

Grade 8 Overall Expectations

Overall Expectations	
Literacy	<ul style="list-style-type: none">❖ R 1. read and demonstrate an understanding of a variety of literary, graphic, and informational texts, using a range of strategies to construct meaning;❖ W 1. generate, gather, and organize ideas and information to write for an intended purpose and audience;❖ M 3. create a variety of media texts for different purposes and audiences, using appropriate forms, conventions, and techniques;
Math	<ul style="list-style-type: none">❖ B1. Number Sense - demonstrate an understanding of numbers and make connections to the way numbers are used in everyday life
Science	<ul style="list-style-type: none">❖ Understanding Earth and Space Systems 2. investigate factors that affect local water quality;
Geography	<ul style="list-style-type: none">❖ A3. Understanding Geographic Context: demonstrate an understanding of significant patterns and trends related to human settlement and of ways in which human settlement affects the environment

TAKE CARE OF YOURSELF!

School and school work is, usually, a way to develop the intellectual or mental part of ourselves. But we have other dimensions. We have a physical body, feelings, and a spirit (which you might be more comfortable thinking of as your “true” self.) We hope some of these suggestions, plus ideas of your own, will help you live in a way that supports not just your mental well-being and development, but your whole self. See if you can do something to support each aspect of yourself each day.

PHYSICAL WELL-BEING

To take care of your physical well-being, you might:

- Move around! (skip, do jumping jacks, do sit-ups, do push-ups, go for a walk, etc.)
- Eat healthy food.
- Drink water.
- Get rest.
- Listen to your body.
- _____

EMOTIONAL WELL-BEING

To take care of your emotional well-being, you might:

- Connect with somebody (call someone, talk to someone, sit with someone, etc.)
- Notice your feelings.
- Try to have compassion for yourself.
- Write something about what you are experiencing and how it makes you feel. Maybe share it.
- Create art. Maybe share it.
- Laugh.
- _____

SPIRITUAL WELL-BEING

To take care of your spiritual well-being, you might:

- Do something for someone else.
- Meditate, pray, perform ceremony, or spend some time taking deep breaths.
- Make something.
- Offer thanks. It could even be thanks to something non-human, like the water that you drink or the plants growing through the cracks in the sidewalk.
- Ground yourself. Notice and express gratitude to the things and people surrounding you.
- _____

MENTAL WELL-BEING

To take care of your mental well-being, you might:

- Enjoy a story. Read something, listen to a podcast or audio book, watch a movie or show.
- Listen to music that stimulates thoughts.
- Look at art you find engaging.
- Talk with someone you admire.
- Share your own observations or insights with someone you trust.
- _____

What Are My Responsibilities?

My voice matters. I can act on my beliefs and values by using my strengths and assets to seek change in my community.

LITERACY	
HISTORY/ GEOGRAPHY	
READ	<ul style="list-style-type: none"> ❖ Review the glossary of terms and pay particular attention to the definitions of strengths and talents. Think about where and how you have applied your strengths and talents in your life. ❖ Re-read the infographic on “Threats to Coral Reefs” (p.7). ❖ Answer the following questions: <i>What is the message? Which details or text features help you to determine the message? Whose point of view is represented and how do you know? Are there voices or perspectives missing? Would including these voices change the message?</i> Write your answers and provide specific reasons and examples to support your arguments. ❖ Reread the excerpt <i>Fighting Back: Resisting the Legacy of Environment Racism</i> (pages 8-9). As you read, underline all of the acts of resistance that are named in the article.
CREATE	<p>Create An Action Plan</p> <ul style="list-style-type: none"> ❖ Make a list of acts of resistance that you have read about throughout this package. ❖ List the issues that you have read about throughout this package and rank them in order of importance as they relate to your identity, values, and beliefs. Add issues that are important to you and/or your community that may have not been included in this learning package. ❖ Select the issue for which you want to create an action plan. It will also be the topic for your final project. ❖ Thinking of your strengths, talents, and purpose, choose a minimum of three actions that you will take to address your chosen issue. ❖ Create a sequence diagram that outlines your plan of action (p.11). ❖ Draft a short script. In the first paragraph you will convince an audience of your choosing to join you in taking action. In the second paragraph you will write a response to an individual or group who might challenge your ideas or actions.
SHARE	<p>Present your script to someone in your household or community and get feedback about whether it makes sense and is convincing.</p>

What Are My Responsibilities?

LITERACY

HISTORY/ GEOGRAPHY

The ways in which people extract (take out) and use natural resources can have environmental consequences. Read the infographic “Potable Water Use in Canada” (p.10) .

1. There are human activities that impact the movement and the quality of drinking water some Canadian communities are able to access. According to the Canadian government, drinking water advisories are public health protection messages about real or potential health risks related to drinking water. These indicators provide a long-term view of why boil water advisories are issued. They also show the relationship between community size and the frequency of boil water advisories. (Sources: Government of Canada Website, 2020 <https://www.sac-isc.gc.ca/> and <https://www.canada.ca/en/environment-climate-change/services/environmental>)

The Canadian government has set a goal to have all long-term drinking water advisories on public systems on reserves lifted by March 2021. As of February 15, 2020, 61 Indigenous reserve communities still had a long-term drinking water advisory in effect. Since November 2015, 88 advisories have been lifted. The Neskantaga First Nation in northern Ontario has been under a Boil Water Advisory and without access to safe tap water since 1995 (Source: Canadian Geographic, 2020 <https://www.canadiangeographic.ca/article/eight-facts-about-water-canada>)

EXTEND

Create five higher-order questions (e.g. why, how would, how might, what would etc. - all questions that require an explanation) that you think would be important to pose (ask) in order to gain more understanding about this issue.

2. How would your household and your community be impacted if you didn't have access to clean drinking water? List different ways the members of your household could save water in the kitchen, the bathroom, and in other areas of your home. What are different ways the businesses in your community could save water? **Make a poster about your ideas and share your ideas with a member of your household. Look at the infographics you have read in this work for examples of how to lay out information, text (words), and images.**

What Are My Responsibilities?

SCIENCE	
THINK	Create a list of what your responsibilities are: in your home/to family and friends; in your communities; at school; and as a citizen of the world.
ACT	<p>Activity 1: Read the “Threats to Coral Reefs” infographic (p.7).</p> <ul style="list-style-type: none"> ❖ Now, go back to your list of responsibilities and add any more you think you have, especially for your local communities and as a citizen of the world. Reducing our impact on the environment is important. <p>Activity 2: Read the infographic “Potable Water in Canada” (p.10). “Potable” means “safe to drink.”</p> <ul style="list-style-type: none"> ❖ Put the example of the ways we use water in our daily use in order of how much water you use. If there are ways that water is used that you do not use, put them at the bottom. ❖ Now, beside each example, write a practical way you can reduce your water usage but still meet your needs. ❖ Below your chart, create a list of five impacts of overuse of water by humans. In other words, what happens when other organisms do not have access to enough water? If you are not sure, write five questions you would like to research to help you find this answer or it can be a combination of impacts and questions.
REFLECT	<ul style="list-style-type: none"> ❖ Think about how the scientific information you just read was shown to you. Review the infographic, and as you do think about how images were used to aid in the reader’s understanding of the infographic. ❖ Also, think about how this information can be used to convince others of the importance of environmental stewardship (taking care of the environment). Write down what you find most useful explaining the threats to the coral reef and potable water. Think about how you could use these ways of explaining information visually in your own work.

What Are My Responsibilities?

MATHEMATICS										
THINK	<p>Orient (place) two pieces of paper (8.5 x11), one landscape and the other portrait, in your view and compare them. Write down as many mathematical ideas as you can about the two pieces of paper (e.g. size, area, length, width, etc)</p>									
	<p>Using an (8.5 x11) piece of paper, which is 30 by 20 cm, roll it into a cylinder and tape it together. Label it V1. Let's take the same sized paper and rotate it 90 degrees so it's 20 by 30cm. We will roll it into a cylinder and label this one V2 (notice it's longer and taller than V1). At this point you should have two cylinders of different heights.</p> <p>Make a prediction: which cylinder do you think will hold more popcorn? Do you think they will hold the same amount? Put a checkmark for what your prediction is.</p>									
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 30%;"></td> <td style="width: 40%; text-align: center;">Container A V1 (shorter and wider) holds more</td> </tr> <tr> <td style="vertical-align: top;">Record a prediction</td> <td></td> <td style="text-align: center;">Container A V1 (shorter and wider) holds more</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">Container A has the same capacity as Container B</td> </tr> </table>			Container A V1 (shorter and wider) holds more	Record a prediction		Container A V1 (shorter and wider) holds more			Container A has the same capacity as Container B
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ACT	<p>Let's use two different strategies to figure out if our prediction is correct.</p> <p>1. Hold the V1 cylinder with the open end down to a surface (e.g. a table). Fill the containers with something small (e.g. popcorn kernels, beads, dry beans, or uncooked rice). Now, do it again with V2 and compare how much each held.</p> <p>2. To find the volume of a cylinder, we can also use the formula: area of the base x height. V1 – volume of a cylinder is $\pi \times r^2 \times \text{height}$, but we don't have a value for the radius. You can determine the radius by knowing the circumference, which in this case is 3.18. Find the area of the base, which is πr^2. So 71.74 cm^2 multiplied by the height (20 cm in this case) is _____ cm^3.</p> <p>Compare this volume to the longer, taller one or V2. Once you've determined the radius, which is 4.78 cm, we can find the area of the base and multiply it by the height. πr^2 determines the area to be 31.75 cm^2 multiplied by the height which in this case is 30 cm. We get _____ cm^3.</p>									
REFLECT	<p>Let's compare these volumes. Did you predict this to be true? Why? Why not? Write an explanation for what occurred as a result of your investigation.</p>									

What Are My Responsibilities?

Threats to Coral Reefs

THREATS TO CORAL REEFS CLIMATE CHANGE

Increased greenhouse gases from human activities result in climate change and ocean acidification.
CLIMATE CHANGE = OCEAN CHANGE

Human activities contributing to CO₂ emissions: burning fossil fuels for heat and energy, producing some industrial products, raising livestock, fertilizing crops, and deforestation.

CO₂
 The world's ocean is a massive sink that absorbs carbon dioxide (CO₂). Although this has slowed global warming, it is also changing ocean chemistry.

HOW YOU CAN HELP

Shrink your carbon footprint to reduce greenhouse gases.

- Drive less.
- Reduce, reuse or recycle.
- Purchase energy-efficient appliances and lightbulbs.
- Print less. Download more.
- Use less water.

Do your part to help improve overall coral reef condition.

- Reduce the use of lawn and garden chemicals.
- DO NOT dump household chemicals in storm drains.
- Choose sustainable seafood. www.FishWatch.gov
- Learn about good reef etiquette and practice it when in the water.
- Volunteer for beach and waterway clean ups.

CLIMATE CHANGE dramatically affects CORAL REEF ECOSYSTEMS

Impacts are immediate and long term, direct and indirect - A weakened coral is **vulnerable**.

Effects on Coral Reef Ecosystems:

- Warming Ocean:** thermal stress → CORAL BLEACHING
- Sea Level Rise:** sedimentation → SMOTHERING OF CORAL
- Changes in Storm Patterns:** stronger, more frequent storms → DESTRUCTION OF REEF STRUCTURE
- Changes in Precipitation:** increased runoff of freshwater, sediment & land-based pollutants → ALGAL BLOOMS & MURKY WATER REDUCE LIGHT
- Altered Ocean Currents:** change in connectivity & temperature regimes → LACK OF FOOD AND DISPERSAL OF LARVAE
- Ocean Acidification:** a result of increased CO₂, reduction in pH levels → DECREASES GROWTH RATES AND STRUCTURAL INTEGRITY

National Oceanic and Atmospheric Administration (2019) Threats to Coral Reefs: Climate Change. NOAA: accessed 21 May 2020. <https://oceanservice.noaa.gov/facts/coralreef-climate.html>

What Are My Responsibilities?

Fighting Back: Resisting the Legacy of Environment Racism

When I get my farm back, my boy, when I get my farm back.” These are the words that my great-grandfather Rory McPherson often said to his grandson (my uncle) as they sat together at their home in the community of Gojjiing (anglicized as Couchiching First Nation) in the 1940s and 50s. As a young man, Rory had a farm on the Rainy River, downstream about 40 km, but had been forced to relocate to reserve lands “designated for the Indians” in the late 1800s. (Note: ‘Indian’ is the terminology of the treaties and of the Indian Act, and is used in this context.) After Treaty 3 was signed in 1873, colonization led to the dispossession of my great-grandfather’s farm. As the settler population in the area increased, lands occupied by Indigenous peoples were claimed for industry, settlements and farming. Resource extraction began first with forestry for building materials and then for papermaking. Around 1900, a dam was built on the Rainy River at Fort Frances to provide water for a papermill. This affected the way of life of Anishinabek (Ojibwe people) living on the connected lakes and rivers, flooding traditionally used lands and displacing the Anishinaabeg yet again as people were moved to new reserve sites.

Since 2010, Couchiching has been advocating for cleanup of a site contaminated by sawmill operations nearly 100 years ago. It had been leased by Indian Affairs for almost 100 years and used for commercial and industrial activities by non-Indigenous businesses. I hear similar stories about Indian reserves across Canada and the environmental impacts that have had (and continue to have) devastating effects on the people and their communities. A particularly tragic story is that of the Anishinaabe communities of Asabiinyashkosiwagong Nitam-Anishinaabeg (Grassy Narrows First Nation) and Wabaseemoong (White Dog) Independent Nations in northwestern Ontario.

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When I look at Canada’s history through the lens of environmental racism, it becomes apparent that Indigenous communities aren’t the only ones affected; other groups of racialized people are also disproportionately affected. This understanding helps contextualize the environmental events plaguing Asabiinyashkosiwagong Nitam-Anishinaabeg (Grassy Narrows First Nation) and Wabaseemoong (White Dog) Independent Nations in northwestern Ontario, which started over 50 years ago at the pulp and paper mill in Dryden, Ontario. The mill lies approximately 150 km from the Manitoba border on the Trans-Canada Highway. Between 1962 and 1970 Dryden Chemicals and Reed Paper Limited dumped 9,000 kg of mercury into the English River, polluting the English-Wabigoon water system where these communities got their water and fished both for their families and to make a living at commercial fishing. By 1970, the effects of mercury contamination ended commercial fishing and the effects of mercury poisoning (called Minamata disease) were showing up in community members. Several generations of Anishinaabe people from these communities suffer from mercury poisoning, with estimates indicating that 90 percent of residents are affected.

Mercury, it turns out, is a particularly nasty contaminant. Its effects on the environment, including living organisms, are devastating and irreversible. When it enters the environment, mercury changes into its most toxic form, methylmercury, working its way up the food chain from organism to organism through consumption. Mercury is not excreted; it accumulates in the human body affecting the brain, kidneys, lungs and skin. Symptoms of mercury poisoning include red cheeks, fingers and toes; rapid heartbeat and high blood pressure; loss of hearing and vision; memory loss; speech problems; loss of teeth, hair, and nails; and birth defects. Mercury is passed to unborn children in utero.

Despite years of requests, the communities have found no help from either the company or the government. Dealing with the physical and psychological effects of this environmental disaster for more than 50 years, the Anishinaabeg have continued to advocate for the clean-up of the river and for the health needs of their people.

What Are My Responsibilities?

The Powerful Impact of Activism: Autumn Peltier on Walking for Water and Standing Up to Make a Difference for the Environment.

Speaking Out

Finally, in 2016, a former papermill worker broke the silence about mercury dumping in Dryden. The government admitted to knowing about mercury disposal at the mill, but incredibly, still maintained that the mercury wasn't the source of the contamination. Chief Simon Fobister of Asabiinyashkosiwagong told the CBC, "I am shocked and dismayed by Ontario's failure to protect our people who live downstream from this reported toxic mercury dump." Fobister continued to advocate for his community as his body deteriorated. After his death in 2018, his family vowed to continue his advocacy

Judy DaSilva, another lifelong advocate from Asabiinyashkosiwagong, is a water protector.

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DaSilva is part of a community of Indigenous women worldwide who advocate for water; their ranks include respected women such as Josephine Mandamin (who passed in 2018) and 15-year-old Autumn Peltier of Wikwemikong who has received international recognition for her work. The work of these women transcends race and political boundaries.

The youth of Asabiinyashkosiwagong are no strangers to activism. In 2002, youth built a blockade on their territory to stop clear cut logging. They regularly participate in events and rallies; in 2019 they led the River Run Event in Toronto. The work being done in this community has attracted the attention of the Pulitzer Centre, an award-winning, non-profit news organization that partners with journalists and newsrooms to support in-depth reporting on critical global issues.

This has led to a project called Generations of Activism: The Grassy Narrows First Nation's Fight for Clean Water. They've also used the arts to express community in the song Home to Me developed in 2016 with the support of the N'we Jinan Artists youth empowerment and education program. The video, available on YouTube, sends a powerful message about the students' love of their community and the land.

Today, both communities continue to advocate for the cleanup of their traditional lands. Although both levels of government made commitments in 2017 to address these issues through remediation of the water system (provincial) and building a health facility in the community (federal) there has been no definitive action to date. A youth-led campaign for mercury justice was one of the focal cases of last month's global Write for Rights campaign. A new generation of young people are undertaking advocacy with the knowledge that this is a life-or-death situation. The story is far from over for the people from Asabiinyashkosiwagong.

Excerpt from Fighting Back: Resisting the Legacy of Environment Racism
Joanne Formanek Gustafson. Fighting Back: Resisting the Legacy of Environment Racism. ETFO Voice. Spring 2020

What Are My Responsibilities?

Potable Water Use in Canada

POTABLE WATER USE IN CANADA

LITRES PER CAPITA PER DAY (LPCD)

TOTAL AVERAGE DAILY PER CAPITA POTABLE WATER USE IN CANADA



Industrial
(Manufacturing)



Commercial
(Office buildings, shopping centres, restaurants, etc.)



Residential



Institutional and other non-residential
(Schools, hospitals, municipal/provincial/federal facilities)



Losses from the distribution system
(Water system maintenance, leaks, other water losses)

TOTAL LPCD IN THE ECONOMY

2011	2013	2015	2017
485	460	446	427

RESIDENTIAL AVERAGE DAILY PER CAPITA POTABLE WATER USE IN CANADA



Drinking and food preparation



Bathing and showering



Brushing teeth



Flushing toilets



Washing hands



Washing clothes



Washing dishes



Washing floors etc.



Washing cars and other items



Watering lawns and gardens during warmer months



Maintaining pools and hot tubs



Other miscellaneous (watering indoor plants, aquariums, etc.)



Humidifiers



Leaky fixtures and pipes



Running water to prevent lines from freezing in winter

RESIDENTIAL LPCD

2011	2013	2015	2017
251	222	234	220

Source: Statistics Canada, Environment, Energy and Transportation Statistics Division, Biennial Drinking Water Plants Survey.

Results are based on drinking water treatment plants that draw and process source/raw water from the environment to produce treated/potable water for consumption, serving 300 or more people.

Total LPCD = total average daily per capita potable water use in Canada.

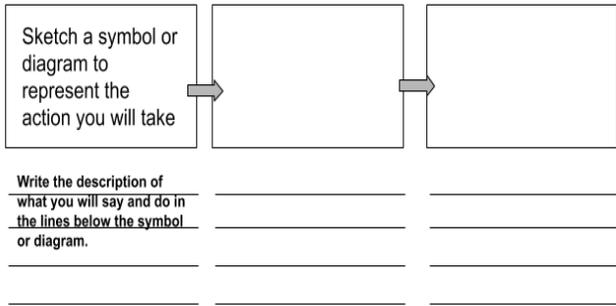
Residential LPCD = residential average daily per capita potable water use in Canada.

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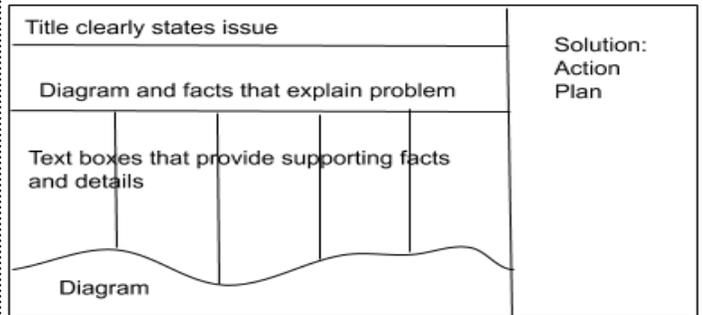
What Are My Responsibilities?

Mind Map Exemplars

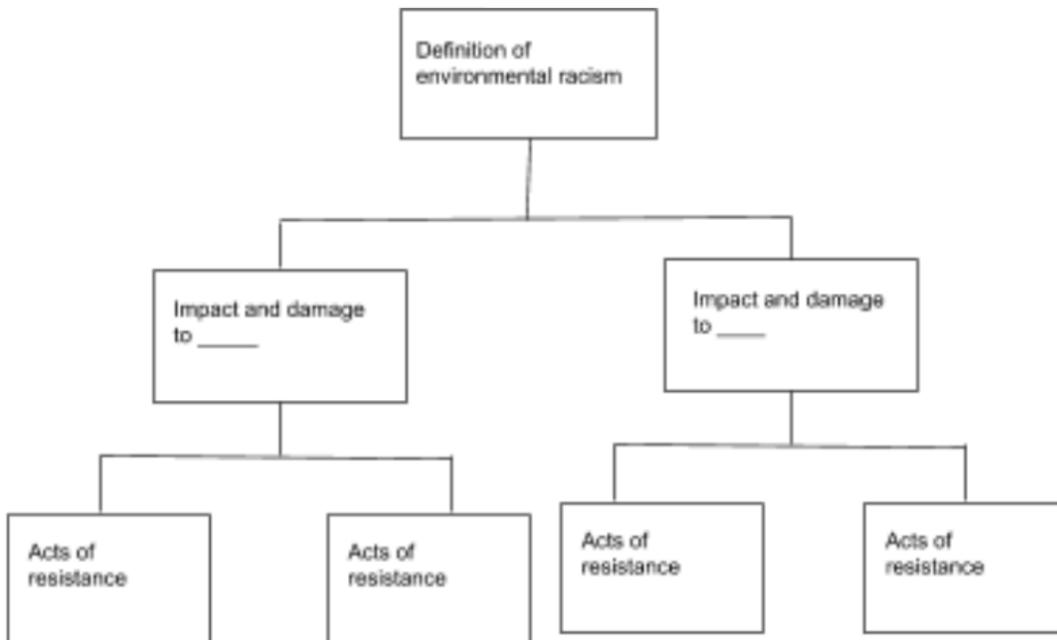
Exemplar #5 - Sample Sequence Diagram (Grades 6-8)



Exemplar #6 - Sample Infographic Layout: Threats to Coral Reef (Grades 6-8)



Sample Mind Map



What Are My Responsibilities?

Glossary

beliefs: something that is held as true or real; a firmly held opinion

values: a person's standards for behaviour; a person's judgements about what is important in life

strengths: a person's beneficial qualities; attributes that are a source of support

talents: skills, abilities or gifts; all people have them

identity: who you are and how you think about yourself; a person's defining qualities, beliefs, characteristics

colonization: the action of settling among and attempting to establish control over Indigenous people of a region for the purpose of exploiting natural resources to gain profit and power

racism: prejudice and discrimination rooted in a belief that one racialized group is superior to another; hatred and violence directed racialized groups (e.g. anti-black racism)

power: authority or ability to control; the ability to influence

privilege: A special benefit that is available only to a particular person or group; not earned

oppression: the use of power to disempower, marginalize, silence or otherwise subordinate one social group or category, often in order to further empower and/or privilege the oppressor.

policy: a course of action adopted by an organization such as a government