigenous governments, to address an issue of national, provincial/territorial, and/or local significance **B1.3** create a plan of action to address an environmental issue of local, provincial/territorial, and/or national significance **B3.8** explain why different groups may have different perspectives on specific social and environmental issues significance <u>Grade 5 Sci and Tech Human Health and Body Systems</u> **B1.1** assess effects of a variety of social and environmental factors on human health, and describe ways in which individuals can reduce the harmful effects of these factors and take advantage of those that are beneficial <u>Grade 5 Sci and Tech Properties of And Changes In Matter</u> **C1.1** assess the impacts on society and the environment of various processes used in the manufacture of common products **C1.2** assess how the use of specific materials in the manufacture of common products affects the environment, and identify actions that society and individuals can take to mitigate negative impacts <u>Grade 5 Sci and Tech Conservation Of Energy And Resources</u> E1.1 analyze long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts **E1.3** analyze how First Nations, Métis, and Inuit communities use their knowledges and ways of knowing to conserve energy and resources
PIONEER WATER RACE	Water Protection	How did pioneers collect all of the water that they needed for their daily lives? Students participate in a race using buckets of water	<u>Gd 3 Social Studies Heritage and Identity: Communities in Canada, 1780–1850</u> **A1.1** describe some of the similarities and differences in various aspects of everyday life (e.g., housing, clothing, food, religious/spiritual practices, work, recreation, the role of children) of selected groups living in Canada between 1780 and 1850 (e.g., First Nations, Métis, French, British, Black people; men and women; slaves, indentured servants, habitants, seigneurs, farmers; people from different classes)

Activity Name	Theme	Description	Learning Expectations
PIONEER WATER RACE CONT'D		and pose questions and make observations to gain an understanding of the difference between Canadian communities in the early 1800s and modern life in their community. How did people function differently without our technology?	**A1.2** compare some of the roles of and challenges facing people in Canada around the beginning of the nineteenth century with those in the present day (e.g., the roles of women, men, and children; challenges related to the environment, work, community life, the law) <u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada <u>Grade 4 Mathematics Measurement</u> **E2.1** explain the relationships between grams and kilograms as metric units of mass, and between litres and millilitrers as metric units of capacity, and use benchmarks for these units to estimate mass and capacity **E2.2** use metric prefixes to describe the relative size of different metric units, and choose appropriate units and tools to measure length, mass, and capacity <u>Grade 4 Health and Physical Education - Movement Skills and Concepts</u> **C1.3** perform different combinations of locomotor movements with and without equipment, alone and with others, moving at different speeds and levels, using different pathways, and going in different directions (e.g., travel under, over, around, and through equipment in an obstacle course; hop and skip in a zigzag pattern, following a specific rhythm; run and leap over a line; use different levels while performing folk, cultural, and creative dances; perform t'ai chi or yoga movements slowly and at a moderate pace; wheel their wheelchair through an obstacle course, turn, and wheel back)
RIVER RUNNERS	Water Science and Technology	Different types of pollution can alter the quality of life of the river and its inhabitants. Students role play being fish affected by several factors that could harm them and learn what we can do to help aquatic	<u>Grade 4 Sci and Tech Life Systems - Habitats and Communities</u> **B1.1** assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account **B1.2** analyze the impact of the depletion or extinction of a species on its habitat and community, and describe possible actions to prevent such depletions or extinctions **B2.1** describe habitats as areas that provide organisms, including plants and animals, with the necessities of life, and identify ways in which a local habitat provides these necessities **B2.2** describe a community as a group of interacting species sharing a common habitat, and identify factors that affect the ability of a community of plants and animals to survive in a local habitat

Activity Name	Theme	Description	Learning Expectations
		habitat and fish to survive.	**B2.3** describe the relationship of organisms in a food chain, and classify organisms as producers, consumers, or decomposers **B2.4** demonstrate an understanding of a food web as the interconnection of multiple food chains in a natural community **B2.5** describe how animals are categorized according to their diet, and categorize various animals as carnivores, herbivores, or omnivores **B2.6** describe structural adaptations of a variety of plants and animals and how these adaptations allow the organisms to survive in specific habitats
ROLLING THROUGH THE SHED **ROLLING THROUGH THE SHED CONT'D**	Water Protection	Students pretend to be drops of rain which, through precipitation, enter into the watershed. They roll through the watershed to see how water can be contaminated and discover where that contamination came from in the first place.	<u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada **A2.1** formulate questions to guide investigations into ways of life and relationships with the environment in a few early societies, including at least one First Nation and one Inuit society, with an emphasis on aspects of the interrelationship between the environment and life in those societies (e.g., connections between the local environment and settlement, art, medicine, religion, spirituality, types of work; the impact on the environment of agriculture or the development of towns, cities, settlements, communities, and/or villages) **A3.4** describe significant physical features and natural processes and events in a few early societies, including at least one First Nation and one Inuit society **A3.5** describe the importance of the environment for a few early societies, including at least one First Nation and one Inuit society, with a particular focus on how the local environment affected the ways in which people met their physical needs (e.g., food, housing, clothing) <u>Grade 4 Social Studies People and Environments: Political and Physical Regions of Canada</u> **B1.1** analyze some of the general ways in which the natural environment of regions in Canada has affected the development of industry **B1.2** assess aspects of the environmental impact of different industries in two or more physical and/or political regions of Canada **B2.5** evaluate evidence and draw conclusions about issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in Canada **B3.1** identify various physical regions in Canada (e.g., landform, vegetation, and climatic regions), and describe their location and some of the major ways in which they are distinct from and similar to each other

Activity Name	Theme	Description	Learning Expectations
			B3.2 identify some of the main human activities, including industrial development and recreational activities, in various physical regions of Canada <u>Grade 5 Sci and Tech Properties of And Changes in Matter</u> **C1.1** assess the impacts on society and the environment of various processes used in the manufacture of common products **C1.2** assess how the use of specific materials in the manufacture of common products affects the environment, and identify actions that society and individuals can take to mitigate negative impacts <u>Grade 5 Sci and Tech Conservation of Energy and Resources</u> E1.1 analyze long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts **E1.2** evaluate effects of various technologies on energy consumption, and describe ways in which individuals can use technology to reduce energy consumption
ROYAL FLUSH **ROYAL FLUSH CONT'D**	Water Conservation and Attitude	How does a toilet work? Students examine how the mechanism in an ordinary household device works and the difference between water-saver toilets and regular-flow toilets.	<u>Gd 3 Social Studies Heritage and Identity: Communities in Canada, 1780–1850</u> **A1.1** describe some of the similarities and differences in various aspects of everyday life (e.g., housing, clothing, food, religious/spiritual practices, work, recreation, the role of children) of selected groups living in Canada between 1780 and 1850 (e.g., First Nations, Métis, French, British, Black people; men and women; slaves, indentured servants, habitants, seigneurs, farmers; people from different classes) <u>Grade 3 Sci and Tech STEM Skills and Connections</u> **A3.1** describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems <u>Grade 3 Sci and Tech Forces and Motion</u> **C1.1** assess the effects of the action of forces from natural phenomena on natural and built environments, and identify ways in which human activities can reduce or enhance these effects **C2.4** identify ways in which forces are used in their daily lives <u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada <u>Grade 4 Mathematics Measurement</u> **E2.1** explain the relationships between grams and kilograms as metric units of mass, and between litres and millilitres as metric

Activity Name	Theme	Description	Learning Expectations
			units of capacity, and use benchmarks for these units to estimate mass and capacity **E2.2** use metric prefixes to describe the relative size of different metric units, and choose appropriate units and tools to measure length, mass, and capacity <u>Grade 5 Sci and Tech Human Health and Body Systems</u> **B1.1** assess effects of a variety of social and environmental factors on human health, and describe ways in which individuals can reduce the harmful effects of these factors and take advantage of those that are beneficial <u>Grade 5 Sci and Tech Conservation of Energy and Resources</u> E1.1 analyze long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts **E1.2** evaluate effects of various technologies on energy consumption, and describe ways in which individuals can use technology to reduce energy consumption
RUNOFF OR RECHARGE?	Water Protection	Using a model, students investigate the importance of vegetation in helping to fight against water erosion. Students compare how concrete, gravel, bare earth, and vegetation surfaces affect runoff and infiltration.	<u>Grade 3 Sci and Tech Soils in The Environment</u> **E1.1** assess the importance of soils for society and the environment **E1.2** assess the impact of human activity on soils, and describe ways in which humans can improve the quality of soils and/or lessen or prevent harmful effects on soils **E2.1** identify the living and non-living components of soil, and describe the characteristics of healthy soil **E2.2** identify different substances that are commonly added to, or absorbed by, the soil, and describe their effects on soil health **E2.3** examine different types of soils found in Ontario, and describe how different soils are suited to growing different types of food, including crops **E2.4** explain the process of erosion, including its causes and its impact on soils **E2.5** identify various strategies used to maintain and improve soil health in Ontario <u>Grade 4 Sci and Tech Rocks, Minerals, And Geological Processes</u> **E1.1** analyze ways in which geological processes impact society and the environment <u>Grade 4 Mathematics Measurement</u> **E2.1** explain the relationships between grams and kilograms as metric units of mass, and between litres and millilitres as metric units of capacity, and use benchmarks for these units to estimate mass and capacity **E2.2** use metric prefixes to describe the relative size of different metric units, and choose appropriate units and tools to measure length, mass, and capacity
SIMPLY DIVINE	Water Science and Technology	Meet our “Dowser”, also known as a “Water Witch”.	<u>Gd 3 Social Studies Heritage and Identity: Communities in Canada, 1780–1850</u> **A1.1** describe some of the similarities and differences in various aspects of everyday life (e.g., housing, clothing, food,

Activity Name	Theme	Description	Learning Expectations
SIMPLY DIVINE CONT'D		What would 18th and 19th century settlers do if they were not living near a river or lake? How would they be able to find water below the surface of the ground? Students will see if they can successfully dowse for water. How do we find today?	religious/spiritual practices, work, recreation, the role of children) of selected groups living in Canada between 1780 and 1850 (e.g., First Nations, Métis, French, British, Black people; men and women; slaves, indentured servants, habitants, seigneurs, farmers; people from different classes) <u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada **A2.1** formulate questions to guide investigations into ways of life and relationships with the environment in a few early societies, including at least one First Nation and one Inuit society, with an emphasis on aspects of the interrelationship between the environment and life in those societies (e.g., connections between the local environment and settlement, art, medicine, religion, spirituality, types of work; the impact on the environment of agriculture or the development of towns, cities, settlements, communities, and/or villages)
TREATING TRASH	Water Protection	How does a modern landfill operate? Students explore for themselves how we treat our trash today and compare this to the unsafe practices that were done in the past. A landfill model provides a breakdown of the different stages of the treatment process and demonstrates the effect on the groundwater if our trash is not disposed of properly.	<u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada **A2.1** formulate questions to guide investigations into ways of life and relationships with the environment in a few early societies, including at least one First Nation and one Inuit society, with an emphasis on aspects of the interrelationship between the environment and life in those societies (e.g., connections between the local environment and settlement, art, medicine, religion, spirituality, types of work; the impact on the environment of agriculture or the development of towns, cities, settlements, communities, and/or villages) **A3.4** describe significant physical features and natural processes and events in a few early societies, including at least one First Nation and one Inuit society **A3.5** describe the importance of the environment for a few early societies, including at least one First Nation and one Inuit society, with a particular focus on how the local environment affected the ways in which people met their physical needs (e.g., food, housing, clothing)

Activity Name	Theme	Description	Learning Expectations
TREATING TRASH CONT'D			<u>Grade 4 Social Studies People and Environments: Political and Physical Regions of Canada</u> **B1.1** analyze some of the general ways in which the natural environment of regions in Canada has affected the development of industry **B1.2** assess aspects of the environmental impact of different industries in two or more physical and/or political regions of Canada **B2.5** evaluate evidence and draw conclusions about issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in Canada **B3.2** identify some of the main human activities, including industrial development and recreational activities, in various physical regions of Canada <u>Grade 5 Sci and Tech Human Health and Body Systems</u> **B1.1** assess effects of a variety of social and environmental factors on human health, and describe ways in which individuals can reduce the harmful effects of these factors and take advantage of those that are beneficial **B1.2** evaluate beneficial and harmful effects of various technologies on human health and body systems, while taking different perspectives into consideration **B2.4** identify various diseases and medical disorders in humans and the organs and/or body system or systems that they affect <u>Grade 5 Sci and Tech Properties of And Changes in Matter</u> **C1.1** assess the impacts on society and the environment of various processes used in the manufacture of common products **C1.2** assess how the use of specific materials in the manufacture of common products affects the environment, and identify actions that society and individuals can take to mitigate negative impacts <u>Grade 5 Sci and Tech Conservation of Energy and Resources</u> E1.1 analyze long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts **E1.2** evaluate effects of various technologies on energy consumption, and describe ways in which individuals can use technology to reduce energy consumption
USE IT OR LOSE IT!	Water Conservation and Attitude	Students participate in a race against time to gather water after pouring it off a model roof. Which is more effective, a number of students with buckets collecting the water or an	<u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada **A2.1** formulate questions to guide investigations into ways of life and relationships with the environment in a few early societies, including at least one First Nation and one Inuit society, with an

Activity Name	Theme	Description	Learning Expectations
USE IT OR LOSE IT! CONT'D		eaves-trough and a rain-barrel?	emphasis on aspects of the interrelationship between the environment and life in those societies (e.g., connections between the local environment and settlement, art, medicine, religion, spirituality, types of work; the impact on the environment of agriculture or the development of towns, cities, settlements, communities, and/or villages) **A3.4** describe significant physical features and natural processes and events in a few early societies, including at least one First Nation and one Inuit society **A3.5** describe the importance of the environment for a few early societies, including at least one First Nation and one Inuit society, with a particular focus on how the local environment affected the ways in which people met their physical needs (e.g., food, housing, clothing) <u>Grade 4 Social Studies People and Environments: Political and Physical Regions of Canada</u> **B1.1** analyze some of the general ways in which the natural environment of regions in Canada has affected the development of industry **B1.2** assess aspects of the environmental impact of different industries in two or more physical and/or political regions of Canada **B2.5** evaluate evidence and draw conclusions about issues and challenges associated with balancing human needs/wants **B3.1** identify various physical regions in Canada (e.g., landform, vegetation, and climatic regions), and describe their location and some of the major ways in which they are distinct from and similar to each other and activities with environmental stewardship in Canada **B3.2** identify some of the main human activities, including industrial development and recreational activities, in various physical regions of Canada <u>Grade 5 Sci and Tech Properties of And Changes in Matter</u> **C1.1** assess the impacts on society and the environment of various processes used in the manufacture of common products **C1.2** assess how the use of specific materials in the manufacture of common products affects the environment, and identify actions that society and individuals can take to mitigate negative impacts <u>Grade 5 Sci and Tech Conservation of Energy and Resources</u> E1.1 analyze long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts **E1.2** evaluate effects of various technologies on energy consumption, and describe ways in which individuals can use technology to reduce energy consumption
WATER CYCLE MADNESS	Water Science and Technology	Students learn about the water cycle first hand by watching it cycle before their	<u>Gd 3 Social Studies People and Environments: Living and Working in Ontario</u> **B1.1** describe some major connections between features of the natural environment of a region and the type of land use and/or the type of community that is established in that region (e.g., ports

Activity Name	Theme	Description	Learning Expectations
WATER CYCLE MADNESS CONT'D		eyes. Unique working model shows the processes of evaporation, transpiration, condensation, precipitation, and runoff all with the help of a miniature sun (lamp) and other materials. Learn how the water cycle impacts our daily lives.	on lakes or major rivers; farming on flat land with fertile soil; resource towns in areas with ore, trees, or other natural resources) **B1.2** describe some major connections between features of the natural environment and the type of employment that is available in a region, with reference to two or more municipal regions in Ontario **B2.1** formulate questions to guide investigations into some of the short- and/or long-term effects on the environment of different types of land and/or resource use in two or more municipal regions of Ontario (e.g., the impact of mining, forestry, agriculture, suburban land development) and measures taken to reduce the negative impact of that use **B2.5** evaluate evidence and draw conclusions about some of the short- and long-term effects on the environment of different types of land use in municipal regions of Ontario and about key measures to reduce the negative impact of that use **B3.5** describe major types of land use (e.g., for agriculture, industry, commerce, housing, recreation, transportation, conservation) and how they address human needs and wants (e.g., agricultural lands <u>Grade 3 Sci and Tech Forces and Motion</u> **C1.1** assess the effects of the action of forces from natural phenomena on natural and built environments, and identify ways in which human activities can reduce or enhance these effects <u>Grade 3 Sci and Tech Soils in The Environment</u> **E1.1** assess the importance of soils for society and the environment **E1.2** assess the impact of human activity on soils, and describe ways in which humans can improve the quality of soils and/or lessen or prevent harmful effects on soils **E2.2** identify different substances that are commonly added to, or absorbed by, the soil, and describe their effects on soil health **E2.4** explain the process of erosion, including its causes and its impact on soils <u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A3.4** describe significant physical features and natural processes and events in a few early societies, including at least one First Nation and one Inuit society **A3.5** describe the importance of the environment for a few early societies, including at least one First Nation and one Inuit society, with a particular focus on how the local environment affected the ways in which people met their physical needs (e.g., food, housing, clothing) <u>Grade 4 Social Studies People and Environments: Political and Physical Regions of Canada</u>

Activity Name	Theme	Description	Learning Expectations
			B1.1 analyze some of the general ways in which the natural environment of regions in Canada has affected the development of industry **B1.2** assess aspects of the environmental impact of different industries in two or more physical and/or political regions of Canada **B2.5** evaluate evidence and draw conclusions about issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in Canada **B3.2** identify some of the main human activities, including industrial development and recreational activities, in various physical regions of Canada **B3.1** identify various physical regions in Canada (e.g., landform, vegetation, and climatic regions), and describe their location and some of the major ways in which they are distinct from and similar to each other <u>Grade 5 Sci and Tech Conservation of Energy and Resources</u> E1.1 analyze long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts **E1.2** evaluate effects of various technologies on energy consumption, and describe ways in which individuals can use technology to reduce energy consumption
WATER - GO - ROUND **WATER - GO - ROUND CONT'D**	Water Science and Technology	Students are led through a variety of experiments using an enviroscape model to demonstrate how water is used and recycled in our communities. Demonstrations and discussion include water treatment, distribution, wastewater collection, wastewater treatment and biosolids disposal/use. This activity ties in well with a number of other activities at the festival.	<u>Grade 3 Sci and Tech Forces and Motion</u> **C1.1** assess the effects of the action of forces from natural phenomena on natural and built environments, and identify ways in which human activities can reduce or enhance these effects **C1.2** assess harmful effects of forces that may result from various human activities, and describe how health and safety devices can minimize these effects <u>Grade 3 Sci and Tech Stem Skills and Connections</u> **A3.1** describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems <u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada **A2.1** formulate questions to guide investigations into ways of life and relationships with the environment in a few early societies, including at least one First Nation and one Inuit society, with an emphasis on aspects of the interrelationship between the environment and life in those societies (e.g., connections between the local environment and settlement, art, medicine, religion,

Activity Name	Theme	Description	Learning Expectations
WATER - GO - ROUND CONT'D			spirituality, types of work; the impact on the environment of agriculture or the development of towns, cities, settlements, communities, and/or villages) **A3.4** describe significant physical features and natural processes and events in a few early societies, including at least one First Nation and one Inuit society **A3.5** describe the importance of the environment for a few early societies, including at least one First Nation and one Inuit society, with a particular focus on how the local environment affected the ways in which people met their physical needs (e.g., food, housing, clothing) <u>Grade 4 Social Studies People and Environments: Political and Physical Regions of Canada</u> **B1.1** analyze some of the general ways in which the natural environment of regions in Canada has affected the development of industry **B1.2** assess aspects of the environmental impact of different industries in two or more physical and/or political regions of Canada **B2.5** evaluate evidence and draw conclusions about issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in Canada **B3.1** identify various physical regions in Canada (e.g., landform, vegetation, and climatic regions), and describe their location and some of the major ways in which they are distinct from and similar to each other **B3.2** identify some of the main human activities, including industrial development and recreational activities, in various physical regions of Canada <u>Grade 4 Sci and Tech – Light and Sound</u> **C2.1** identify a variety of natural and artificial light sources **C2.3** describe properties of light, including that light travels in a straight path and that light can be absorbed, reflected, and refracted **C2.6** describe how different objects and materials interact with light and sound energy <u>Grade 4 Sci and Tech Machines and Their Mechanisms</u> **D1.1** assess the impacts of machines and their mechanisms on the daily lives of people in various communities **D1.2** assess and compare the environmental impacts of using different machines designed for similar purposes **D2.1** identify machines that are used in daily life, and describe their purposes <u>Grade 5 Sci and Tech Human Health and Body Systems</u> **B1.1** assess effects of a variety of social and environmental factors on human health, and describe ways in which individuals can reduce the harmful effects of these factors and take advantage of those that are beneficial

Activity Name	Theme	Description	Learning Expectations
			B1.2 evaluate beneficial and harmful effects of various technologies on human health and body systems, while taking different perspectives into consideration **B2.4** identify various diseases and medical disorders in humans and the organs and/or body system or systems that they affect <u>Grade 5 Sci and Tech Properties of And Changes in Matter</u> **C1.1** assess the impacts on society and the environment of various processes used in the manufacture of common products **C1.2** assess how the use of specific materials in the manufacture of common products affects the environment, and identify actions that society and individuals can take to mitigate negative impacts <u>Grade 5 Sci and Tech Conservation of Energy and Resources</u> **E1.1** analyze long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts **E1.2** evaluate effects of various technologies on energy consumption, and describe ways in which individuals can use technology to reduce energy consumption
WATER MAIN BREAK! **WATER MAIN BREAK! CONT'D**	Water Science and Technology	Students will have the opportunity to see how groundwater is pumped from the aquifer to a reservoir, treated (chlorinated) and piped through a distribution system to be delivered to homes and businesses in the community. This will emulate the systems currently in use in many communities that have municipal water systems in place.	<u>Gd 3 Social Studies Heritage and Identity: Communities in Canada, 1780–1850</u> **A1.1** describe some of the similarities and differences in various aspects of everyday life (e.g., housing, clothing, food, religious/spiritual practices, work, recreation, the role of children) of selected groups living in Canada between 1780 and 1850 (e.g., First Nations, Métis, French, British, Black people; men and women; slaves, indentured servants, habitants, seigneurs, farmers; people from different classes) **A3.3** identify some of the main factors that helped shape the development of settlements in Canada during this period (e.g., the establishment of trading posts based on trade routes and the knowledge of First Nations peoples; navigable lakes and rivers for trade and transportation; climate; proximity to natural resources; the origins of settlers), and describe how the physical features of the land (e.g., topography, proximity to water, fertility of the soil) and the availability of goods and services (e.g., mills, churches, roads) can facilitate settlement and enhance community life <u>Gd 3 Social Studies People and Environments: Living and Working in Ontario</u> **B1.1** describe some major connections between features of the natural environment of a region and the type of land use and/or the type of community that is established in that region (e.g., ports on lakes or major rivers; farming on flat land with fertile soil; resource towns in areas with ore, trees, or other natural resources) **B1.2** describe some major connections between features of the natural environment and the type of employment that is available in a region, with reference to two or more municipal regions in Ontario **B2.1** formulate questions to guide investigations into some of the short- and/or long-term effects on the environment of different

Activity Name	Theme	Description	Learning Expectations
WATER MAIN BREAK! CONT'D			types of land and/or resource use in two or more municipal regions of Ontario (e.g., the impact of mining, forestry, agriculture, suburban land development) and measures taken to reduce the negative impact of that use <u>Grade 3 Sci and Tech STEM Skills and Connections</u> **A3.1** describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems **A3.2** investigate how science and technology can be used with other subject areas to address real-world problems <u>Grade 3 Sci and Tech Forces and Motion</u> **C1.1** assess the effects of the action of forces from natural phenomena on natural and built environments, and identify ways in which human activities can reduce or enhance these effects **C1.2** assess harmful effects of forces that may result from various human activities, and describe how health and safety devices can minimize these effects **C2.2** describe different ways a force can be exerted on an object **C2.3** describe how different forces applied to an object, including forces of varying magnitude, can cause the object to start, stop, or change its direction, speed, or shape **C2.4** identify ways in which forces are used in their daily lives <u>Grade 3 Sci and Tech Strong and Stable Structures</u> **D1.1** assess effects on society and the environment of strong and stable structures **D1.2** assess the environmental impact of structures built by various animals, including structures built by humans **D2.1** describe a structure as a supporting framework that holds a load and has a definite size, shape, and function, and identify structures in the natural environment and in the built environment **D2.2** demonstrate an understanding of the relationship between form and function for various structures **D2.3** identify the strength of a structure as its ability to support a load and describe ways to increase the strength of structures, including ways to increase the strength of different materials used to build them **D2.4** describe the stability of a structure as its ability to keep its shape, maintain balance, float, and/or stay fixed in one spot when a force is applied to the structure, and describe ways to improve a structure's stability **D2.5** identify properties of materials that need to be considered when building structures **D2.6** describe ways in which different forces can affect the shape, balance, or position of structures **D2.7** explain the role of struts and ties in structures under load
WATER MAIN			<u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the

Activity Name	Theme	Description	Learning Expectations
BREAK! CONT'D			environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada **A2.1** formulate questions to guide investigations into ways of life and relationships with the environment in a few early societies, including at least one First Nation and one Inuit society, with an emphasis on aspects of the interrelationship between the environment and life in those societies (e.g., connections between the local environment and settlement, art, medicine, religion, spirituality, types of work; the impact on the environment of agriculture or the development of towns, cities, settlements, communities, and/or villages) **A3.4** describe significant physical features and natural processes and events in a few early societies, including at least one First Nation and one Inuit society **A3.5** describe the importance of the environment for a few early societies, including at least one First Nation and one Inuit society, with a particular focus on how the local environment affected the ways in which people met their physical needs (e.g., food, housing, clothing) <u>Grade 4 Social Studies People and Environments: Political and Physical Regions of Canada</u> **B1.1** analyze some of the general ways in which the natural environment of regions in Canada has affected the development of industry **B3.1** identify various physical regions in Canada (e.g., landform, vegetation, and climatic regions), and describe their location and some of the major ways in which they are distinct from and similar to each other **B3.2** identify some of the main human activities, including industrial development and recreational activities, in various physical regions of Canada <u>Grade 5 Sci and Tech Conservation of Energy and Resources</u> E1.1 analyze long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts **E1.2** evaluate effects of various technologies on energy consumption, and describe ways in which individuals can use technology to reduce energy consumption
WATER VITAL TO HEALTH	Water Science and Technology	How is water used in our body? Students will engage in an interactive activity to discover the necessity of water to our	<u>Grade 4 Sci and Tech Life Systems - Habitats and Communities</u> **B1.1** assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account **B2.1** describe habitats as areas that provide organisms, including plants and animals, with the necessities of life, and identify ways in which a local habitat provides these necessities <u>Grade 5 Sci and Tech Human Health and Body Systems</u>

Activity Name	Theme	Description	Learning Expectations
WATER VITAL TO HEALTH CONT'D		body's organs and life systems.	**B1.1** assess effects of a variety of social and environmental factors on human health, and describe ways in which individuals can reduce the harmful effects of these factors and take advantage of those that are beneficial **B1.2** evaluate beneficial and harmful effects of various technologies on human health and body systems, while taking different perspectives into consideration **B1.3** explain how food literacy can support decisions that affect physical and mental health **B2.1** identify systems of the human body, and describe their basic function **B2.2** describe the basic structure and function of vital organs in various systems in the human body **B2.3** describe interrelationships between human body systems **B2.4** identify various diseases and medical disorders in humans and the organs and/or body system or systems that they affect
WELL DRILL IT **WELL DRILL IT CONT'D**	Water Protection	Students discover the importance of the water table as it exists underground, investigating how we access the water from aquifers. How do we get the water out of the ground once we've located an aquifer? Students "drill" their own wells, pump out water in models as well as use a hand pump to discover the work involved in getting water from underground. A model of a modern drilled well helps students to visualize the layers of different materials underfoot.	<u>Gd 3 Social Studies Heritage and Identity: Communities in Canada, 1780–1850</u> **A1.1** describe some of the similarities and differences in various aspects of everyday life (e.g., housing, clothing, food, religious/spiritual practices, work, recreation, the role of children) of selected groups living in Canada between 1780 and 1850 (e.g., First Nations, Métis, French, British, Black people; men and women; slaves, indentured servants, habitants, seigneurs, farmers; people from different classes) **A3.3** identify some of the main factors that helped shape the development of settlements in Canada during this period (e.g., the establishment of trading posts based on trade routes and the knowledge of First Nations peoples; navigable lakes and rivers for trade and transportation; climate; proximity to natural resources; the origins of settlers), and describe how the physical features of the land (e.g., topography, proximity to water, fertility of the soil) and the availability of goods and services (e.g., mills, churches, roads) can facilitate settlement and enhance community life <u>Gd 3 Social Studies People and Environments: Living and Working in Ontario</u> **B1.1** describe some major connections between features of the natural environment of a region and the type of land use and/or the type of community that is established in that region (e.g., ports on lakes or major rivers; farming on flat land with fertile soil; resource towns in areas with ore, trees, or other natural resources) **B2.1** formulate questions to guide investigations into some of the short- and/or long-term effects on the environment of different types of land and/or resource use in two or more municipal regions of Ontario (e.g., the impact of mining, forestry, agriculture, suburban land development) and measures taken to reduce the negative impact of that use **B2.5** evaluate evidence and draw conclusions about some of the short- and long-term effects on the environment of different types of land use in municipal regions of Ontario and about key measures to reduce the negative impact of that use

Activity Name	Theme	Description	Learning Expectations
WELL DRILL IT CONT'D			<u>Grade 3 Sci and Tech STEM Skills and Connections</u> **A3.1** describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems **A3.2** investigate how science and technology can be used with other subject areas to address real-world problems <u>Grade 3 Sci and Tech Forces and Motion</u> **C1.1** assess the effects of the action of forces from natural phenomena on natural and built environments, and identify ways in which human activities can reduce or enhance these effects **C1.2** assess harmful effects of forces that may result from various human activities, and describe how health and safety devices can minimize these effects <u>Grade 3 Sci and Tech Soils in The Environment</u> **E1.1** assess the importance of soils for society and the environment **E1.2** assess the impact of human activity on soils, and describe ways in which humans can improve the quality of soils and/or lessen or prevent harmful effects on soils **E2.2** identify different substances that are commonly added to, or absorbed by, the soil, and describe their effects on soil health <u>Grade 3 Mathematics Measurement</u> **E2.2** explain the relationships between millimetres, centimetres, metres, and kilometres as metric units of length, and use benchmarks for these units to estimate lengths **E2.3** use non-standard units appropriately to estimate, measure, and compare capacity, and explain the effect that overfilling or underfilling, and gaps between units, have on accuracy <u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada **A2.5** evaluate evidence and draw conclusions about ways of life and relationships with the environment in a few early societies, including at least one First Nation and one Inuit society, with an emphasis on aspects of the interrelationship between the environment and life in those societies **A3.3** describe significant aspects of daily life in a few early societies, including at least one First Nation and one Inuit society **A3.4** describe significant physical features and natural processes and events in a few early societies, including at least one First Nation and one Inuit society

Activity Name	Theme	Description	Learning Expectations
WELL DRILL IT CONT'D			**A3.5** describe the importance of the environment for a few early societies, including at least one First Nation and one Inuit society, with a particular focus on how the local environment affected the ways in which people met their **physical needs (e.g., food, housing, clothing)** **A3.6** identify and describe some of the major scientific and technological developments in the ancient and medieval world, including some from at least one First Nation and one Inuit society (e.g., calendars; the printing press; developments in agriculture, architecture, medicine, transportation, weaponry, navigation) <u>Grade 4 Social Studies People and Environments: Political and Physical Regions of Canada</u> **B1.1** analyze some of the general ways in which the natural environment of regions in Canada has affected the development of industry **B2.2** gather and organize information and data from various sources to investigate issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in one or more of the political and/or physical regions of Canada **B2.5** evaluate evidence and draw conclusions about issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in Canada <u>Grade 4 Sci and Tech STEM Investigation and Communication Skills</u> **A3.1** describe practical applications of science and technology concepts in various occupations, including skilled trades, and how these applications address real-world problems **A3.2** investigate how science and technology can be used with other subject areas to address real-world problems **A3.3** analyze contributions to science and technology from various communities <u>Grade 4 Sci and Tech Life Systems - Habitats and Communities</u> **B1.1** assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account **B2.1** describe habitats as areas that provide organisms, including plants and animals, with the necessities of life, and identify ways in which a local habitat provides these necessities <u>Grade 4 Sci and Tech Machines and Their Mechanisms</u> **D1.1** assess the impacts of machines and their mechanisms on the daily lives of people in various communities **D1.2** assess and compare the environmental impacts of using different machines designed for similar purposes **D2.1** identify machines that are used in daily life, and describe their purposes <u>Grade 4 Sci and Tech Rocks, Minerals, And Geological Processes</u>

Activity Name	Theme	Description	Learning Expectations
			E1.1 analyze ways in which geological processes impact society and the environment **E1.2** assess social and environmental impacts of extracting and refining rocks and minerals and of manufacturing, recycling, and disposing of products derived from rocks and minerals, while taking various perspectives into account **E2.2** describe the physical properties of igneous, sedimentary, and metamorphic rocks **E2.6** demonstrate an understanding of First Nations, Métis, and Inuit geological knowledges that are used in the selection of different rocks and minerals for specific purposes
WE USE THAT MUCH? **WE USE THAT MUCH? CONT'D**	Water Conservation and Attitude	Students use an interactive activity to discover how much water is used in everyday activities in relation to a known reference (2L pop bottles). Water conservation from various sources can also be examined.	<u>Grade 3 Mathematics Data</u> **D1.** Data Literacy manage, analyze, and use data to make convincing arguments and informed decisions, in various contexts drawn from real life **D2.** Probability - describe the likelihood that events will happen, and use that information to make predictions <u>Grade 3 Mathematics Measurement</u> **E2.3** use non-standard units appropriately to estimate, measure, and compare capacity, and explain the effect that overfilling or underfilling, and gaps between units, have on accuracy <u>Grade 4 Mathematics - Numbers</u> **B1.1** read, represent, compose, and decompose whole numbers up to and including 10 000, using appropriate tools and strategies, and describe various ways they are used in everyday life **B1.2** compare and order whole numbers up to and including 10 000, in various contexts <u>Grade 4 Mathematics - Data Literacy</u> **D1.1** describe the difference between qualitative and quantitative data, and describe situations where each would be used **D1.6** analyze different sets of data presented in various ways, including in stem-and-leaf plots and multiple-bar graphs, by asking and answering questions about the data and drawing conclusions, then make convincing arguments and informed decisions <u>Grade 4 Mathematics Measurement</u> **E2.1** explain the relationships between grams and kilograms as metric units of mass, and between litres and millilitres as metric units of capacity, and use benchmarks for these units to estimate mass and capacity **E2.2** use metric prefixes to describe the relative size of different metric units, and choose appropriate units and tools to measure length, mass, and capacity <u>Grade 4 Sci and Tech Life Systems - Habitats and Communities</u> **B1.1** assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account **B2.1** describe habitats as areas that provide organisms, including plants and animals, with the necessities of life, and identify ways in which a local habitat provides these necessities

Activity Name	Theme	Description	Learning Expectations
			<u>Grade 5 Sci and Tech Conservation of Energy and Resources</u> E1.1 analyze long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts **E1.2** evaluate effects of various technologies on energy consumption, and describe ways in which individuals can use technology to reduce energy consumption
WHAT IS A WATERSHED? **WHAT IS A WATERSHED? CONT'D**	Water Science and Technology	Using a large 3D model complete with water, streams and tributaries, students investigate what makes up the major watersheds in our area. Students will learn about the main features of a river system (e.g. mouth, source, wetlands, tributary, river, stream, delta, etc.). Erosion and deposition will also be explored. Students will also be encouraged to locate their school's community on watershed maps.	<u>Gd 3 Social Studies Heritage and Identity: Communities in Canada, 1780–1850</u> **A3.3** identify some of the main factors that helped shape the development of settlements in Canada during this period (e.g., the establishment of trading posts based on trade routes and the knowledge of First Nations peoples; navigable lakes and rivers for trade and transportation; climate; proximity to natural resources; the origins of settlers), and describe how the physical features of the land (e.g., topography, proximity to water, fertility of the soil) and the availability of goods and services (e.g., mills, churches, roads) can facilitate settlement and enhance community life <u>Gd 3 Social Studies People and Environments: Living and Working in Ontario</u> **B1.1** describe some major connections between features of the natural environment of a region and the type of land use and/or the type of community that is established in that region (e.g., ports on lakes or major rivers; farming on flat land with fertile soil; resource towns in areas with ore, trees, or other natural resources) **B1.2** describe some major connections between features of the natural environment and the type of employment that is available in a region, with reference to two or more municipal regions in Ontario **B2.1** formulate questions to guide investigations into some of the short- and/or long-term effects on the environment of different types of land and/or resource use in two or more municipal regions of Ontario (e.g., the impact of mining, forestry, agriculture, suburban land development) and measures taken to reduce the negative impact of that use **B2.5** evaluate evidence and draw conclusions about some of the short- and long-term effects on the environment of different types of land use in municipal regions of Ontario and about key measures to reduce the negative impact of that use **B3.5** describe major types of land use (e.g., for agriculture, industry, commerce, housing, recreation, transportation, conservation) and how they address human needs and wants (e.g., agricultural lands <u>Grade 3 Sci and Tech STEM Skills and Connections</u> **A3.1** describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems **A3.2** investigate how science and technology can be used with other subject areas to address real-world problems Grade 3 Sci and Tech Forces and Motion

Activity Name	Theme	Description	Learning Expectations
WHAT IS A WATERSHED? CONT'D			**C1.1** assess the effects of the action of forces from natural phenomena on natural and built environments, and identify ways in which human activities can reduce or enhance these effects **C1.2** assess harmful effects of forces that may result from various human activities, and describe how health and safety devices can minimize these effects <u>Grade 3 Mathematics Measurement</u> **E2.3** use non-standard units appropriately to estimate, measure, and compare capacity, and explain the effect that overfilling or underfilling, and gaps between units, have on accuracy <u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada **A2.5** evaluate evidence and draw conclusions about ways of life and relationships with the environment in a few early societies, including at least one First Nation and one Inuit society, with an emphasis on aspects of the interrelationship between the environment and life in those societies **A3.4** describe significant physical features and natural processes and events in a few early societies, including at least one First Nation and one Inuit society **A3.5** describe the importance of the environment for a few early societies, including at least one First Nation and one Inuit society, with a particular focus on how the local environment affected the ways in which people met their **physical needs (e.g., food, housing, clothing)** <u>Grade 4 Social Studies People and Environments: Political and Physical Regions of Canada</u> **B2.2** gather and organize information and data from various sources to investigate issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in one or more of the political and/or physical regions of Canada **B2.5** evaluate evidence and draw conclusions about issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in Canada
WHAT IS A WATERSHED? CONT'D			**B3.1** identify various physical regions in Canada (e.g., landform, vegetation, and climatic regions), and describe their location and some of the major ways in which they are distinct from and similar to each other **B3.2** identify some of the main human activities, including industrial development and recreational activities, in various physical regions of Canada

Activity Name	Theme	Description	Learning Expectations
			<u>Grade 4 Sci and Tech STEM Investigation and Communication Skills</u> **A3.1** describe practical applications of science and technology concepts in various occupations, including skilled trades, and how these applications address real-world problems **A3.2** investigate how science and technology can be used with other subject areas to address real-world problems <u>Grade 4 Sci and Tech Life Systems - Habitats and Communities</u> **B1.1** assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account **B2.1** describe habitats as areas that provide organisms, including plants and animals, with the necessities of life, and identify ways in which a local habitat provides these necessities <u>Grade 4 Sci and Tech Machines and Their Mechanisms</u> **D1.1** assess the impacts of machines and their mechanisms on the daily lives of people in various communities **D1.2** assess and compare the environmental impacts of using different machines designed for similar purposes **D2.1** identify machines that are used in daily life, and describe their purposes <u>Grade 4 Sci and Tech Rocks, Minerals, And Geological Processes</u> **E1.1** analyze ways in which geological processes impact society and the environment **E1.2** assess social and environmental impacts of extracting and refining rocks and minerals and of manufacturing, recycling, and disposing of products derived from rocks and minerals, while taking various perspectives into account
WHAT'S UP DOC? **WHAT'S UP DOC? CONT'D**	Water Science and Technology	A person from medieval times sits wrapped in bandages quite, sick waiting for some sort of miracle. Students work together to try to determine what waterborne disease the actor has by asking the person what symptoms they have (similar to the type of questions your own doctor may ask) to determine what might be the problem. Possible ways to avoid the	<u>Gd 3 Social Studies Heritage and Identity: Communities in Canada, 1780–1850</u> **A1.1** describe some of the similarities and differences in various aspects of everyday life (e.g., housing, clothing, food, religious/spiritual practices, work, recreation, the role of children) of selected groups living in Canada between 1780 and 1850 (e.g., First Nations, Métis, French, British, Black people; men and women; slaves, indentured servants, habitants, seigneurs, farmers; people from different classes) **A1.2** compare some of the roles of and challenges facing people in Canada around the beginning of the nineteenth century with those in the present day (e.g., the roles of women, men, and children; challenges related to the environment, work, community life, the law) **A3.3** identify some of the main factors that helped shape the development of settlements in Canada during this period (e.g., the establishment of trading posts based on trade routes and the knowledge of First Nations peoples; navigable lakes and rivers for trade and transportation; climate; proximity to natural resources; the origins of settlers), and describe how the physical features of the land (e.g., topography, proximity to water, fertility of the soil)

Activity Name	Theme	Description	Learning Expectations
WHAT'S UP DOC? CONT'D		sickness again are discussed as well.	and the availability of goods and services (e.g., mills, churches, roads) can facilitate settlement and enhance community life **A3.5** describe the impact of some different kinds of settlements (e.g., seasonal settlements of seminomadic First Nations, trading posts, resource towns, large-scale farms, large towns or developing cities) on the natural environment and on any existing settlements <u>Gd 3 Social Studies People and Environments: Living and Working in Ontario</u> **B1.1** describe some major connections between features of the natural environment of a region and the type of land use and/or the type of community that is established in that region (e.g., ports on lakes or major rivers; farming on flat land with fertile soil; resource towns in areas with ore, trees, or other natural resources) **B1.2** describe some major connections between features of the natural environment and the type of employment that is available in a region, with reference to two or more municipal regions in Ontario **B2.1** formulate questions to guide investigations into some of the short- and/or long-term effects on the environment of different types of land and/or resource use in two or more municipal regions of Ontario (e.g., the impact of mining, forestry, agriculture, suburban land development) and measures taken to reduce the negative impact of that use **B2.5** evaluate evidence and draw conclusions about some of the short- and long-term effects on the environment of different types of land use in municipal regions of Ontario and about key measures to reduce the negative impact of that use **B3.5** describe major types of land use (e.g., for agriculture, industry, commerce, housing, recreation, transportation, conservation) and how they address human needs and wants <u>Grade 3 Sci and Tech STEM Skills and Connections</u> **A3.1** describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems **A3.2** investigate how science and technology can be used with other subject areas to address real-world problems <u>Grade 3 Sci and Tech Forces and Motion</u> **C1.1** assess the effects of the action of forces from natural phenomena on natural and built environments, and identify ways in which human activities can reduce or enhance these effects **C1.2** assess harmful effects of forces that may result from various human activities, and describe how health and safety devices can minimize these effects **C2.4** identify ways in which forces are used in their daily lives <u>Grade 3 Sci and Tech Soils in The Environment</u> **E1.1** assess the importance of soils for society and the environment

Activity Name	Theme	Description	Learning Expectations
WHAT'S UP DOC? CONT'D			**E1.2** assess the impact of human activity on soils, and describe ways in which humans can improve the quality of soils and/or lessen or prevent harmful effects on soils <u>Grade 3 Mathematics Data</u> **D1. Data Literacy** manage, analyze, and use data to make convincing arguments and informed decisions, in various contexts drawn from real life **D2. Probability** describe the likelihood that events will happen, and use that information to make predictions <u>Grade 4 Social Studies Heritage and Identity: Early Societies To 1500 CE</u> **A1.4** compare a few early societies, including at least one First Nation and one Inuit society, in terms of their relationship with the environment (e.g., with reference to seasonal rhythms, use of land and resources, differences between urban and rural communities, religious and spiritual practices/ beliefs with respect to the environment), and describe some key similarities and differences in environmental practices between these societies and present-day Canada **A2.1** formulate questions to guide investigations into ways of life and relationships with the environment in a few early societies, including at least one First Nation and one Inuit society, with an emphasis on aspects of the interrelationship between the environment and life in those societies (e.g., connections between the local environment and settlement, art, medicine, religion, spirituality, types of work; the impact on the environment of agriculture or the development of towns, cities, settlements, communities, and/or villages) **A2.5** evaluate evidence and draw conclusions about ways of life and relationships with the environment in a few early societies, including at least one First Nation and one Inuit society, with an emphasis on aspects of the interrelationship between the environment and life in those societies **A3.3** describe significant aspects of daily life in a few early societies, including at least one First Nation and one Inuit society **A3.4** describe significant physical features and natural processes and events in a few early societies, including at least one First Nation and one Inuit society **A3.5** describe the importance of the environment for a few early societies, including at least one First Nation and one Inuit society, with a particular focus on how the local environment affected the ways in which people met their physical needs (e.g., food, housing, clothing) <u>Grade 4 Social Studies People and Environments: Political and Physical Regions of Canada</u> **B2.2** gather and organize information and data from various sources to investigate issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in one or more of the political and/or physical regions of Canada

Activity Name	Theme	Description	Learning Expectations
WHAT'S UP DOC? CONT'D			**B2.5** evaluate evidence and draw conclusions about issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in Canada <u>Grade 4 Sci and Tech STEM Investigation and Communication Skills</u> **A3.2** investigate how science and technology can be used with other subject areas to address real-world problems <u>Grade 4 Sci and Tech Life Systems - Habitats and Communities</u> **B1.1** assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account **B1.2** analyze the impact of the depletion or extinction of a species on its habitat and community, and describe possible actions to prevent such depletions or extinctions <u>Grade 4 Language - Oral Communication</u> **1.1** identify purposes for listening in a variety of situations, formal and informal, and set goals related to specific listening tasks **1.2** demonstrate an understanding of appropriate listening behavior by adapting active listening strategies to suit a variety of situations, including work in groups **1.3** identify a variety of listening comprehension strategies and use them appropriately before, during, and after listening in order to understand and clarify the meaning of oral texts **1.4** demonstrate an understanding of the information and ideas in a variety of oral texts by summarizing important ideas and citing important details **1.5** make inferences using stated and implied ideas in oral texts **1.6** extend understanding of oral texts by connecting the ideas in them to their own knowledge, experience, and insights; to other texts, including print and visual texts; and to the world around them **1.7** analyze oral texts and explain how specific elements in them contribute to meaning **2.3** communicate in a clear, coherent manner, presenting ideas, opinions, and information in a readily understandable form **2.4** use appropriate words and phrases from the full range of their vocabulary, including inclusive and non-discriminatory terms, and appropriate elements of style, to communicate their meaning accurately and engage the interest of their audience **2.5** identify some vocal effects, including tone, pace, pitch, volume, and a range of sound effects, and use them appropriately and with sensitivity towards cultural differences to help communicate their meaning **2.6** identify some non-verbal cues, including facial expression, gestures, and eye contact, and use them in oral communications, appropriately and with sensitivity towards cultural differences, to help convey their meaning <u>Grade 5 Sci and Tech Human Health and Body Systems</u>

Activity Name	Theme	Description	Learning Expectations
			B1.1 assess effects of a variety of social and environmental factors on human health, and describe ways in which individuals can reduce the harmful effects of these factors and take advantage of those that are beneficial **B1.2** evaluate beneficial and harmful effects of various technologies on human health and body systems, while taking different perspectives into consideration **B2.1** identify systems of the human body, and describe their basic function **B2.2** describe the basic structure and function of vital organs in various systems in the human body **B2.3** describe interrelationships between human body systems **B2.4** identify various diseases and medical disorders in humans and the organs and/or body system or systems that they affect <u>Grade 5 Sci and Tech Conservation of Energy and Resources</u> E1.1 analyze long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts **E1.2** evaluate effects of various technologies on energy consumption, and describe ways in which individuals can use technology to reduce
WHERE IT GOES… WHEN I GO **WHERE IT GOES… WHEN I GO CONT'D**	Water Science and Technology	Students discover for themselves the process that sewage and wastewater takes in a wastewater treatment plant before it is safely returned to our waterways. This hands-on activity takes them through the processes without leaving the premises. Photos of actual local treatment plants are included for relating to the working model.	<u>Grade 4 Sci and Tech – Light and Sound</u> **C2.1** identify a variety of natural and artificial light sources **C2.3** describe properties of light, including that light travels in a straight path and that light can be absorbed, reflected, and refracted **C2.6** describe how different objects and materials interact with light and sound energy <u>Grade 4 Sci and Tech Machines and Their Mechanisms</u> **D1.1** assess the impacts of machines and their mechanisms on the daily lives of people in various communities **D1.2** assess and compare the environmental impacts of using different machines designed for similar purposes **D2.1** identify machines that are used in daily life, and describe their purposes
YOU'RE MOSTLY WATER	Water Science and Technology	Students will discover how much of their body mass is made up of water. Using a teeter-totter, and water bottles,	<u>Grade 4 Mathematics - Numbers</u> **B1.1** read, represent, compose, and decompose whole numbers up to and including 10 000, using appropriate tools and strategies, and describe various ways they are used in everyday life **B1.2** compare and order whole numbers up to and including 10 000, in various contexts **B1.3** round whole numbers to the nearest ten, hundred, or thousand, in various contexts

Activity Name	Theme	Description	Learning Expectations
		they will be able to calculate the amount of water in their bodies.	**B1.7** read, represent, compare, and order decimal tenths, in various contexts **B1.9** describe relationships and show equivalences among fractions and decimal tenths, in various contexts **B2.1** use the properties of operations, and the relationships between addition, subtraction, multiplication, and division, to solve problems involving whole numbers, including those requiring more than one operation, and check calculations <u>Grade 4 Mathematics - Measurement</u> **E2.1** explain the relationships between grams and kilograms as metric units of mass, and between litres and millilitres as metric units of capacity, and use benchmarks for these units to estimate mass and capacity **E2.2** use metric prefixes to describe the relative size of different metric units, and choose appropriate units and tools to measure length, mass, and capacity