

The Ontario Curriculum  
Grades 1-8  
and *The Kindergarten Program*

# Environmental Education

Scope and Sequence  
of Expectations

2017 Edition



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# PREFACE

This resource guide supersedes *The Ontario Curriculum, Grades 1–8 and Kindergarten Programs: Environmental Education – Scope and Sequence of Expectations, 2011*. This resource has been updated to reflect the release of the following elementary curriculum documents, and the Kindergarten program document:

- *The Kindergarten Program, 2016*
- *The Ontario Curriculum: French as a Second Language – Core French, Grades 4–8; Extended French, Grades 4–8; French Immersion, Grades 1–8, 2013*
- *The Ontario Curriculum: Health and Physical Education, Grades 1–8, 2015*
- *The Ontario Curriculum: Social Studies, Grades 1 to 6; History and Geography, Grades 7 and 8, 2013*

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In the document *Shaping Our Schools, Shaping Our Future: Environmental Education in Ontario Schools*, released by the Working Group on Environmental Education in June 2007, environmental education is defined as:

education about the environment, for the environment, and in the environment that promotes an understanding of, rich and active experience in, and an appreciation for the dynamic interactions of:

- The Earth’s physical and biological systems
- The dependency of our social and economic systems on these natural systems
- The scientific and human dimensions of environmental issues
- The positive and negative consequences, both intended and unintended, of the interactions between human-created and natural systems.

(*Shaping Our Schools, Shaping Our Future*, p. 6)

The document *Acting Today, Shaping Tomorrow: A Policy Framework for Environmental Education in Ontario Schools*, released in 2009, provides a guide to the implementation of environmental education in boards and schools across the province. One of the goals of this policy framework is as follows:

By the end of Grade 12, students will acquire knowledge, skills, and perspectives that foster understanding of their fundamental connections to each other, to the world around them, and to all living things.

(*Acting Today, Shaping Tomorrow*, p. 11)

The policy framework emphasizes the necessity of ensuring that young people become environmentally active and responsible citizens. Students need to have the knowledge and skills that will enable them to understand and deal with complex issues that affect the environment now and in the future. For example, students need to develop skills in problem solving, inquiry, decision

making, action planning, higher-level thinking, systems thinking, and critical literacy. They also need to be able to identify issues and perspectives, carry out research, and communicate their ideas in meaningful ways.

To help achieve this goal, the Ministry of Education has ensured that environmental education is included in all grades and in all subjects of the Ontario curriculum, as appropriate. Expectations that relate directly to environmental education as well as expectations that encompass opportunities for learning about the environment are now embedded in the curriculum. The scope and sequence resource guides for Kindergarten to Grade 8 and Grades 9 to 12 identify these embedded expectations with the aim of assisting teachers in bringing environmental education into the classroom in every subject area and discipline. The guides are updated as needed to reflect changes in the revised curriculum documents.

## **Considerations for Program Planning**

This scope and sequence document identifies the learning expectations in the curriculum that relate to, or provide opportunities for, environmental education. Educators can use it to inform program planning, in order to take advantage of opportunities to support students' development of related skills and knowledge.

Most of the expectations in the elementary curriculum that relate explicitly to aspects of environmental education are found in the science and technology curriculum and the social studies, history, and geography curriculum. In other subjects, connections to environmental topics or issues may be found in the examples or teacher prompts that accompany curriculum expectations. Where applicable, broad opportunities for environmental education in particular subjects are indicated in brief narrative comments within the grade-by-grade sections.

In addition, it should be noted that, in the front matter of every Ontario curriculum policy document published since 2007, there is a section under “Some Considerations for Program Planning” that supports environmental education in that subject or discipline. The following paragraphs have been excerpted from the relevant elementary curriculum policy documents:

### ***The Ontario Curriculum, Grades 1–8: The Arts, 2009***

There are many opportunities to integrate environmental education into the teaching of the arts. Nature often provides an inspirational starting point for creativity in both representational and more abstract art forms. Indeed, a sense of connection to the immediate environment and the natural world is frequently reflected in the arts – for example, Paleolithic cave paintings of animals, traditional dances and performances that evoke aspects of nature, landscape painting, and Impressionist music. To facilitate these connections, arts teachers are encouraged to take students out of the classroom and into the world beyond the school to help students observe, explore, and investigate nature, and to design activities that allow students to integrate natural materials into their creative works.

The arts can also be used as powerful forms of expression for students to use to explore and articulate the social and political impact of issues related to the environment. They can also serve as effective media to advocate protection of and respect for the environment. As well, the

actual use of arts materials can be related to environmental education. Many safety guidelines are followed to reduce harmful effects arising from the interaction of potentially hazardous substances with the environment. The safe handling and disposal of substances used in the arts provides opportunities for students to explore how everyday human interactions with the environment can have significant consequences.

***The Ontario Curriculum: French as a Second Language – Core French, Grades 4–8; Extended French, Grades 4–8; French Immersion, Grades 1–8, 2013***

There are many opportunities to integrate environmental education into the teaching of FSL. Some examples related to environmental education have been included in examples and teacher prompts in the curriculum. Teachers are encouraged to select French texts about environmental topics, enabling students to learn about issues of concern to different communities around the world. Throughout the FSL curriculum, students can be encouraged to read about, discuss, listen to programs about, or make presentations on environmental issues that are of interest to them.

***The Ontario Curriculum: Grades 1–8, Health and Physical Education, 2015***

The learning environments for health and physical education include the school grounds, fields and trails in the vicinity of the school, and various other outdoor venues. Teaching students to appreciate and respect the environment is an integral part of being active in these spaces. Appreciating the value of fresh air and outdoor spaces, understanding the environmental benefits of healthy practices such as active transportation and the environmental implications of various food choices, being aware of the impact of using trails, and understanding the health risks associated with environmental factors such as sun exposure and air pollution are all components of environmental education that are integrated with learning in health and physical education. To facilitate these connections, health and physical education teachers are encouraged to take students out of the classroom and into the world beyond the school to help students observe, explore, and appreciate nature as they discover the benefits of being active outdoors.

Living skills, which are integrated throughout the health and physical education curriculum, are also closely tied to environmental education. As students learn more about themselves through the development of personal skills, learn to work effectively and respectfully with others through the development of interpersonal skills, and acquire the capacity for systems thinking through the development of critical and creative thinking skills, they increase their capacity to make connections with the world around them and to become environmentally responsible citizens.

***The Ontario Curriculum: Grades 1–8, Science and Technology, 2007***

The increased emphasis on science, technology, society, and the environment (STSE) in the Science and Technology curriculum provides numerous opportunities for teachers to integrate environmental education effectively into the curriculum. The STSE expectations provide meaningful contexts for applying what has been learned about the environment, for thinking critically about issues related to the environment, and for considering personal action that can be taken to protect the environment. Throughout the grades and strands, teachers have opportunities to take students out of the classroom and into the world beyond the school, to observe, explore, and investigate.

One effective way to approach environmental literacy is through examining critical inquiry questions related to students' sense of place, to the impact of human activity on the environment, and/or to systems thinking. For example:

- A sense of place can be developed as students investigate structures and their functions in their neighbourhood, consider different ways in which food is grown in their community, and explore the impact of industries on local water systems.
- An understanding of the effects of human activity on the environment can develop as students consider the impact of their actions (e.g., taking part in tree planting at a local park, walking or biking to school instead of riding in the car, packing a waste-free lunch) on their local environment.
- Systems thinking can be developed as students understand what a system is and how changing one part of it (e.g., introducing zebra mussels into a local lake or non-native invasive plants into a wetland) can affect the whole system.

***The Ontario Curriculum: Social Studies, Grades 1 to 6; History and Geography, Grades 7 and 8, 2013***

Social studies, history, and geography offer many opportunities for learning related to the themes of Ontario's environmental education policy framework: teaching and learning, student engagement and community connections, and environmental leadership. In Grades 1–6 social studies, the People and Environments strand focuses on contemporary environmental issues and the importance of sustainable living and development. Students investigate a wide range of environmental issues and are sometimes asked to develop plans of action aimed at promoting stewardship. The Heritage and Identity strand enables students to explore the significance of the environment to different communities at different times. Similar opportunities for learning about and taking action with regard to the environment are included in the history and geography program in Grades 7 and 8.

In combination with the curriculum expectations, the citizenship education framework, found in the introduction of the social studies curriculum policy document, includes terms and topics that support becoming an environmentally responsible citizen, stewardship, advocacy, rights and responsibilities, and interconnectedness. Through a variety of learning opportunities, students are enabled to develop the knowledge, skills, and attributes associated with being an environmentally responsible citizen.

## **Learning in the Outdoors**

Another important consideration for program planning is to incorporate learning in the outdoors as a component of environmental education. Learning in the outdoors not only offers a unique context for learning but also provides experiential learning outside the classroom to foster a connection to local places and to develop a greater understanding of ecosystems. Natural and human-built environments can be used as sites for discovery, problem-solving, and active learning, as well as for first-hand experiences that put students in touch with nature. Educators must always consider safety issues when students engage in learning in the outdoors, assessing potential dangers and implementing measures to protect students from risk. When planning for learning in the outdoors, educators must meet the requirements of all board and ministry policies, including those related to safety.

## The Organization of the Document

The expectations identified in this resource guide are taken from the following Ontario curriculum policy documents:

- *The Kindergarten Program, 2016*
- *The Ontario Curriculum, Grades 1–8: The Arts, 2009*
- *The Ontario Curriculum: French as a Second Language – Core French, Grades 4–8; Extended French, Grades 4–8; French Immersion, Grades 1–8, 2013*
- *The Ontario Curriculum, Grades 1–8: Health and Physical Education, 2015*
- *The Ontario Curriculum, Grades 1–8: Language, 2006*
- *The Ontario Curriculum, Grades 1–8: Mathematics, 2005*
- *The Ontario Curriculum, Grades 1–8: Native Languages, 2001*
- *The Ontario Curriculum, Grades 1–8: Science and Technology, 2007*
- *The Ontario Curriculum: Social Studies, Grades 1 to 6; History and Geography, Grades 7 and 8, 2013*

Expectations are organized by grade, then by subject area (alphabetically, as listed above) within each grade. Expectations are given under the name of the strand in which they appear in the curriculum policy document. Examples and teacher prompts are included only if they have a connection to environmental education.



# THE KINDERGARTEN PROGRAM (2016)

The expectations listed below either relate directly to environmental education or include examples and supporting text that encompass opportunities for related learning. (The supporting text is taken from the “Making Thinking and Learning Visible” sections of the expectation charts in the Kindergarten document. It illustrates how educators and children might interact in “making thinking and learning visible”, and appears under the headings “Ways in Which Children Might Demonstrate Their Learning” [Saying, Doing, Representing] and “The Educators’ Intentional Interactions” [Responding, Challenging, Extending].)

The overall expectations and specific expectations in *The Kindergarten Program* (2016) are organized in four frames: Belonging and Contributing [BC]; Self-Regulation and Well-Being [SRWB]; Demonstrating Literacy and Mathematics Behaviours [DLMB]; and Problem Solving and Innovating [PSI]. For ease of reference, the specific expectations are listed by number below, along with supporting text from the frame or frames with which they are associated (as identified by the abbreviations noted above). In some cases, *only* the examples or supporting text offer opportunities for learning about the environment.

**1.2** listen and respond to others, both verbally and non-verbally ... for a variety of purposes ... and in a variety of contexts (*e.g., ... while engaged in games and outdoor play; while making scientific observations of plants and animals outdoors*) ... [BC, DLMB, PSI]

**1.7** use specialized vocabulary for a variety of purposes ... [PSI]

## *Ways in Which Children Might Demonstrate Their Learning*

### Saying

“We used the magnifier to observe the bug we found in the dirt.” [PSI]

### Doing

A small group of children share with the principal things they have observed about the worms in their worm farm. They discuss how they problem solved ways to keep track of how many worms there were, and how they have been caring for them. They share other observations they have made, using words such as “tally”, “counting strategy”, “moisture”, “casting”, “gizzard”, “recycling”, “living thing”, and “segments”. [PSI]

### Representing

A child uses materials in the visual arts area to make a replica of the bug she has been observing and labels the parts using a non-fiction text to help with words such as “wings”, “antennae”, and “thorax”. [PSI]

**1.8** ask questions for a variety of purposes ... and in different contexts (*e.g., ... while exploring the schoolyard or local park; ...*) ... [SRWB, DLMB, PSI]

### *Ways in Which Children Might Demonstrate Their Learning*

#### Doing

Some of the children notice that some plants in the class garden seem to be dying. They wonder why some are dying and others are not. They take photographs, make a list of questions, and then post the photographs and the questions on the Kindergarten Twitter page to see if someone can help. [PSI]

#### Representing

The children are invited to write on sticky notes any questions they have about the empty bird's nest a child has brought to class. Some children decide to try and create their own nests, trying to think from the bird's perspective about what elements should be included in the nest. [PSI]

**2.1** demonstrate self-reliance and a sense of responsibility ... [SRWB]

### *Ways in Which Children Might Demonstrate Their Learning*

#### Doing

In advance of a neighbourhood walk, the class made a list of things that they can do to be safe when they are outside the classroom. On the day of the walk, most of the children arrive with a hat and sunscreen. [SRWB]

**2.5** develop empathy for others, and acknowledge and respond to each other's feelings (*e.g., ... have an imaginary conversation with a tree or an insect; ...*) [SRWB]

### *Ways in Which Children Might Demonstrate Their Learning*

#### Saying

... "We'll play ball away from the garden so we don't hurt the plants." ... [SRWB]

**6.1** demonstrate an understanding of the effects of healthy, active living on the mind and body ... [SRWB, PSI]

### *Ways in Which Children Might Demonstrate Their Learning*

#### Saying

... "I ride my bike. It's fun and it's a healthy thing to do." [SRWB] "...And it's good for the environment." ... [PSI]

"I like being active outside. On the weekend I helped my uncle sweep his driveway, and I felt hot when I did that, so I went and sat in the shade." [SRWB]

### *The Educators' Intentional Interactions*

#### Responding

"When you go for a walk, what do you do to be sure that you will be safe?" (*e.g., wear sunscreen and a hat and sunglasses if it is sunny; ...*) ... [SRWB]

**6.5** discuss and demonstrate in play what makes them happy and unhappy, and why [PSI]

*Ways in Which Children Might Demonstrate Their Learning*

Saying

... “I was happy when we got to play outside because I was tired and the fresh air made me feel better.” ... [PSI]

**7.1** participate actively in creative movement and other daily physical activities (*e.g., ... outdoor play, ...*) [SRWB]

*Ways in Which Children Might Demonstrate Their Learning*

Saying

... “At recess I’m going to play on the climber.” ... [SRWB]

Doing

During outdoor playtime, a small group of children engage in a game of hopscotch ... [SRWB]

**8.4** demonstrate control of small muscles ... while working in a variety of learning areas ... and when using a variety of materials or equipment (*e.g., ..., using bug viewers, ...*) ... [SRWB]

**11.4** respond to a variety of materials that have been read aloud to them ... [DLMB]

*The Educators’ Intentional Interactions*

Responding

After reading a book about a forest to the children, an educator asks questions such as: “How do you think the author feels about forests?” “How do you think the author wants us to feel about forests?” [DLMB]

**11.10** retell information from non-fiction materials that have been read by and with the educator team in a variety of contexts ... using pictures and/or props [DLMB]

*Ways in Which Children Might Demonstrate Their Learning*

Doing

Using digital photographs of the life cycle of the class butterflies, a child orally retells the sequence: “First the butterfly is an egg, and then it turns into a caterpillar. The caterpillar spins a chrysalis, and then it’s a beautiful butterfly.” [DLMB]

Representing

A small group of children videotape the life cycle of the butterflies that they are caring for in their classroom, for future viewing and discussion. [DLMB]

**12.1** respond critically to animated works (*e.g., cartoons in which animals talk, movies in which animals go to school*) [DLMB]

### *The Educators' Intentional Interactions*

#### Extending

“Someone made this poster. What thoughts do you have about why they chose to use a wolf on it rather than some other animal? What are you supposed to think about the wolf? What did they want us to see? Why?” [DLMB]

**13.1** state problems and pose questions in different contexts and for different reasons ... [PSI]

### *The Educators' Intentional Interactions*

#### Extending

As the children prepare to plant their seeds in plastic pots, an educator asks them if they can think of ways to plant them that is better for the environment and for the plants. The children brainstorm ideas and select a few to try the next day. [PSI]

**13.4** communicate results and findings from individual and group investigations ... [PSI]

### *Ways in Which Children Might Demonstrate Their Learning*

#### Saying

... “We found out that the plant in the sun grew best.” [PSI]

#### Representing

Some children make sketches to show how they started their plants and what happened to the plants that didn't get any sunlight. [PSI]

### *The Educators' Intentional Interactions*

#### Responding

“How can you show that the plants in the sun grew faster than the plants in the shade?” “What conclusion can you make from our plant experiments?” [PSI]

#### Challenging

“Did things turn out the way you thought they would? Why? Were there any surprises?” “What did you find out when you looked at the leaf just with your eye? What did you find out when you looked at it with the magnifying glass?” [PSI]

**OE14** demonstrate an awareness of the natural and built environment through hands-on investigations, observations, questions, and representations of their findings [DLMB, PSI]

#### Conceptual Understandings

- People have the capacity to feel a sense of wonder about the world.
- The natural and built worlds are connected and have an impact on one another.
- Human-built and natural systems interact with each other.

**14.1** ask questions about and describe some natural occurrences, using their own observations and representations (*e.g., drawings, writing*) [DLMB]

*Ways in Which Children Might Demonstrate Their Learning*

Saying

“The snow is melting.” “The leaves are turning red.” “Why did all the worms come out of the ground?” “Why is my banana all brown now?” [DLMB]

Doing

In the dramatic play area, a child is sorting the dress-up clothes. One pile has a simple drawing of a snowman on top. She tells one of the educators that she is putting away the winter clothes because it is summer now. [DLMB]

Representing

A child paints a picture with two panels, showing what the sky looks like both during the day when he is playing outside and at night before he goes to bed. [DLMB]

*The Educators’ Intentional Interactions*

Responding

In response to a question from a child about why worms come out onto sidewalks and driveways when it rains, an educator invites a small group of interested children to work with an educator to find the answer to the question. The educators invite the children to share their theories about why this happens, and then they think together about how they could find out how well their theories explain what they have noticed. ... [DLMB]

Challenging

“I wonder what we might see if we looked closely at the snow.” “What did you observe when you picked up some snow and held it in your hands? What are your thoughts about why that happened?” “What tool can we use to see the snow better?” [DLMB]

Extending

The educators relate the children’s natural curiosity to their own professional curiosity expressed in the conceptual understanding “People have the capacity to feel a sense of wonder about the world” (see above). The children observe and think about change. The children and the educators discuss and represent their thinking in multiple ways. [DLMB]

**14.2** sort and classify groups of living and non-living things in their own way [PSI]

**14.3** recognize, explore, describe, and compare patterns in the natural and built environment (*e.g., patterns in the design of buildings, in flowers, on animals’ coats*) [PSI]

### *Ways in Which Children Might Demonstrate Their Learning*

#### Saying

... “Day, night; day, night; day, night – that’s a pattern.” “The next leaf on the twig would be on this side because the pattern is: this side, that side; this side, that side.” ... [PSI]

#### Representing

On a walk in the neighbourhood, children use a marker and a photograph of the street to highlight the patterns they see ... in a spider web, and in the rings on a tree stump. [PSI]

### *The Educators’ Intentional Interactions*

#### Challenging

“Why do you think some things look the same on both sides (show symmetry) in nature and in buildings?” [PSI]

#### Extending

The educators review with the children what they know about growing and shrinking patterns. They then project images from nature to see if what they already know about growing and shrinking patterns applies in the natural world. [PSI]

**18.1** identify and describe informally the repeating nature of patterns in everyday contexts (*e.g., patterns in nature such as morning-noon-night, the four seasons, or the arrangement of leaves on the stem of a plant ...*), using appropriate terminology ... and gestures ... [DLMB]

**18.2** explore and extend patterns ... using a variety of materials (*e.g., ... examples from the natural world*) [DLMB]

**24.3** make predictions and observations as part of the process of creating and designing [PSI]

### *Ways in Which Children Might Demonstrate Their Learning*

#### Saying

... “Here’s my guess – I guess that the birds will like my birdhouse better than the others because mine has a bigger hole for them to get through.” ... [PSI]

#### Doing:

... After researching birds that are common in their school community, some of the children change the design of their birdhouses. [PSI]

**24.4** select and use tools, equipment, and materials to construct things ... [PSI]

### *The Educators’ Intentional Interactions*

#### Extending

The educators decide to involve the Kindergarten class more authentically in the school’s environmental education initiatives. After a class meeting to determine ways in which the children think they can be involved, the children decide to consider the impact on the environment when

choosing tools, equipment, and materials for their designs. The educators support the children’s decision by ensuring that recycled materials and energy-saving tools are available for use throughout the learning areas in the classroom, and that children understand what goes in the recycling bin and what goes in the garbage.

“I noticed you took some paper out of the recycling bin to sketch your design and again when you were making rugs for your house. Why did you do that?”

“Why did you choose to use the glue stick rather than the low-temperature glue gun to attach your windows?” [PSI]

**25.2** identify and talk about their own interests and preferences [BC]

*Ways in Which Children Might Demonstrate Their Learning*

Saying

... “Can you help me find some stories about bugs?” [BC]

Doing

One child decides to share what she knows about snakes by creating a slide show with the help of her reading buddy. ... [BC]

**25.3** express their thoughts ... and share experiences ... [BC]

*Ways in Which Children Might Demonstrate Their Learning*

Doing

... A group of children and an educator are looking at the front cover of a book showing a young boy drinking from a hollowed-out gourd he has used to dip water from a river. The children wonder why he isn’t drinking from a tap or a fountain. This leads to further conversations and reading.

**OE29** demonstrate an understanding of the natural world and the need to care for and respect the environment [BC]

Conceptual Understandings

- People and the natural world are interdependent.
- Our actions can make a difference in the world.
- We have a responsibility to understand and care for the natural world.
- People have the capacity to feel a sense of wonder about the world.
- We are learning that our actions and choices can affect nature and the environment.

**29.1** identify similarities and differences between local environments (*e.g., between a park and a pond, between a schoolyard and a field*) [BC]

**29.2** describe what would happen if something in the local environment changed (*e.g., if trees in the park were cut down, if the pond dried up, if native flowers were planted in the school garden*) [BC]

**29.3** identify ways in which they can care for and show respect for the environment (*e.g., feeding the birds in winter, reusing and recycling, turning off unnecessary lights at home, walking to school instead of getting a ride*)

**29.4** participate in environmentally friendly experiences in the classroom and the schoolyard (*e.g., plant and tend to plants; use local products for snack time; properly sort recycling*) [BC]

### *Ways in Which Children Might Demonstrate Their Learning*

#### Saying

“The slide at my park is different than the one here at school.”

“We saw some dead fish at the pond. We think it is because the water is almost gone.” [BC]

#### Doing

A child from the northern part of the province draws a picture of the place she came from. On the other side she draws the city in which she now lives. She explains how the two places are different and how they are the same.

A small group of children decide to try to predict what will happen to snow when it is taken inside, and share their learning with the other children:

“I agree – I think it is going to melt.”

“Let’s take a picture of it melting.” [BC]

#### Representing

The children, as a class, make a book to record, in pictures and text, what their schoolyard looked like before and after the school council planted trees and shrubs. Children show pictorially which shrubs, plants, and trees in the schoolyard attract birds. After thinking about the best strategy for keeping track of the number of birds, they decide to count the birds using a tally. [BC]

### *The Educators’ Intentional Interactions*

#### Responding

“What else is the same about your backyard and the schoolyard? What is different?” “I notice that you are remembering to put your orange rinds and banana peels in our class composter.” “We’ll be able to use the compost when the new shrubs are planted.” [BC]

#### Challenging

In order to involve the children in the school’s energy-saving initiative, an educator invites the children to make signs or labels that will remind them to turn out the lights when they are the last to leave a room.

“What would happen if there were more ... (trees, birds, parks, etc.)?” [BC]

#### Extending

The children are concerned about the amount of garbage around the school. They write a letter to the school and read it over the public address system. They decide to invite the school caretaker in to make a plan about how they can work together to help the whole school keep the schoolyard free from garbage and think more about recycling and reducing the amount of trash. They decide



to illustrate the effect of their initiative by creating a graph that shows the amount by which the school has reduced waste. Partnering with the caretaker not only brings new perspectives, it also keeps the children aware of health and safety matters (e.g., the need to wear gloves, and to avoid touching needles or animal waste) while they are making their contributions (e.g., picking up trash and sorting it for the recycling bin or the garbage bin). [BC]

**30.2** explore a variety of tools, materials, and processes of their own choice (e.g., ... *natural and recycled materials*) to create drama, dance, music, and visual art forms in familiar and new ways [BC]

**31.1** explore different elements of drama (e.g., *character, setting, dramatic structure*) and dance (e.g., *rhythm, space, shape*) [BC]

#### *Ways in Which Children Might Demonstrate Their Learning*

##### Saying

... “I was a leaf falling. I started up high, then I spun around, then I fell on the ground.” ... [BC]

##### Representing

A child uses scarves to show how the wind moves on a windy day. [BC]

#### *The Educators’ Intentional Interactions*

##### Responding

... “Let’s move like the elephants in the story.” [BC]

##### Challenging

An educator uses natural materials – pine cones, twigs, a scrap of fabric – to tell a familiar story. Some of the children use the props in a small group to retell and innovate on the story. [BC]

##### Extending

“If you were a tiny seed planted in the ground, show us how you would grow when the sun came out. Talk about why you chose to move this way.” [BC]

**31.3** explore different elements of design ... in visual arts [BC]

#### *Ways in Which Children Might Demonstrate Their Learning*

##### Saying

“I used leaves and torn scrap paper to make my picture.” ... [BC]

#### *The Educators’ Intentional Interactions*

##### Extending

... “You used many different textures in your collage. How could you use recycled or natural materials to get a different effect?” [BC]

# GRADE 1

## The Arts (2009)

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### A. Dance

#### A1. Creating and Presenting

**A1.3** create dance phrases using a variety of ways to connect movements ...

*Teacher prompts:* ... “If you were a seed in the ground, how would you grow into a tree? Would you grow with fast movements or slow?” ...

### B. Drama

#### B1. Creating and Presenting

**B1.4** communicate feelings and ideas to a familiar audience (*e.g., classmates*) using a few simple visual or technological aids to support and enhance their drama work (*e.g., use a sheer cloth moved quickly to represent water; use a rainstick or shaker to create a sense of mystery or magic; ...*)

*Teacher prompts:* ... “If your character was the weather, what body shapes and props could you use to get into character?”

### C. Music

#### C3. Exploring Forms and Cultural Contexts

**C3.2** identify a variety of musical pieces from different cultures through performing and/or listening to them ...

*Teacher prompts:* ... “Earth Day is coming in April. What songs could we use to help to celebrate the earth?”

### D. Visual Arts

#### D1. Creating and Presenting

**D1.2** demonstrate an understanding of composition, using principles of design to create narrative art works or art works on a theme or topic (*e.g., a drawing of an approaching storm that uses a variety of lines to create contrast [dashed, jagged, curved, spiral]; ...*)

*Teacher prompts:* “How can you vary your lines to create contrast between the area of the image that is the storm and the area of calm?” ...

**D1.3** use elements of design in art works to communicate ideas, messages, and personal understandings (*e.g., a pattern of broken, wavy, and zigzag lines to make the bark of a tree look rough in a drawing; size and arrangement of organic shapes in a painting of flowers to create the impression that the various flowers are at different distances from the viewer*)

**Teacher prompts:** “What kinds of lines would you use to show this texture?” “Look carefully at the arrangement of these flowers. How do you have to place them and change their shapes in a painting to show that some of them are closer and some farther away?”

**D1.4** use a variety of materials, tools, and techniques to respond to design challenges ...

**Teacher prompts:** ... “What techniques or tools can you use to make the texture (e.g., wood bark) look real on your paper?” ...

## **D2. Reflecting, Responding, and Analysing**

**D2.1** express their feelings and ideas about art works and art experiences (*e.g., describe feelings evoked by the use of colours in the painting Inside the Sugar Shack by Miyuki Tanobe or The Starry Night by Vincent van Gogh; ...*)

**D2.2** explain how elements and principles of design are used to communicate meaning or understanding in their own and others’ art work (*e.g., explain how repeated lines and shapes are used to depict the texture of snake, lizard, leopard, or dinosaur skin; ...*)

**D2.3** demonstrate an awareness of signs and symbols encountered in their daily lives and in works of art (*e.g., green is associated with nature ... in the West; ...*)

## **French as a Second Language (2013)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **French Immersion**

#### **D. Writing**

##### **D1. Purpose, Audience, and Form**

**D1.1 Identifying Purpose and Audience:** determine, with support from the teacher, their purpose for writing and the audience for French texts they plan to create (*e.g., ... to describe an animal’s appearance and behaviour for a science project; ...*)

**D1.2 Writing in a Variety of Forms:** write a variety of texts in French, conveying information, ideas, and opinions about themselves, friends, family, and their immediate environment, following models appropriate to the purpose and incorporating some of the basic elements of each form (*e.g., ... compile a list of signs of fall/winter/spring/summer following an exploration of the neighbourhood; ...*)

## **Health and Physical Education (2015)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

## **Living Skills**

### **Critical and Creative Thinking**

- 1.5** use a range of critical and creative thinking skills and processes to assist them in making connections, planning and setting goals, analysing and solving problems, making decisions, and evaluating their choices in connection with learning in health and physical education (*e.g., ... Healthy Living: make and explain choices that protect them from the sun, such as wearing a hat and applying sunscreen*)

## **A. Active Living**

### **A1. Active Participation**

- A1.1** actively participate in a wide variety of program activities ..., according to their capabilities, while applying behaviours that enhance their readiness and ability to take part ...  
**Teacher prompt:** “We show respect in many ways. ... In our school, we show that we respect the environment by recycling and cleaning up. ...” ...
- A1.2** demonstrate an understanding of factors that contribute to their personal enjoyment of being active ... as they participate in a wide variety of individual and small-group activities  
**Teacher prompt:** “What are some things that help you enjoy being physically active?”  
**Students:** ... “I love playing outside. When it is really hot, I play under the trees so I am in the shade.” ...
- A1.3** identify a variety of ways to be physically active at school and at home (*e.g., ... at home: helping with outdoor activities like gardening, raking, or shovelling snow; going for a walk with family members; playing in the park; riding bikes on the community trail*)

### **A2. Physical Fitness**

- A2.1 Daily physical activity (DPA):** participate in sustained moderate to vigorous physical activity, with appropriate warm-up and cool-down activities, to the best of their ability for a minimum of twenty minutes each day (*e.g., doing an animal walk ...*)  
**Teacher prompt:** “As you are moving like animals, see if you can keep moving the whole time without stopping. How does your jumping look different if you are jumping like a frog instead of hopping like a rabbit? How do your arms look different if you are showing how you would fly like a bird instead of climbing a tree like a squirrel?” ...

### **A3. Safety**

- A3.2** identify environmental factors that pose safety risks during their participation in physical activity (*e.g., extreme heat may cause fatigue, too much sun exposure will cause sunburn, extreme cold and wind chill may cause frostbite, ...*), and describe ways of preparing themselves to enjoy outdoor activities safely  
**Teacher prompt:** “If you are dressed properly, you will have more fun when you are being active outside. What do you need to wear in the summer/winter to participate safely in outdoor activities in any weather?”  
**Student:** “In the summer, I should wear a hat and sunscreen when I go outside. In the winter, I need to wear a warm coat, a hat, mittens, and boots. If I wear a scarf, it needs to be tucked in so it does not catch on anything.”

## **C. Healthy Living**

### **C1. Understanding Health Concepts**

*Human Development and Sexual Health*

**C1.4** identify the five senses and describe how each functions ...

**Teacher prompt:** “How do you use your senses as you explore outside in the natural world? If you close your eyes, what other senses can you use to get information about what is around you?”

### **C3. Making Connections for Healthy Living**

*Personal Safety and Injury Prevention*

**C3.1** demonstrate an understanding of how to stay safe and avoid injuries to themselves and others in a variety of situations, using knowledge about potential risks at home, in the community, and outdoors (e.g., ... *weather and sun hazards*)

**Teacher prompt:** “What do you do to stay safe and avoid injuries at home and when you are outside?”

**Student:** “I wear a helmet when I ride my bike or go tobogganing. I wear sunscreen and a hat in the summer. I never swim alone. ...” ...

*Substance Use, Addictions, and Related Behaviours*

**C3.2** identify habits and behaviours (e.g., *excessive screen time or video game usage, ...*) ... that can be detrimental to health, and explain how people can be encouraged to adopt healthier alternatives

**Teacher prompt:** “What are some behaviours that can be harmful to your health? What are some things you can do that are healthier or that protect your health and the health of other people?”

**Student:** “Spending too much time watching television or playing computer games keeps us from getting all the physical activity we need. We can play outside after school instead. ...”

## **Language (2006)**

Although no specific or overall expectations explicitly address environmental education, in each of the strands the learning context (e.g., a topic or thematic unit related to the environment) and/or learning materials (e.g., books, websites, media) could be used to foster in students the development of environmental understanding. Also, in each of the strands, there are some expectations that can provide opportunities for exploring environmental education – for example, expectations on making inferences, making connections, analysing and evaluating texts, developing a point of view, and doing research. The example in the following specific expectation from the language document provides a context for environmental education.

### **Writing**

#### **1. Developing and Organizing Content**

**1.1** identify the topic, purpose, audience, and form for writing, initially with support and direction (e.g., ... *an “All About the Seasons” book for the class library; ...*)

## **Mathematics (2005)**

Although no overall or specific expectations explicitly address environmental education, in each of the strands the learning context could be used to foster in students the development of environmental understanding. This is especially so in the context of a cross-disciplinary approach to teaching and learning (e.g., problems relating to climate or waste management could be the focus of student learning). In addition, the mathematical processes (e.g., problem solving, connecting) address skills that can be used to support the development of environmental education.

## **Native Languages (2001)**

Although no overall or specific expectations explicitly address environmental education, in each of the strands the learning context (e.g., a topic or thematic unit related to the environment) and/or learning materials (e.g., books, websites, media) could be used to foster the development of environmental understanding. Learning about aspects of Native culture and communities may provide opportunities for students to make connections with local places.

## **Science and Technology (2007)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

There are many opportunities to support environmental education in the science and technology curriculum. Only the overall and specific expectations, and examples that have explicit connections to environmental education, have been included here. For the sake of brevity, sample guiding questions, teacher prompts, and sample issues that support the specific expectations have not been included.

### ***Understanding Life Systems: Needs and Characteristics of Living Things***

1. assess the role of humans in maintaining a healthy environment

#### **1. Relating Science and Technology to Society and the Environment**

- 1.1 identify personal action that they themselves can take to help maintain a healthy environment for living things, including humans (*e.g., walk to school instead of being driven in the car; be careful what they put down the drain at home; practise cleanliness to reduce the spread of germs when helping in the kitchen; show care and concern for all living things*)
- 1.2 describe changes or problems that could result from the loss of some kinds of living things that are part of everyday life (*e.g., if we lost all the cows, all the insects, all the bats, all the trees, all the grasses*), taking different points of view into consideration (*e.g., the point of view of farmers, children, parents*)

- investigate needs and characteristics of plants and animals, including humans

## **2. Developing Investigation and Communication Skills**

- investigate and compare the basic needs of humans and other living things, including the need for air, water, food, warmth, and space, using a variety of methods and resources ...
- demonstrate an understanding of the basic needs and characteristics of plants and animals, including humans

## **3. Understanding Basic Concepts**

- identify *environment* as the area in which something or someone exists or lives
- describe the characteristics of a healthy environment, including clean air and water and nutritious food, and explain why it is important for all living things to have a healthy environment
- identify what living things provide for other living things (*e.g., trees produce the oxygen that other living things breathe; plants such as tomatoes and apple trees and animals such as cows and fish provide food for humans and for other animals; a tree stump provides a home for a chipmunk; porcupines chew off the tips of hemlock limbs, providing food for deer in winter*)
- describe how the things plants and animals use to meet their needs are changed by their use and are returned to the environment in different forms (*e.g., the food animals eat and the water they drink are returned to the earth as scat and urine*)

## **Understanding Structures and Mechanisms: Materials, Objects, and Everyday Structures**

- assess the impact on people and the environment of objects and structures and the materials used in them

### **1. Relating Science and Technology to Science and the Environment**

- identify the kinds of waste produced in the classroom, and plan and carry out a classroom course of action for minimizing waste, explaining why each action is important
- assess objects in their environment that are constructed for similar purposes ... in terms of the type of materials they are made from, the source of these materials, and what happens to these objects when they are worn out or no longer needed

## **Understanding Matter and Energy: Energy in Our Lives**

- assess uses of energy at home, at school, and in the community, and suggest ways to use less energy

### **1. Relating Science and Technology to Society and the Environment**

- describe their own and their family's uses of energy (*e.g., to operate lights, video games, cars, computers*); identify ways in which these uses are efficient or wasteful, taking different points of view into consideration (*e.g., the point of view of a parent, a sibling, a member of their extended family*); suggest ways to reduce personal energy consumption; and explain why it is important for people to make these choices

- 1.2** describe how the everyday lives of different people and other living things would be affected if electrical energy were no longer available (*e.g., families, farmers, businesses and stores, a company that offers alternative energy sources such as solar-powered devices, the plants in a hydroponic greenhouse, the tropical animals in a Canadian zoo*)

## **Social Studies (2013)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **A. Heritage and Identity: Our Changing Roles and Responsibilities**

#### **A3. Understanding Context: Roles, Relationships, and Respect**

- A3.2** identify some of the significant people, places, and things in their life, including their life in the community (*e.g., ... places: ... parks or playgrounds ...*), and describe their purpose or the role they have
- A3.4** identify some elements of respectful behaviour that they can practise in their everyday life (*e.g., ... not damaging the natural or built environment*) and/or that other people practise ...
- A3.5** demonstrate an understanding that it is important to treat other people and the environment with respect

**Student talk:** ... “When we walk on the nature trail, we stay on the path. We don’t want to step on plants because it might kill them.”

### **B. People and Environments: The Local Community**

- B1. Application:** describe some aspects of the interrelationship between people and the natural and built features of their community, with a focus on how the features of and services in the community meet people’s needs

#### **B1. Application: Interrelationships within the Community**

- B1.1** describe some of the ways in which people make use of natural and built features of, and human services in, the local community to meet their needs, and what might happen if these features/services did not exist

**Sample questions:** “Where does your family go to buy food? What might happen if the store (farmers’ market, farm) were no longer there?” “Who uses the local park? Why do they use it? Is there anywhere else these activities could take place if the park weren’t there?” “How would you feel if the playground were torn down?”

**Student talk:** “I like playing on the swings. I would be sad if they were not there. The other park is far away, so I wouldn’t be able to go there much.”

- B1.2** identify some services and service-related occupations in their community (*e.g., occupations such as sanitation worker, ..., the water treatment plant ...*), and describe how they meet people’s needs, including their own needs

**Student talk:** “We put leaves out in bags in the fall. In the spring we get compost that is made from leaves and old food. We put it in the garden to help things grow.”



**B1.3** create a plan that outlines some specific ways in which they can responsibly interact with the built and/or natural environment in the local community (*e.g., map out the location of garbage and recycling cans in parks so they can properly dispose of their waste; help plan a garden at home, composting in the school, or other ways of reducing their environmental footprint; plan ways to participate in clean-up days*), and describe how their actions might enhance the features of the local environment

**Student talk:** “We are going to plant a tree in our backyard. It will grow and be a place for birds and squirrels to live. Trees help clean the air, too.”

**B2. Inquiry:** use the social studies inquiry process to investigate some aspects of the interrelationship between people and different natural and built features within their local community, with a focus on significant short- and long-term effects of this interrelationship

## **B2. Inquiry: Interrelationships and Their Impact**

**B2.1** formulate questions to guide investigations into some aspects of the interrelationship between people and the natural and built features in their community, with a focus on some of the short- and long-term effects of this interrelationship (*e.g., brainstorm with their peers to formulate simple questions related to the effects of not using garbage cans or not cleaning up after their dogs on the playground, of a community tree-planting event, of the building of a new road or big-box store on what was once green space ...*)

**Sample questions:** “What are some of the good things about the natural features in our neighbourhood? How could we make them better?” “What are some ways in which people have had an impact on the natural features in the community?” “What happens when a new subdivision or mall goes up where there used to be trees?”

**B2.2** gather and organize information on the interrelationship between people and the natural and built features in their community, and on the effects of this interrelationship, using sources they have located themselves or that have been provided to them (*e.g., use a tally sheet to monitor the use of garbage cans and recycling containers around the school; use a digital camera to record the amount of garbage on the ground in the park; organize satellite images that show changes in natural or built features close in their community; interview a person who works in the park*)

**Sample questions:** “How could we gather data on the messiest places in the schoolyard?” “How can we use satellite images of the First Nation reserve to help us create maps and locate familiar features that we use?” “How could we use photos to see where new trees have been planted or old trees have been cut down?”

**Student talk:** “I talked to the woman who works in the park. She told me that they put in special plants that butterflies like. I hope I see more butterflies next summer.”

**B2.3** analyse maps, and construct simple maps using appropriate elements, as part of their investigations into the interrelationship between people and significant natural and built features in their community (*e.g., show the location of parks, bodies of water ... using symbols or photographs, a legend, directions, and colour*)

**Student talk:** “I pasted photos on my map of the park to show where the trees, pond, and swings are.”

**B2.4** interpret and analyse information and data relevant to their investigations, using a variety of tools (*e.g., plot their data on a pictograph or chart to determine ways in which an area in their community has changed; compare their own photographs of the way an area looks now to old photographs to determine changes*)

**Sample questions:** “Let’s look at these old and new pictures of this area of town. What do you see that’s different? Are there more trees? Fewer trees? Are there more buildings? Are they the same kind of buildings? What tool could you use to record the changes?”

**Student talk:** ... “There’s a parking lot here now. In the old picture, there were trees and a little park.”

**B2.5** evaluate evidence and draw conclusions about some aspects of the interrelationship between people and natural and built features in their local community, and some of the effects of this interrelationship

**Sample questions:** “Why did they replace the cement around the pond in the park with grasses and reeds? What difference did that make? Do you think it was important to do? Why or why not?”

**Student talk:** “More people go to the park near the library. It’s easy to get to and there’s lots to do. Sometimes people in the park throw garbage on the ground. It looks messy, and sometimes it can hurt children or animals. They need more garbage cans so people don’t litter.”

**B2.6** communicate the results of their inquiry using appropriate vocabulary ... and formats (*e.g., a cooperatively produced book of photos from a field study; song lyrics, a rap, or a poem about the benefits of a community garden; a poster illustrating the benefits of planting trees; a map showing the natural and built features of their neighbourhood; role play illustrating responsible and respectful treatment of the environment*)

**B3. Understanding Context:** describe significant aspects of their community, with reference to different areas, services, and natural and built features, demonstrating an understanding of some basic ways of describing location and measuring distance

### **B3. Understanding Context: The Elements of the Local Community**

**B3.1** identify some of the natural and built features of their community (*e.g., rivers, lakes, parks, ...*)

**B3.2** identify some distinct areas in the local community ... and describe some of the characteristics of these areas ...

**Sample questions:** “How would you describe the park nearby? What makes a park a park? Are there things that all parks have?” ...

**B3.4** demonstrate an understanding of the basic elements of a map ... when reading and constructing simple maps showing places that are significant to them ...

**Sample questions:** “Why is blue a good colour to use to show where water is?” “What should we use green for?” ...

**B3.6** demonstrate the ability to construct simple maps of places they have visited, using symbols and non-standard units (*e.g., use different symbols to show the location of the play, picnic, and walking areas in a local park; ... use symbols on a sketch map of their route to school to show the built and natural features they pass by*)

**B3.7** identify some of the services in the community for which the government is responsible (*e.g., ... garbage collection, ploughing snow, maintenance of public areas, water treatment*), and describe key responsibilities of people in the community in relation to those services (*e.g., to properly sort garbage and recycling and place the bins on the street for pick up; to shovel snow off their sidewalks; to dispose of hazardous waste at collection sites; ...*)

**Student talk:** “The garbage collector comes and picks up the garbage. Then I help my mom bring in the garbage cans from the end of our driveway.” “When it snows, my older sister shovels the sidewalk but the city clears the road.”

# GRADE 2

## The Arts (2009)

See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.

### A. Dance

#### A1. Creating and Presenting

**A1.2** use dance as a language to represent the main ideas in poems and stories, with a focus on body and space (*e.g., ... use a smooth and delicate sequence of expanding movements to suggest a butterfly emerging from a cocoon*)

**A1.4** use a variety of locomotor and non-locomotor movements to depict creatures and objects in the world around them (*e.g., depict a large animal with torso, arms, and legs that creeps along at a low level; change movements to interpret the motions of various animals represented by the different musical sections of Camille Saint-Saëns's Carnival of the Animals*)

**Teacher prompts:** “Can you demonstrate what kind of movements a tree makes in the wind?” “What kind of non-locomotor movements can we use to create a picture of a forest environment? What levels would we use? What shapes should our bodies take to create a picture of the trees and the sun and the wind and the animals?”

#### A2. Reflecting, Responding, and Analysing

**A2.2** identify, using dance vocabulary, the elements of dance in their own dance phrases and those of others, and describe how each element is used to communicate meaning (*e.g., describe how various aspects of body [shapes, body parts, locomotor and non-locomotor movements] and space [levels, direction] are used to depict crashing waves*)

**Teacher prompt:** “When we were pretending that our fingertips were the rain in the story we just read, what type of pathway did our arms make? Straight? Wavy? Zigzag? Were we moving our arms quickly or slowly? Why did we use that particular pathway and that speed? How would the rain be different if we used other pathways and a very different speed?”

#### A3. Exploring Forms and Cultural Contexts

**A3.2** identify various reasons why people dance in daily life and various contexts in which they do so (*e.g., ... to dance for the earth [at powwows], ...*)

### B. Drama

#### B1. Creating and Presenting

**B1.1** engage in dramatic play and role play, with a focus on exploring main ideas and central characters in stories from diverse communities, times, and places (*e.g., ... enact a scene between characters in a fairy-tale kingdom, animals in the tundra, or neighbours in a back alley*)

**B1.2** demonstrate an understanding of the element of role by communicating thoughts, feelings, and perspectives appropriate to the role being played ...

**Teacher prompts:** ... “How would you change your gestures and movement if you were portraying wind or water as a character from the story?” ...

**B1.4** communicate feelings and ideas to a familiar audience (*e.g., classmates*), using several simple visual or technological aids to support and enhance their drama work (*e.g., ... use simple objects or props such as fur or feathers to indicate animal or bird characters in an Aboriginal story*)

## **C. Music**

### **C2. Reflecting, Responding, and Analysing**

**C2.1** express personal responses to musical performances in a variety of ways ...

**Teacher prompts:** ... “Which animal would you choose to represent music that is loud – a lion or a kitten? Why?” ...

### **C3. Exploring Forms and Cultural Contexts**

**C3.1** identify reasons why people make music in their daily lives (*e.g., ... children can use music to promote environmental awareness at school*), and describe contexts in which they make music (*e.g., family gatherings, seasonal celebrations*)

## **D. Visual Arts**

### **D1. Creating and Presenting**

**D1.1** create two- and three-dimensional works of art that express feelings and ideas inspired by activities in their community or observations of nature (*e.g., ... small glue-line prints in which a variety of curvy and pointy lines show illusory texture or represent a pattern they have seen on insects in the schoolyard or garden*)

**Teacher prompts:** ... “How can you use a variety of diagonal, vertical, and horizontal lines to show the patterns and body parts on the insect?”

**D1.2** demonstrate an understanding of composition, using principles of design to create narrative art works or art works on a theme or topic (*e.g., ... create a painting or series of stamp prints, showing depth, perspective, and contrast of pattern by overlapping fish and vegetation of different sizes and shapes*)

**D1.3** use elements of design in art works to communicate ideas, messages, and understandings (*e.g., ... use a simple action pose to modify form in a sculpture of a pet or other animal made with modelling clay*)

**Teacher prompts:** ... “If you want to make this painting ‘feel’ like a hot summer day, what kinds of colours would you need to repeat?” “How could you use squeezing, pinching, and pulling techniques to make the legs and head of the sculpture of the pet look as if they were moving?”

**D1.4** use a variety of materials, tools, and techniques to respond to design challenges (*e.g.,*

- drawing: *make marker or coloured-pencil drawings of trees that are close and far away, using contrasts in size and placement on the paper to show depth of space, and basing the drawings on observations of real trees and trees in a variety of art works [e.g., works by Emily Carr or Tom Thomson]*
- mixed media: *use acrylic paint over textured materials [e.g., burlap, cardboard] to make expressive organic shapes, using a combination of traditional techniques [blending, glazing, sgraffito, scumbling, impasto] and experimental techniques [use of sponges, fingers, sticks, twigs, feathers, masking tape] ...*

- printmaking: *make a print of a motif for a storybook about dinosaurs, using polystyrene plate stamps or modelling-clay imprints of dinosaurs and plants*
- sculpture: *make insect shapes and habitat features, using wood, twigs, raffia, corn husks, and other natural materials, to explore science concepts)*

**Teacher prompts:** “What materials could you use for building your bugs? How could you hold the parts together?” ...

## **D2. Reflecting, Responding, and Analysing**

**D2.1** express their feelings and ideas about works of art ...

**Teacher prompts:** ... “How is this artist’s representation of winter different from (or the same as) your own experience of winter?”

**D2.2** explain how elements and principles of design are used to communicate meaning or understanding in their own and others’ art work (*e.g., use of different colours for achieving different effects, such as warm, sunny colours for a beach or cool colours for a wet forest; depiction of various textures, such as rough tree bark, smooth plastics, and ridged corduroy; ...*)

## **D3. Exploring Forms and Cultural Contexts**

**D3.2** demonstrate an awareness of a variety of works of art and artistic traditions from diverse communities, times, and places (*e.g., depictions of nature, of people doing things together, or of people at work; ... Aboriginal textiles, ceramics, and petroglyphs; ...*)

## **French as a Second Language (2013)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **French Immersion**

#### **A. Listening**

##### **A2. Listening to Understand**

**A2.2 Interacting:** respond with understanding to what others say while participating in interactions about familiar, everyday topics (*e.g., ... ask and answer questions about local animals and plant life in an inside/outside circle*)

#### **B. Speaking**

##### **B1. Speaking to Communicate**

**B1.4 Creating Media Texts:** create oral media texts using forms, conventions, and techniques appropriate to the purpose and audience (*e.g., ... create a video about items that can and cannot be recycled; ...*)

## **D. Writing**

### **D1. Purpose, Audience, and Form**

**D1.1 Identifying Purpose and Audience:** determine, with support from the teacher, their purpose for writing and the audience for French texts they plan to create (*e.g., ... to create an advertisement about a favourite toy or an eco-friendly product; ...*)

**D1.2 Writing in a Variety of Forms:** write a variety of texts in French, conveying information, ideas, and opinions about themselves, friends, family, and their immediate environment, following models appropriate to the purpose and incorporating some of the basic elements of each form (*e.g., ... develop a class report on a social or environmental topic of interest; ...*)

**D1.5 Creating Media Texts:** using familiar words and expressions, create a variety of media texts in French for specific purposes and audiences, using a few simple media forms and the conventions and techniques appropriate to the chosen form (*e.g., ... write a weather report containing symbols and a legend; ...*)

### **D2. The Writing Process**

**D2.3 Producing Finished Work:** edit, proofread, and publish a variety of written pieces, following a model or a set of guidelines to meet established criteria, with support as appropriate (*e.g., ... use the correct subject pronouns to refer to family members, friends, community members, animals, and living things in nature; ... create a poster or write a blog post sharing instructions for caring for a plant or pet*)

## **Health and Physical Education (2015)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **Living Skills**

#### **Personal Skills**

**1.2** use adaptive, management, and coping skills to help them respond to various challenges they encounter as they participate in physical activities, develop movement competence, and acquire knowledge and skills related to healthy living (*e.g., Active Living: dress appropriately for outdoor activity; ...*)

#### **Critical and Creative Thinking**

**1.5** use a range of critical and creative thinking skills and processes to assist them in making connections, planning and setting goals, analysing and solving problems, making decisions, and evaluating their choices in connection with learning in health and physical education (*e.g., Active Living: ... describe what is needed to play safely and comfortably outside in different kinds of weather; ...*)

## **A. Active Living**

### **A1. Active Participation**

**A1.2** demonstrate an understanding of factors that contribute to their personal enjoyment of being active (*e.g., ... having access to safe outdoor play space, ...*) as they participate in a wide variety of individual and small-group activities

**A1.3** identify reasons for participating in physical activity every day ...

**Student:** “Being active every day helps to make you strong and healthy. I like to do outdoor activities with my friends or family.”

### **A2. Physical Fitness**

**A2.3** recognize their degree of exertion in physical activities by using simple assessment methods ..., and identifying factors that affect their performance level (*e.g., humidity, extremely cold or warm air, poor air quality, ...*)

### **A3. Safety**

**A3.2** identify ways of protecting themselves and others, including those with medical conditions, from safety risks while participating in physical activity (*e.g., ... avoiding broken glass on the field or on the playground ..., reducing intensity of physical activity if poor air quality causes breathing difficulties, ...*)

**Teacher prompt:** “Before we go outside to be active, what do you need to have with you to be safe?” ...

## **C. Healthy Living**

### **C1. Understanding Health Concepts**

#### *Personal Safety and Injury Prevention*

**C1.1** demonstrate an understanding of practices that enhance personal safety in the home ... and outdoors (*e.g., using UV protection; ... being cautious when approaching animals*)

**Teacher prompt:** “What are some things you should do to stay safe when you are ... outside ...?”

**Students:** “When you’re outside, you should wear a hat to protect you from the sun and a helmet when you’re riding your bike, tobogganing, or snowboarding.” ... “If you want to come up to an animal or touch it, you have to ask permission from an adult and learn how to do it safely.”

#### *Substance Use, Addictions, and Related Behaviours*

**C1.3** describe the difference between prescription medicines and non-prescription medicines, giving examples of each, and identify rules for the proper use of all medicines

**Student:** “... Traditional First Nation, Métis, and Inuit medicines are usually made from things like plants that grow in the forest.” ...

### **C3. Making Connections for Healthy Living**

#### *Substance Use, Addictions, and Related Behaviours*

**C3.2** describe methods that may be used instead of or in combination with medication to maintain good health and prevent or treat various health problems (*e.g., ... getting more fresh air and physical activity to relieve headaches ...*)

## Language (2006)

Although no specific or overall expectations explicitly address environmental education, in each of the strands the learning context (e.g., a topic or thematic unit related to the environment) and/or learning materials (e.g., books, websites, media) could be used to foster in students the development of environmental understanding. Also, in each of the strands, there are some expectations that can provide opportunities for exploring environmental education – for example, expectations on making inferences, making connections, analysing and evaluating texts, developing a point of view, and doing research. The examples in the following specific expectations from the language document provide a context for environmental education.

### **Reading**

#### **1. Reading for Meaning**

- 1.4 demonstrate understanding of a text by retelling the story or restating information from the text, with the inclusion of a few interesting details (*e.g., ... restate the important ideas from a short informational text about the life cycle of a butterfly in the correct sequence*)

### **Media Literacy**

#### **1. Understanding Media Texts**

- 1.1 identify the purpose and intended audience of some simple media texts (*e.g., ... this picture book of nature stories is aimed at children who are interested in animals*)

## Mathematics (2005)

Although no overall or specific expectations explicitly address environmental education, in each of the strands the learning context could be used to foster in students the development of environmental understanding. This is especially so in the context of a cross-disciplinary approach to teaching and learning (e.g., problems relating to climate or waste management could be the focus of student learning). In addition, the mathematical processes (e.g., problem solving, connecting) address skills that can be used to support the development of environmental education. The specific expectation below provides an example that teachers could connect to a broader environmental context.

### **Data Management and Probability**

#### **Data Relationships**

- read primary data presented in concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers (e.g., tally charts, diagrams), and describe the data using mathematical language (e.g., “Our bar graph shows that 4 more students walk to school than take the bus.”)



## **Native Languages (2001)**

Although no overall or specific expectations explicitly address environmental education, the learning context (e.g., a topic or thematic unit related to the environment) and/or learning materials (e.g., books, websites, media) could be used to foster the development of environmental understanding. Learning about aspects of Native culture and communities may provide opportunities for students to make connections with local places.

## **Science and Technology (2007)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

There are many opportunities to support environmental education in the science and technology curriculum. Only the overall and specific expectations, and examples that have explicit connections to environmental education, have been included here. For the sake of brevity, sample guiding questions, teacher prompts, and sample issues that support the specific expectations have not been included.

### ***Understanding Life Systems: Growth and Changes in Animals***

1. assess ways in which animals have an impact on society and the environment, and ways in which humans have an impact upon animals and the places where they live

#### **1. Relating Science and Technology to Society and the Environment**

- 1.1 identify positive and negative impacts that animals have on humans (society) and the environment, form an opinion about one of them, and suggest ways in which the impact can be minimized or enhanced
- 1.2 identify positive and negative impacts that different kinds of human activity have on animals and where they live (*e.g., actions of animal lovers and groups that protect animals and their rights, the home owner who wants a nice lawn, people who visit zoos and wildlife parks, pet owners*), form an opinion about one of them, and suggest ways in which the impact can be minimized or enhanced

2. investigate similarities and differences in the characteristics of various animals

#### **2. Developing Investigation and Communication Skills**

- 2.5 investigate the ways in which a variety of animals adapt to their environment and/or to changes in their environment, using various methods (*e.g., read simple non-fiction texts and Aboriginal stories; observe animal activity in the schoolyard and surrounding areas, and record findings*)

### **3. Understanding Basic Concepts**

- 3.2** describe an adaptation as a characteristic body part, shape, or behaviour that helps a plant or animal survive in its environment (*e.g., some birds migrate to a warmer climate for the winter; the design of a whale's flipper allows the whale to turn, steer, and balance; the cecropia moth has the pattern of a snake's head on its wings: the hypothesis is that this is to frighten its predators away*)
- 3.3** identify ways in which animals are helpful to, and ways in which they meet the needs of, living things, including humans, to explain why humans should protect animals and the places where they live (*e.g., bats control mosquito populations; birds and wildlife provide pleasurable viewing experiences; the buffalo provided some Aboriginal people with everything they needed to survive: food, shelter, clothing, tools, ornamentation, and weapons; horses can be used for labour; cats and dogs provide companionship for humans; animals, including humans, disperse plant seeds*)

### **Understanding Structures and Mechanisms: Movement**

1. assess the impact on society and the environment of simple machines and mechanisms

#### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess the impact on society and the environment of simple machines that allow movement

### **Understanding Matter and Energy: Properties of Liquids and Solids**

1. assess ways in which the uses of liquids and solids can have an impact on society and the environment

#### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess the ways in which liquids and solids in the home are used, stored, and disposed of in terms of the effect on personal safety and the health of the environment, and suggest responsible actions to replace inappropriate practices

### **Understanding Earth and Space Systems: Air and Water in the Environment**

1. assess ways in which the actions of humans have an impact on the quality of air and water, and ways in which the quality of air and water has an impact on living things

#### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess the impact of human activities on air and water in the environment, taking different points of view into consideration (*e.g., the point of view of parents, children, other community members*), and plan a course of action to help keep the air and water in the local community clean
- 1.2 assess personal and family uses of water as responsible/efficient or wasteful, and create a plan to reduce the amount of water used, where possible

- investigate the characteristics of air and water and the visible/invisible effects of and changes to air and/or water in the environment

## **2. Developing Investigation and Communication Skills**

- investigate water in the natural environment (*e.g., observe and measure precipitation; observe and record cloud formations; observe water flow and describe where it goes; observe a puddle over time and record observations*)
- demonstrate an understanding of the ways in which air and water are used by living things to help them meet their basic needs

## **3. Understanding Basic Concepts**

- describe ways in which living things, including humans, depend on air and water (*e.g., most animals, including humans, breathe air to stay alive; wind generates energy, disperses seeds; all living things need to drink or absorb water to stay alive; water is used for washing and bathing, transportation, energy generation*)
- identify sources of water in the natural and built environment (*e.g., natural: oceans, lakes, ponds, streams, springs, water tables; human-made: wells, sewers, water-supply systems, reservoirs, water towers*)
- identify the three states of water in the environment, give examples of each (*e.g., solid – visible as ice, snow, sleet, hail, frost; liquid – visible as rain, dew; gas – visible as fog, water vapour*), and show how they fit into the water cycle when the temperature of the surrounding environment changes (*e.g., heat – evaporation; cooling – condensation and precipitation*)
- state reasons why clean water is an increasingly scarce resource in many parts of the world

## **Social Studies (2013)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **B. People and Environments: Global Communities**

- B1. Application:** describe some similarities and differences in the ways in which people in two or more communities in different parts of the world meet their needs and have adapted to the location, climate, and physical features of their regions

#### **B1. Application: Variations in Global Communities**

- B1.1** compare selected communities from around the world, including their own community, in terms of the lifestyles of people in those communities and some ways in which the people meet their needs (*e.g., in northern Europe, people have homes that are heated and insulated, while in the Caribbean, houses do not need to be insulated and may have rooms that are open to the outdoors; in cities, most people buy their groceries from a local shop or a grocery store, but in rural South America people either grow their own food or trade with other farmers*)

**Student talk:** “When my family moved from the Philippines, we had to buy a whole lot of warmer clothes. I just got my first pair of mittens. I learned how to swim in the Philippines.

Now I want to learn how to skate.” “My mom comes from Ethiopia and had to get water from

a well when she was my age. I just turn on the tap. They had to be very careful about how much water they used.”

**B1.2** describe some of the ways in which two or more distinct communities have adapted to their location, climate, and physical features (*e.g., in Arctic Canada, where it is cold, people wear warm clothes made with fur and hide or insulated with down or fleece; in India, where it is hot, people wear garments made from light woven fabrics; in Hawaii some schools start early in the morning and end before it gets really hot in the afternoon*)

**Sample questions:** “Why don’t farmers in Ontario grow bananas or pineapples?” “How do people stay cool in very hot places like South Asia?”

**Student talk:** “It’s too cold to farm in the Arctic. Inuit people hunt seals and whales from the ice. They sometimes travel by dog sled or snowmobile because you can’t drive a car on the ice.”

**B1.3** demonstrate an understanding of the importance of sustainability in people’s interrelationship with their natural environment and of some of the consequences of sustainable and/or non-sustainable actions (*e.g., if people in dry regions do not use their water carefully, they may run out; if people do not use sustainable farming techniques, they may exhaust the fertility of the soil; responsible use of resources helps ensure that they will be available for future generations*)

**Sample questions:** “What might happen if people use too much water?” “What can happen when people cut down all the trees for farmland?”

**B2. Inquiry:** use the social studies inquiry process to investigate aspects of the interrelationship between the natural environment, including the climate, of selected communities and the ways in which people in those communities live

## **B2. Inquiry: Natural Environments and Ways of Life**

**B2.1** formulate questions to guide investigations into some aspects of the interrelationship between the natural environment of selected communities and the ways in which people live (*e.g., questions about how climate relates to clothing, agriculture, housing, recreation*)

**Sample questions:** “How and why might your choice in clothes change if you lived closer to the equator? Would some of your hobbies/sports change? Why or why not?” “Why do countries such as Norway, Switzerland, and Canada win so many medals in skiing competitions while other countries such as Australia and Mexico do not?”

**B2.2** gather and organize information and data about some communities’ locations, climate, and physical features, and the ways of life of people in these communities (*e.g., ... find photographs in magazines or on the Internet that provide information on people’s food, shelter, and/or clothing*)

**B2.3** analyse and construct simple maps to determine and illustrate patterns in the interrelationship between the location of some communities and human activities in those communities (*e.g., use a print, digital, or interactive map to determine the proximity of communities to the equator and then infer whether their climates are likely to be hot, temperate, or cold; use different colours on a map to illustrate climatic changes as one moves north and south from the equator; include photographs of shelter, clothing, or recreational activities on a map to show how people’s adaptations are related to the general location of their community on the globe*)

**Sample questions:** “What colours would you use to show different temperatures? What do you notice about the pattern created by the colours?” ...

**Student talk:** “I put pictures of skiers and skaters in Canada and northern Europe. I put pictures of pineapples and bananas near the equator.” “I coloured the places near the equator red because it is warm there a lot. Places that are cold are purple. There is purple near the top and bottom of the world map.”

- B2.4** interpret and analyse information relevant to their investigations, using a variety of tools (*e.g., plot data on a chart, bar graph, or pictograph to help them determine which countries have similar climates; determine the climatic region in which people live by examining photos of their clothing or homes*)

**Sample questions:** “Let’s look at your collection of photographs. Which part of the world might these represent? Why? Does anything not fit?” “Why did you put a snowflake beside all of these countries on your chart?”

**Student talk:** “I put the sun beside these countries because they are near the equator and are warm.”

- B2.5** evaluate evidence and draw conclusions about some aspects of the interrelationship between communities’ natural environment and the way of life of people in those communities

**Sample questions:** “What similarities have you found in the housing of people who live in cold regions?” “In what ways are sports and recreation different in countries with hot and cold climates?”

**Student talk:** “In Canada and Russia, there’s a lot of hockey and skating in the winter because it’s cold and there is ice and snow. It doesn’t get cold in Hawaii, so people swim and surf.”

- B2.6** communicate the results of their inquiry, using appropriate vocabulary (*e.g., globe, sphere, hemisphere, continent, country, equator, North Pole, South Pole, model, distance, culture*) and formats (*e.g., a book of captioned photos from a field study; ... a poster showing clothing of people who live in cold climates and in hot climates; ...*)

- B3. Understanding Context:** identify and locate various physical features and selected communities around the world, and describe key aspects of people’s ways of life in those communities

### **B3. Understanding Context: Physical Features and Communities**

- B3.1** demonstrate an understanding that there are a variety of countries, continents, physical features, and bodies of water around the world and that their locations can be represented in different ways ...

**Student talk:** “North American is a continent. Canada is a country.” “Canada looks different on the wall map and the globe, but it’s really the same.”

- B3.2** identify continents, significant bodies of water, the equator, poles, and hemispheres, using a globe, print, digital, or interactive maps, and/or a mapping program

**Sample questions:** “Where is North America on this globe?” “Who can place the label for the Atlantic Ocean on the interactive map?”

- B3.4** identify the location of selected countries, cities, and/or towns around the world, and describe how their location and climate are related (*e.g., Mexico is warm year-round because it is close to the equator; Canada has four seasons because it is far from the equator; Winnipeg is usually colder than Toronto because it is farther north*)

**Sample questions:** “Approximately where is our community on the globe in relation to the equator and the poles?” “Let’s find Brazil on this map of the world. Where is it in relation to the equator? Do you think it’s hot or cold in Brazil? Why?”

**Student talk:** “This is Mumbai, the city where my parents were born. It is down by the equator. It is hot there all the time.” “Norway gets lots of snow in the winter because it is so close to the North Pole.”

**B3.5** demonstrate the ability to extract information on the location and climate of a region from photographs and print, digital, and/or interactive maps

**Sample questions:** ... “Where might the communities shown in these photos be located in relation to the equator and the poles? Why do you think that?” ...

**B3.6** identify basic human needs (*e.g., for food, water, clothing, transportation, shelter*), and describe some ways in which people in communities around the world meet these needs (*e.g., food: hunting, fishing, farming, shopping at grocery stores; transportation: on foot, using animals, using motorized vehicles, by water*)

**Sample questions:** “Do all people have the same needs?” “How does your family meet the need for food? How might a person living off the land in Arctic Canada meet this need?”

**B3.7** describe selected communities around the world, with reference to their major physical features, wildlife, and some aspects of their culture (*e.g., physical features such as mountains, lakes, rivers; native animals; cultural practices related to food, clothing, recreation, the arts*)

**Student talk:** “In Canada, the land is mostly flat in Saskatchewan, but there are mountains in British Columbia. The Great Lakes are in Ontario. Canada has oceans on the east, west, and north.” “The Amazon is a very long river in Brazil. There are jungles near it. The river has fish that can eat animals. There are very big snakes, too.” “I like African masks. They are carved out of wood. I saw a picture of masks from Asia. They were painted different colours.”

**B3.8** describe similarities and differences between their community and a community in a different region in the world (*e.g., with respect to ... climate, flora and fauna, ... agricultural practices*)

**Student talk:** “We went to Florida last winter. It was cold here, but in Florida we swam and ran on the beach.” “In parts of Canada we have bears and moose, but in parts of Africa they have lions and elephants.”

# GRADE 3

## The Arts (2009)

See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.

### A. Dance

#### A1. Creating and Presenting

**A1.1** imitate movements found in their natural environment in a variety of ways and incorporate them into a dance phrase (*e.g., modify the movements of animals, snow falling to the ground, ice melting, plants growing; connect a series of insect-like movements together to make a phrase*)

**Teacher prompt:** “How would the quality of your movements change if you were first moving like a bee and then moving like a butterfly [erratic, gliding]? Would your movements change to sharp and sudden, or smooth and slow? Would your path be direct and gliding or indirect and meandering?”

**A1.2** use dance as a language to represent ideas from diverse literature sources, with a focus on time and energy (*e.g., ... respond to a story about insects by depicting the sustained lifting and pulling actions of ants versus the sustained floating actions of butterflies*)

**Teacher prompts:** ... “Which combination of elements will you choose from the time and energy chart to portray the rest of the insect characters in the story?”

**A1.3** create dance phrases using a variety of pattern forms ...

**Teacher prompt:** “How would you show the water cycle using a pattern in dance? Which pattern form can you use to convey your idea?”

### D. Visual Arts

#### D1. Creating and Presenting

**D1.1** create two- and three-dimensional works of art that express personal feelings and ideas inspired by the environment or that have the community as their subject (*e.g., make a symmetrical sculpture of an insect or a flower, using natural materials such as wood, pebbles, dry seed pods, feathers; draw a picture depicting a solution to the problem of litter in their community; make a painting of nature, focusing on a feature of personal interest or meaning to themselves*)

**Teacher prompt:** “Let’s look at how artist Andy Goldsworthy uses natural materials in his art. How can you use the textures and shapes of sticks, leaves, or stones to express your ideas about the natural environment?”

**D1.3** use elements of design in art works to communicate ideas, messages, and understandings (*e.g., use asymmetrical cut-paper composite shapes to depict a Canadian landscape, with a clear foreground, middle ground, and background; ...*)

**Teacher prompts:** ... “Why do you think Tom Thomson chose to paint a windswept tree in *The Jack Pine* instead of a symmetrical tree? How can you use asymmetry in your own art work?”

- D1.4** use a variety of materials, tools, and techniques to respond to design challenges (e.g., ...
- mixed media: *use wax crayons, oil pastels, paint resist, and materials of various textures [e.g., yarn, found objects] to depict a tree or plant above ground, and use the technique of elaboration to depict what is hidden below ground*
  - painting: *create a watercolour or tempera painting of animals, using colour in a non-representational and expressive way*
  - printmaking: *paint stencil prints in warm and cool colours, creating a simplified pattern inspired by a favourite fruit*
  - sculpture: *use modelling clay to create organic forms that are inspired by nature, such as shells, seed pods, and water-worn stones, and that show some kind of metamorphosis or transformation into another form or figure)*

**Teacher prompts:** ... “What do the roots of a tree or plant look like below the ground? How could you draw a plant and show its roots?”

## **D2. Reflecting, Responding, and Analysing**

- D2.3** demonstrate an awareness of the meaning of signs and symbols encountered in their daily lives and in works of art (e.g., ... *the meaning of animals such as the orca in Aboriginal clan symbols or the Inukshuk in Aboriginal art*)

## **French as a Second Language (2013)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **French Immersion**

#### **A. Listening**

##### **A1. Listening to Understand**

- A1.3 Listening for Meaning:** demonstrate an understanding of the intent and meaning of oral French texts containing familiar words and expressions and dealing with everyday topics, with contextual and visual support (e.g., ... *select appropriate clothing for an upcoming event based on a weather report; ...*)

#### **C. Reading**

##### **C1. Reading Comprehension**

- C1.5 Responding to and Evaluating Media Texts:** express personal thoughts, feelings, and opinions about the messages and the ways they are presented in media texts about familiar, everyday topics, with teacher support as appropriate (e.g. ..., *describe how animals or environmental images are used to evoke emotions in print advertisements*)



## **D. Writing**

### **D1. Purpose, Audience, and Form**

**D1.2 Writing in a Variety of Forms:** write a variety of texts in French, conveying information, ideas, and opinions about themselves, friends, family, and their immediate environment, following models appropriate to the purpose and incorporating some of the basic elements of each form (*e.g., ... compose a list of actions to conserve and protect water, such as shutting off the tap while brushing teeth*)

**D1.5 Creating Media Texts:** using familiar words and expressions, create a variety of media texts in French for specific purposes and audiences, using a few simple media forms and the conventions and techniques appropriate to the chosen form (*e.g., ... create a pamphlet recommending actions for Earth Day or Earth Hour; draft and distribute an email petition about an environmental issue*)

## **Health and Physical Education (2015)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **Living Skills**

#### **Critical and Creative Thinking**

**1.5** use a range of critical and creative thinking skills and processes to assist them in making connections, planning and setting goals, analysing and solving problems, making decisions and evaluating their choices in connection with learning in health and physical education (*e.g., ... Healthy Living: plan what they might bring to a family picnic, focusing on local foods, and give reasons for their choices*)

### **A. Active Living**

#### **A1. Active Participation**

**A1.1** actively participate in a wide variety of program activities ..., according to their capabilities while applying behaviours that enhance their readiness and ability to take part ...

**Teacher prompt:** "... What are some examples of showing respect and following rules in your daily life?"

**Students:** ... "We show that we respect the environment by turning off lights when we are not in the room, by not littering, and whenever we can, by walking, wheeling, or biking instead of using a car." ...

**A1.2** demonstrate an understanding of factors that contribute to their personal enjoyment of being active (*e.g., ... being outdoors*) as they participate in a wide variety of individual and small-group activities ...

#### **A2. Physical Fitness**

**A2.4** develop and act on personal goals related to physical activity (*e.g., ... doing something active indoors or outdoors with family members on the weekend*)

## **C. Healthy Living**

### **C1. Understanding Health Concepts**

#### *Healthy Eating*

**C1.1** demonstrate an understanding of how the origins of food (*e.g., where the food is grown...*) affect its nutritional value and environmental impact ...

**Teacher prompt:** "... What is the environmental impact of processed foods?"

**Student:** "... The way processed foods are made and the way they have to be shipped can make air pollution and other environmental problems worse. Manufacturing them can also make water pollution worse, and the packaging they come in creates extra garbage."

#### *Substance Use, Addictions, and Related Behaviours*

**C1.2** demonstrate an understanding of different types of legal and illegal substance abuse ... and the impacts of abusing these substances on themselves and others (*e.g., ... environmental issues*)

#### *Human Development and Sexual Health*

**C1.4** identify factors (*e.g., ... environment, ...*) that affect physical development ... and/or emotional development

### **C2. Making Healthy Choices**

#### *Personal Safety and Injury Prevention*

**C2.2** apply their understanding of good safety practices by developing safety guidelines for a variety of places and situations outside the classroom (*e.g., ... safe camping checklists; ... wildlife safety precautions; ...*)

### **C3. Making Connections for Healthy Living**

#### *Healthy Eating*

**C3.1** explain how local fresh foods and foods from different cultures ... can be used to expand their range of healthy choices

**Teacher prompt:** "Why is it a good idea to eat local fresh foods when they are available?"

**Student:** "They are usually more nutritious and taste better, and are better for the environment, because they don't have to be shipped so far." ...

## **Language (2006)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **Oral Communication**

#### **2. Speaking to Communicate**

**2.7** use a variety of appropriate visual aids ... to support or enhance oral presentations (*e.g., use a large-size labelled diagram to illustrate an explanation of how soil erodes*)

## **Reading**

### **1. Reading for Meaning**

- 1.5** make inferences about texts using stated and implied ideas from the texts as evidence  
*Teacher prompts:* ... “Why do you think early settlers chose wood to build their homes? Is there any evidence in the text to explain this?”
- 1.6** extend understanding of texts by connecting the ideas in them to their own knowledge and experience, to other familiar texts, and to the world around them  
*Teacher prompts:* ... “Do you know of other reasons why trees are important besides the reasons mentioned in the book?”

### **2. Understanding Form and Style**

- 2.1** identify and describe the characteristics of a variety of text forms, with a focus on literary texts such as a fable or adventure story ..., graphic texts such as a comic book ..., and informational texts such as a nature magazine (*e.g., table of contents, diagrams, photographs, labels, captions*)

## **Writing**

### **2. Using Knowledge of Form and Style in Writing**

- 2.1** write short texts using a variety of forms (*e.g., ... a paragraph explaining how physical geography and natural resources affected the development of early settler communities; a letter from the point of view of a settler, describing how First Nations people have taught the settlers to adapt to their new environment; ...*)

## **Media Literacy**

### **1. Understanding Media Texts**

- 1.3** express personal opinions about ideas presented in media texts (*e.g., respond to the messages in a public service announcement about recycling; ...*)

## **Mathematics (2005)**

Although no overall or specific expectations explicitly address environmental education, in each of the strands the learning context could be used to foster in students the development of environmental understanding. This is especially so in the context of a cross-disciplinary approach to teaching and learning (e.g., problems relating to climate or waste management could be the focus of student learning). In addition, the mathematical processes (e.g., problem solving, connecting) address skills that can be used to support the development of environmental education. The specific expectation below provides an example that teachers could connect to a broader environmental context.

## **Data Management and Probability**

### **Collection and Organization of Data**

- collect data by conducting a simple survey about themselves, their environment, issues in their school or community, or content from another subject

## **Native Languages (2001)**

Although no overall or specific expectations explicitly address environmental education, the learning context (e.g., a topic or thematic unit related to the environment) and/or learning materials (e.g., books, websites, media) could be used to foster the development of environmental understanding. Learning about aspects of Native culture and communities may provide opportunities for students to make connections with local places.

## **Science and Technology (2007)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

There are many opportunities to support environmental education in the science and technology curriculum. Only the overall and specific expectations, and examples that have explicit connections to environmental education, have been included here. For the sake of brevity, sample guiding questions, teacher prompts, and sample issues that support the specific expectations have not been included.

### **Understanding Life Systems: Growth and Changes in Plants**

1. assess ways in which plants have an impact on society and the environment, and ways in which human activity has an impact on plants and plant habitats

#### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess ways in which plants are important to human and other living things, taking different points of view into consideration (*e.g., the point of view of home builders, gardeners, nursery owners, vegetarians*), and suggest ways in which humans can protect plants
  - 1.2 assess the impact of different human activities on plants, and list personal actions they can engage in to minimize harmful effects and enhance good effects
2. investigate similarities and differences in the characteristics of various plants, and ways in which the characteristics of plants relate to the environment in which they grow

#### **2. Developing Investigation and Communication Skills**

- 2.2 observe and compare the parts of a variety of plants (*e.g., roots of grass, carrot, dandelion; stem of cactus, carnation, tree; leaves of geranium, spider plant, pine tree*)

- 2.3 germinate seeds and record similarities and differences as seedlings develop (*e.g., plant quick-growing seeds – nasturtium, morning glory, sunflower, tomato, beet, or radish seeds – in peat pellets to observe growth*)
  - 2.4 investigate ways in which a variety of plants adapt and/or react to their environment, including changes in their environment, using a variety of methods (*e.g., read a variety of non-fiction texts; interview plant experts; view DVDs or CD-ROMs*)
  - 2.5 use scientific inquiry/experimentation skills, and knowledge acquired from previous investigations, to investigate a variety of ways in which plants meet their basic needs
  - 2.6 use appropriate science and technology vocabulary, including *stem, leaf, root, pistil, stamen, flower, adaptation, and germination*, in oral and written communication
  - 2.7 use a variety of forms (*e.g., oral, written, graphic, multimedia*) to communicate with different audiences and for a variety of purposes (*e.g., make illustrated entries in a personal science journal to describe plant characteristics and adaptations to harsh environments*)
3. demonstrate an understanding that plants grow and change and have distinct characteristics

### **3. Understanding Basic Concepts**

- 3.1 describe the basic needs of plants, including air, water, light, warmth, and space
- 3.2 identify the major parts of plants, including root, stem, flower, stamen, pistil, leaf, seed, and fruit, and describe how each contributes to the plant’s survival within the plant’s environment (*e.g., the roots soak up food and water for the plant; the stem carries water and food to the rest of the plant; the leaves make food for the plant with help from the sun; the flowers grow fruit and seeds for new plants*)
- 3.3 describe the changes that different plants undergo in their life cycles (*e.g., some plants grow from bulbs to flowers, and when the flowers die off the bulb produces little bulbs that will bloom the next year; some plants grow from germination of a seed to the production of a fruit containing seeds that are then scattered by humans, animals, or the wind so that new plants can grow*)
- 3.4 describe how most plants get energy to live directly from the sun (*e.g., plants turn the energy from the sun into food for themselves*) and how plants help other living things to get energy from the sun (*e.g., Other living things, which cannot “eat” sunshine, eat the plants to get the energy. They also get energy when they eat the animals that eat the plants.*)
- 3.5 describe ways in which humans from various cultures, including Aboriginal people, use plants for food, shelter, medicine, and clothing (*e.g., food – from rice plants; houses for shelter – from the wood of trees; medicines – from herbs; clothing – from cotton plants*)
- 3.6 describe ways in which plants and animals depend on each other (*e.g., plants provide food for energy; animals help disperse pollen and seeds, and provide manure that fertilizes the soil in which plants grow; plants need the carbon dioxide that animals breathe out, and animals need the oxygen that plants release into the air*)
- 3.7 describe the different ways in which plants are grown for food (*e.g., on farms, in orchards, greenhouses, home gardens*), and explain the advantages and disadvantages of locally grown and organically produced food, including environmental benefits
- 3.8 identify examples of environmental conditions that may threaten plant and animal survival (*e.g., extreme heat and cold; floods and/or droughts; changes in habitat because of human activities such as construction, use of gas-powered personal watercraft on lakes*)

## ***Understanding Structures and Mechanisms: Strong and Stable Structures***

### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess effects of strong and stable structures on society and the environment (*e.g., ... strong and stable structures can be hard to dispose of when their usefulness is ended and may then have a negative effect on the environment*)
- 1.2 assess the environmental impact of structures built by various animals and those built by humans

### **3. Understanding Basic Concepts**

- 3.2 identify structures in the natural environment (*e.g., a tree, a bees' nest/hive*) and in the built environment ...

## ***Understanding Matter and Energy: Forces Causing Movement***

1. assess the impact of various forces on society and the environment

### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess the effects of the action of forces in nature (natural phenomena) on the natural and built environment, and identify ways in which human activities can reduce or enhance this impact

## ***Understanding Earth and Space Systems: Soils in the Environment***

1. assess the impact of soils on society and the environment, and of society and the environment on soils

### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess the impact of soils on society and the environment, and suggest ways in which humans can enhance positive effects and/or lessen or prevent harmful effects
- 1.2 assess the impact of human action on soils, and suggest ways in which humans can affect soils positively and/or lessen or prevent harmful effects on soils

2. investigate the composition and characteristics of different soils

### **2. Developing Investigation and Communication Skills**

- 2.2 investigate the components of soil (*e.g., non-living things such as pebbles and decaying matter; living things such as organic matter, bacteria, earthworms, and insects*), the condition of soil (*e.g., wet, dry*), and additives found in soil (*e.g., pesticides, fertilizers, salt*), using a variety of soil samples (*e.g., sand, clay, loam*) from different local environments, and explain how the different amounts of these components in a soil sample determine how the soil can be used
- 2.3 use scientific inquiry/experimentation skills ..., and knowledge and skills acquired from previous investigations, to determine which type(s) of soil (*e.g., sandy soil, clay soil, loam*) will sustain life
- 2.4 investigate the process of composting, and explain some advantages and disadvantages of composting (*e.g., set up a pop-bottle composter in the classroom, and observe what happens over time*)

3. demonstrate an understanding of the composition of soils, the types of soils, and the relationship between soils and other living things

### **3. Understanding Basic Concepts**

- 3.1 identify and describe the different types of soils (*e.g., Sandy soil is made up of minerals and tiny pieces of rock that have come from the erosion and weathering of rocks. It feels gritty and does not stick together well. Sandy soil drains easily and quickly after a rain and warms up quickly in the spring, but does not hold water and nutrients as well as clay soil, and is eroded more easily. Loamy soil is made up of sand, silt, and clay in relatively equal amounts. It sticks together better than sand but not as well as clay. Loamy soil holds water and nutrients well, and also drains well so that sufficient air can reach the roots. Clay soil is a very fine-grained soil that is plastic when wet but hard when dried. It feels slick and smooth. Clay soils have poor drainage and aeration.*)
- 3.2 identify additives that might be in soil but that cannot always be seen (*e.g., pesticides, fertilizers, salt*)
- 3.3 describe the interdependence between the living and non-living things that make up soil (*e.g., earthworms ingest the soil and absorb the nutrients, then their castings return the nutrients to the soil; the roots of plants use the soil as an anchor to keep the plants from blowing away*)
- 3.4 describe ways in which the components of various soils enable the soil to provide shelter/homes and/or nutrients for different kinds of living things (*e.g., microscopic bacteria and micro-organisms feed on decaying matter in the soil; roots of plants absorb minerals from the soil*)

## **Social Studies (2013)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **A. Heritage and Identity: Communities in Canada, 1780–1850**

#### **A1. Application: Life in Canada – Then and Now**

- 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., ... challenges related to the environment, ...*)

**Sample questions:** ... “What can we learn from the ways in which First Nations lived in harmony with their environment?” “Where did people get their water? How did they heat and light their homes?” ...

#### **A2. Inquiry: Community Challenges and Adaptations**

- A2.1 formulate questions to guide investigations into some of the major challenges facing different groups and communities in Canada from around 1780 to 1850 (*e.g., ... climate; ...*) and measures taken to address these challenges

**Sample questions:** ... “What are some of the ways in which people responded to challenges related to the climate and natural setting of their community?”

**A2.2** gather and organize information on major challenges facing different groups and communities, and on measures taken to address these challenges, using a variety of primary and/or secondary sources ...

**Sample questions:** “What do the journals of Elizabeth Simcoe, Catharine Parr Traill, or other settlers tell us about settlers’ ... responses to the natural environment?” ...

**Student talk:** “This painting shows a man wearing snowshoes that are really big and have netting. They let people walk in deep snow without sinking down.”

**A2.3** analyse and construct print and digital maps, including thematic maps, as part of their investigations into challenges facing different groups and communities in Canada during this period, and measures taken to address these challenges (*e.g., ... plot settlements on a map in order to determine their proximity to water; ...*)

**Sample questions:** “How could analysing a climate map contribute to your understanding of the challenges that settlers faced during winter in Upper Canada?” ...

**Student talk:** “The map I read helped me see that the Quebec winters are colder and longer than in southern Ontario. It would have been hard for settlers in Lower Canada to stay warm and keep enough food for the winter.” “My map shows that many farms and villages are beside lakes or rivers.”

**A2.4** interpret and analyse information relevant to their investigations, using a variety of tools ...

**Sample questions:** ... “Why do you think all these settlements are located along waterways?”

**A2.5** evaluate evidence and draw conclusions about some of the major challenges facing different groups and communities in Canada during this period, and measures taken to overcome these challenges ...

**Student talk:** “Water was very important to communities in the late 1700s. They used it to cook, drink, and wash their clothes. They needed it for their crops and animals. They travelled by boat too, because there weren’t many good roads. So people chose to settle near lakes or rivers.”

**A2.6** communicate the results of their inquiry using appropriate vocabulary ... and formats (*e.g., a booklet entitled “How to Survive in Upper Canada”; ... a poster that shows how people adapted to the climate; ...*)

**A3. Understanding Context:** identify some of the communities in Canada around the beginning of the nineteenth century, and describe their relationships to the land and to each other

### **A3. Understanding Context: Life in Colonial Canadian Communities**

**A3.3** identify some of the main factors that helped shape the development of settlements in Canada during this period (*e.g., ... navigable lakes and rivers for trade and transportation; climate; proximity to natural resources; ...*), 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 ... can facilitate settlement and enhance community life

**Sample questions:** “If you were going to establish a farm, what type of land would you look for? What types of resources would you want to have access to?” “Why are there a lot of settlements along the St. Lawrence River and the Great Lakes?” “Why would wealthy British settlers want to live near ports and towns?” “What impact did European settlers’ desire to have the best land for their farms have on the location of reserve lands?”

**Student talk:** “If I were going to be a farmer, I would want flat land that had a river nearby so my animals had water to drink. I would not want too many trees. It is hard to plant crops between trees.” ...



**A3.4** describe some of the major challenges facing communities in Canada during this period (*e.g., challenges relating to the climate; ... competition for resources; ...*)

**Sample questions:** ... “What types of challenges did settlers face as a result of the climate in Upper Canada?”

**A3.5** describe the impact of some different kinds of settlement (*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

**Sample questions:** “How might a new settlement in the middle of a First Nation’s territory affect how the First Nation used the land during different seasons?” “How did developing towns deal with garbage and sewage?” ... “What are the positive and negative effects of clearing land for farms?”

**Student talk:** “In order to farm they had to cut down all the trees. Now the animals that lived in those trees do not have a place to live. Some animals died, and some went somewhere else to live, but the farmers needed to be able to grow their crops to feed their families.”

## **B. People and Environments: Living and Working in Ontario**

**B1. Application:** demonstrate an understanding of some key aspects of the interrelationship between the natural environment, land use, employment opportunities, and the development of municipal regions in Ontario

### **B1. Application: Land Use and the Environment**

**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*)

**Sample questions:** “What type of community might be established in an area that is heavily forested?” “Why are many towns and cities located near lakes and rivers?” “What are some of the characteristics of the natural environment in regions of Ontario that are recreational destinations?”

**Student talk:** “The area around most of Lake Ontario and Lake Erie is good for farming because it is flat and fertile. But it has a lot of cities on it too because the water is important for everyday life.” “People like to spend holidays in places where there are lakes for boating and swimming and forest trails for walking. There are sometimes cottages along the lakes. In the winter, they go where there are big hills or long trails for skiing and they use the hiking trails for snowmobiling.”

**B1.2** describe some of the 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 different municipal regions in Ontario (*e.g., in the District Municipality of Muskoka, which is known for its lakes, beaches, and many islands, some of the employment opportunities are seasonal jobs in the recreation industry; Dryden and its surrounding area is heavily forested, so there are a number of employment opportunities in the pulp and paper industry; the natural attraction of Niagara Falls led to the development of the area around it as a tourist centre, so the region offers many jobs in tourist and service industries*)

**Sample questions:** “Why are some jobs dependent on the seasons?” “What are some of the jobs that are connected to forests, lakes, and rivers? What sorts of jobs are connected to agricultural land use?”

**Student talk:** “I want to work as a farmer, so I will probably need to live outside the Toronto area. It is hard to farm near Toronto because they have built on most of the land.”

- B2. Inquiry:** use the social studies inquiry process to investigate some of the environmental effects of different types of land and/or resource use in two or more Ontario municipal regions, as well as some of the measures taken to reduce the negative impact of that use

### **B2. Inquiry: The Impact of Land and Resource Use**

- 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

**Sample questions:** “What are some of the differences in the impact of land use in a big city and a rural area?” “What impact can mining have on the surrounding environment? What can be done to limit the negative impact on the environment?” “What natural resources are available in the local First Nations community? How have they affected that community?” “What types of development might result in water pollution?” “What criteria might you use to judge the impact of land and/or resource use?”

**Student talk:** “Last spring we almost hit a moose that was crossing the highway. My dad said he hit a deer there before. Why would they build a road where animals live?” “When I was skipping stones on the river, I saw yellowy-brown foam on the water. I wonder where the pollution comes from and how it could be cleaned up.” “My cousin spends his summer planting trees for a forestry company. He says they are replacing the trees they cut down. Do all companies do that?”

- B2.2** gather and organize a variety of data and information on the environmental effects of different land and/or resource use and measures taken to reduce the negative impact of that use (*e.g., photographs, resource books, magazines, online articles, information from regional conservation authorities or provincial and national park websites, information from municipalities on recycling, an interview with an elder on traditional ecological knowledge about a region and his or her observations on changes in that region*)

**Sample questions:** “Where might you find information on how public transportation can reduce car emissions?” “How could you use photographs to help you determine the impact of mining and of rehabilitating mines?” “What sources could you use to study the effectiveness of constructing natural bridges over roadways to allow animals to follow their regular migration patterns?”

- B2.3** analyse and construct print and digital maps, including thematic maps, as part of their investigations into the environmental impact of land and/or resource use in different municipal regions (*e.g., use maps and atlases to locate information about the spatial boundaries of municipal areas and the different land uses within them; use an interactive atlas to identify natural resources in your local area*)

**Sample question:** “What information would you need to include on a map showing natural resources in your community?”

**Student talk:** “On my computer last night I looked at a map of a big mine outside Timmins. I zoomed in and followed the roads from my house to the mine.”

**B2.4** interpret and analyse information and data relevant to their investigations, using a variety of tools (*e.g., use a graphic organizer to help them determine the environmental impact of an aggregate mine; plot trends in forest cover of a municipal region on a line or bar graph and compare it to a graph showing land-use trends for the same municipal region*)

**Sample questions:** “How might you use a graphic organizer to help you determine the impact of different types of land use on the environment?” “How could using a bar graph help you determine the impact of municipal waste and recycling practices?” “What do these photographs show about the impact of this type of land 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

**Sample questions:** “What did you find out about the environmental impact of some types of agricultural land use?” “What is your position on the creation of provincial parks or regional conservation areas?”

**Student talk:** “I found out that mining can generate air and water pollution and can scar the land, but some mining companies have donated their old mines to local regional conservation authorities. They are hoping to turn these into parkland.”

**B2.6** communicate the results of their inquiry, using appropriate vocabulary (*e.g., ... pollution, deforestation, rehabilitation, public transportation, ecological footprint, natural resources, traditional ecological knowledge [TEK]*) and formats (*e.g., a plan of action to address a local land-use issue; a cooperatively produced book of photos showing the environmental impact of a mine; a report on the benefits of forestry in provincial parks; song lyrics, a rap, or a poem about the effects of industrial pollution on a local waterway; an informational poster on what individuals can do to lessen their ecological footprint*)

**Student talk:** “I am writing a letter to our mayor explaining why we should build bridges over the roads so the deer and moose do not get hit by cars.”

**B3. Understanding Context:** describe major landform regions and types of land use in Ontario and some of the ways in which land use in various Ontario municipalities addresses human needs and wants, including the need for jobs

### **B3. Understanding Context: Regions and Land Use in Ontario**

**B3.1** demonstrate an understanding that Ontario is divided into different municipal or regional entities ... and that local governments within these entities provide specific services and regulate development according to local needs (*e.g., ... different municipalities have different laws or policies relating to land development*)

**B3.3** identify the major landform regions in Ontario (*e.g., the Canadian Shield, the Great Lakes–St. Lawrence Lowlands, the Hudson Bay Lowlands*), and describe the major characteristics that make each distinct

**Sample questions:** “What makes the Canadian Shield different from the Great Lakes–St. Lawrence Lowlands?” “What are the similarities between the Hudson Bay Lowlands and the Great Lakes–St. Lawrence Lowlands?”

**B3.4** identify and describe the main types of employment that are available in two or more municipal regions in Ontario (*e.g., jobs dependent on natural resources ... tourism and recreation, ...*)

**Sample questions:** ... “What are some communities in which jobs are dependent on the natural resources available in the area?”

**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 provide us with a variety of foods for local consumption and export; land use for recreation enables people to enjoy the outdoors and to participate in or watch sports and other activities; residential areas have different types of buildings to meet people's housing needs; conservation lands protect ecosystems and habitat for organisms so that biodiversity is preserved for future generations; untouched wetlands help ensure clean water and healthy habitat*)

**Sample questions:** “If we went on a walk around our neighbourhood, what types of land use would we see? What types of needs do they meet?” ...

**B3.6** compare some aspects of land use in two or more municipalities (*e.g., ... the size and number of parks and other recreational spaces; space for waste disposal; the amount of agricultural land in the area; ...*)

**Sample questions:** “How do these two municipalities use their waterfront? Is the land recreational? Commercial? Industrial?” “How much parkland do these two municipalities have? ...” ...

**Student talk:** “This town has made a walking trail all along its river. There are trees and grass and places to have a picnic or to fish. In this city, there are industrial buildings along the water. People go there to work, not to spend their free time.”

**B3.7** construct print and/or digital maps that show some different land uses, landform regions, and/or municipalities in Ontario, using appropriate elements of a map, including standard units of measurement (*e.g., ... create a map showing the location of major landform regions in the province*)

# GRADE 4

## The Arts (2009)

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### A. Dance

#### A1. Creating and Presenting

**A1.1** translate into dance a variety of movement sequences observed in nature (*e.g., wind developing into a tornado; water freezing and melting on a landscape; rain transforming into a storm; a caterpillar evolving into a butterfly*)

**Teacher prompt:** “How could your sequence of movements demonstrate the transformation of rain into a flood or a hurricane?”

### C. Music

#### C1. Creating and Performing

**C1.3** create musical compositions for specific purposes and audiences (*e.g., ... compose a soundscape to represent the physical landscape of Canada; ...*)

### D. Visual Arts

#### D1. Creating and Presenting

**D1.3** use elements of design in art works to communicate ideas, messages, and understandings (*e.g., create a poster using colour and cropping of space to propose a solution to climate change; ...*)

## French as a Second Language (2013)

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

## Core French

### D. Writing

#### D1. Purpose, Audience, and Form

**D1.1 Identifying Purpose and Audience:** determine, with support from the teacher, their purpose for writing and the audience for French texts they plan to create (*e.g., ... to persuade people to protect the environment or to buy an environmentally responsible product in an advertisement*)

## **Extended French**

### **D. Writing**

#### **D1. Purpose, Audience, and Form**

**D1.5 Creating Media Texts:** using familiar words and expressions, create a variety of media texts in French for specific purposes and audiences, using several media forms and the conventions and techniques appropriate to the chosen form (*e.g., ... create a weather forecast to help their peers select appropriate clothing for the day; ...*)

**Teacher prompts:** ... “Comment peux-tu organiser et présenter l’information pertinente dans un rapport météorologique du journal de classe?” ...

## **French Immersion**

### **A. Listening**

#### **A1. Listening to Understand**

**A1.2 Understanding Purposes for Listening:** demonstrate an understanding of the purpose for listening in a variety of situations (*e.g., ... to formulate an opinion about a social or environmental issue based on information provided in a broadcast; ...*)

**Teacher prompts:** “De quelle façon est-ce que les opinions d’un écologue sur un problème environnemental actuel influenceront tes actions de tous les jours?”

**A1.4 Responding to and Evaluating Media Texts:** express their personal opinions about the treatment and presentation of the messages in a variety of oral media texts about familiar, academic, and personally relevant topics, and give evidence from the texts for their opinions, with teacher support as appropriate (*e.g., listen to a video clip on a[n] ... environmental issue and explain its impact on their life; ...*)

### **B. Speaking**

#### **B1. Speaking to Communicate**

**B1.2 Producing Oral Communications:** using familiar words and expressions, produce planned, rehearsed, and increasingly spontaneous messages in French containing information and ideas about academic topics and matters of immediate personal relevance, with contextual, auditory, and visual support (*e.g., ... deliver a speech communicating personal thoughts and opinions on an environmental ... issue; ...*)

**B1.4 Creating Media Texts:** create a variety of oral media texts using forms, conventions, and techniques appropriate to the purpose and audience (*e.g., record an interview with someone in the school community about his or her role in protecting the environment; ...*)

## **B2. Speaking to Interact**

**B2.2 Interacting:** engage in rehearsed and spontaneous spoken interactions, in guided and increasingly spontaneous social and academic contexts, about personally relevant and academic topics (*e.g., discuss the importance of recycling practices in their community; ...*)

**Teacher prompts:** “Quels sont les arguments essentiels qui t’aideront à convaincre les autres de recycler ou de choisir des contenants réutilisables?” ...

## **D. Writing**

### **D1. Purpose, Audience, and Form**

**D1.2 Writing in a Variety of Forms:** write a variety of French texts to convey information, ideas, and opinions about familiar, personally relevant, and academic topics, following models appropriate to the purpose and incorporating some elements of each form (*e.g., ... write a report or journal entry to convey thoughts and feelings about an environmental ... issue in their community*)

**D1.5 Creating Media Texts:** using familiar words and expressions, create a variety of media texts in French for specific purposes and audiences, using several media forms and the conventions and techniques appropriate to the chosen form (*e.g., ... create a brochure for a provincial park; design a bumper sticker about a social or environmental issue; create a map with labels and a legend showing where plants with medicinal properties such as blueberries, apples, and wild ginger can be harvested*)

**Teacher prompts:** ... “Comment peut-on inciter les touristes à aller visiter un parc provincial? ...” ...

## **Health and Physical Education (2015)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **A. Active Living**

#### **A1. Active Participation**

**A1.3** identify factors that motivate participation in physical activity every day at school, at home, or in their communities (*e.g., ... proximity and accessibility of facilities such as community centres, lakes, or nature trails; ...*)

**Students:** ... “Our environment club at school is making a school garden. I love being outside, digging in the earth and watching things grow, but I don’t have a chance to do it at home because I live in an apartment. I am active every day as I help with digging and watering.” “My friends and I often cycle on the trails near our house. It’s a lot of fun.” ...

#### **A2. Physical Fitness**

**A2.3** assess their level of exertion during physical activity, using simple self-assessment techniques ..., and explain how intrinsic and extrinsic factors affect the exertion required to perform physical activities (*e.g., ... extrinsic: ... weather extremes such as heat, humidity or cold*) ...

## **C. Healthy Living**

### **C2. Making Healthy Choices**

#### *Personal Safety and Injury Prevention*

**C2.2** apply a decision-making process ... to assess risks and make safe decisions in a variety of situations (*e.g., ... cycling, ...*) ...

**Teacher prompt:** “Before riding your bike to school, what do you need to think about and what do you need to do to be safe?” ...

### **C3. Making Connections for Healthy Living**

#### *Healthy Eating*

**C3.1** identify ways of promoting healthier food choices in a variety of settings and situations (*e.g., ... when camping, ...*) ...

## **Language (2006)**

Although no specific or overall expectations explicitly address environmental education, in each of the strands the learning context (*e.g., a topic or thematic unit related to the environment*) and/or learning materials (*e.g., books, websites, media*) could be used to foster in students the development of environmental understanding. Also, in each of the strands, there are some expectations that can provide opportunities for exploring environmental education – for example, expectations on making inferences, making connections, analysing and evaluating texts, developing a point of view, and doing research. Some examples in the following expectations from the language document provide a context for environmental education.

### **Writing**

#### **2. Using Knowledge of Form and Style in Writing**

**2.1** write more complex texts using a variety of forms (*e.g., ... a report, including jot notes, comparing the environments of two or more regions in Canada; ...*)

### **Media Literacy**

#### **1. Understanding Media Texts**

**1.3** express opinions about ideas, issues, and/or experiences presented in media texts, and give evidence from the texts to support their opinions (*e.g., “I think this documentary about lions is one-sided because it only shows them as predators”; ...*)

#### **2. Understanding Media Forms, Conventions, and Techniques**

**2.1** identify elements and characteristics of some media forms (*e.g., ... a television nature program: outdoor setting, wildlife “actors”, voice-over narration, background music; ...*)



## **Mathematics (2005)**

Although no overall or specific expectations explicitly address environmental education, in each of the strands the learning context could be used to foster in students the development of environmental understanding. This is especially so in the context of a cross-disciplinary approach to teaching and learning (e.g., problems relating to climate or waste management could be the focus of student learning). In addition, the mathematical processes (e.g., problem solving, connecting) address skills that can be used to support the development of environmental education. The specific expectation below provides an example that teachers could connect to a broader environmental context.

### ***Data Management and Probability***

#### **Collection and Organization of Data**

- collect data by conducting a survey ... or an experiment to do with themselves, their environment, issues in their school or community, or content from another subject, and record observations or measurements

## **Native Languages (2001)**

Although no overall or specific expectations explicitly address environmental education, the learning context (e.g., a topic or thematic unit related to the environment) and/or learning materials (e.g., books, websites, media) could be used to foster the development of environmental understanding. Learning about aspects of Native culture and communities may provide opportunities for students to make connections with local places.

## **Science and Technology (2007)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

There are many opportunities to support environmental education in the science and technology curriculum. Only the overall and specific expectations, and examples that have explicit connections to environmental education, have been included here. For the sake of brevity, sample guiding questions, teacher prompts, and sample issues that support the specific expectations have not been included.

### ***Understanding Life Systems: Habitats and Communities***

1. analyse the effects of human activities on habitats and communities

#### **1. Relating Science and Technology to Society and the Environment**

- 1.1 analyse the positive and negative impacts of human interactions with natural habitats and communities (*e.g., human dependence on natural materials*), taking different perspectives

into account (*e.g., the perspectives of a housing developer, a family in need of housing, an ecologist*), and evaluate ways of minimizing the negative impacts

- 1.2 identify reasons for the depletion or extinction of a plant or animal species (*e.g., hunting, disease, invasive species, changes in or destruction of its habitat*), evaluate the impacts on the rest of the natural community, and propose possible actions for preventing such depletions or extinctions from happening
2. investigate the interdependence of plants and animals within specific habitats and communities

## **2. Developing Investigation and Communication Skills**

- 2.2 build food chains consisting of different plants and animals, including humans
- 2.3 use scientific inquiry/research skills to investigate ways in which plants and animals in a community depend on features of their habitat to meet important needs (*e.g., beavers use water for shelter [they build their lodges so the entrance is under water], food [cattails, water lilies, and other aquatic plants], and protection [they slap their tails on the water to warn of danger]*)
- 2.4 use scientific inquiry/research skills to create a living habitat containing a community, and describe and record changes in the community over time
3. demonstrate an understanding of habitats and communities and the relationships among the plants and animals that live in them

## **3. Understanding Basic Concepts**

- 3.1 demonstrate an understanding of habitats as areas that provide plants and animals with the necessities of life (*e.g., food, water, air, space, and light*)
- 3.2 demonstrate an understanding of food chains as systems in which energy from the sun is transferred to producers (plants) and then to consumers (animals)
- 3.3 identify factors (*e.g., availability of water or food, amount of light, type of weather*) that affect the ability of plants and animals to survive in a specific habitat
- 3.4 demonstrate an understanding of a community as a group of interacting species sharing a common habitat (*e.g., the life in a meadow or in a patch of forest*)
- 3.5 classify organisms, including humans, according to their role in a food chain (*e.g., producer, consumer, decomposer*)
- 3.6 identify animals that are carnivores, herbivores, or omnivores
- 3.7 describe structural adaptations that allow plants and animals to survive in specific habitats (*e.g., the thick stem of a cactus stores water for the plant; a duck's webbed feet allow it to move quickly and efficiently in water*)
- 3.8 explain why changes in the environment have a greater impact on specialized species than on generalized species (*e.g., diminishing ice cover hampers the ability of polar bears to hunt seals, their main food source, and so the polar bear population in some areas is becoming less healthy and may begin to decrease; black bear habitat has been heavily disrupted by human encroachment, but because black bears are highly adaptable omnivores that eat everything from insects to garbage generated by humans, their numbers have been increasing*)
- 3.9 demonstrate an understanding of why all habitats have limits to the number of plants and animals they can support
- 3.10 describe ways in which humans are dependent on natural habitats and communities (*e.g., for water, medicine, flood control in wetlands, leisure activities*)

## **Understanding Structures and Mechanisms: Pulleys and Gears**

1. evaluate the impact of pulleys and gears on society and the environment

### **1. Relating Science and Technology to Society and the Environment**

- 1.2 assess the environmental impact of using machines with pulleys and gears, taking different perspectives into account (*e.g., the perspectives of a car driver or cyclist, someone who is physically challenged, the owner of a multifloor building*), and suggest ways to minimize negative impacts and maximize positive impacts

## **Understanding Matter and Energy: Light and Sound**

1. assess the impact on society and the environment of technological innovations related to light and sound

### **1. Relating Science and Technology to Society and the Environment**

- 1.2 assess the impacts on society and the environment of light and/or sound energy produced by different technologies, taking different perspectives into account (*e.g., the perspectives of someone who has to walk on the street late at night, a cottage owner, a person who is hearing impaired, manufacturers of and merchants who sell MP3 players*)

## **Understanding Earth and Space Systems: Rocks and Minerals**

1. assess the social and environmental impacts of human uses of rocks and minerals

### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess the social and environmental costs and benefits of using objects in the built environment that are made from rocks and minerals
- 1.2 analyse the impact on society and the environment of extracting and refining rocks and minerals for human use, taking different perspectives into account (*e.g., the perspectives of mine owners, the families of the miners, Aboriginal communities, the refinery workers, manufacturers of items who need the refined rocks and minerals to make their products, residents who live in communities located near refineries and manufacturing facilities and who are concerned about the environment*)

### **2. Developing Investigation and Communication Skills**

- 2.4 use scientific inquiry/research skills to investigate how rocks and minerals are used, recycled, and disposed of in everyday life (*e.g., nickel and copper are made into coins; coins that are out of circulation can be melted down and the metal can be used for making other things; calcium [from limestone], silicon [from sand or clay], aluminum [from bauxite], and iron [from iron ore] are made into cement that is used for roads and buildings; concrete can be returned to cement and concrete production facilities, and can be recycled; rocks from quarries are used for garden landscaping, and these rocks can be reused; marble is used for countertops and statues*)

## Social Studies (2013)

See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.

### A. Heritage and Identity: Early Societies, 3000 BCE–1500 CE

#### A1. Application: Past and Present Societies

**A1.4** compare two or more early societies 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/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

**Sample questions:** “What agricultural practices did the ancient Greeks use? What other societies managed their land in similar ways?” “What farming techniques used by the Mayans and the people of ancient India are still practised by Canadian farmers?” ... “How would a city in medieval Britain or ancient Rome have dealt with sewage and garbage? How do we deal with these in Canada? What health issues might arise if sewage and garbage was not treated or properly disposed of?”

**A2. Inquiry:** use the social studies inquiry process to investigate ways of life and relationships with the environment in two of more early societies (3000 BCE–1500 CE), with an emphasis on aspects of the interrelationship between the environment and life in those societies

#### A2. Inquiry: Ways of Life and Relationships with the Environment

**A2.1** formulate questions to guide investigations into ways of life and relationships with the environment in two or more early societies, 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, types of work; the impact of agriculture or the development of towns and cities on the environment*)

**Sample questions:** “Which civilization – those along the Nile, those in Mesopotamia, or First Nations in what would become Canada – had the greatest impact on its environment?” “What role did religion play in the daily life of the early Haida or Norse, or in ancient Egypt? In what ways was it connected to the society’s view of and relationship with the environment?” ...

**A2.2** gather and organize information on ways of life and relationships with the environment in early societies, using a variety of primary and secondary sources in both print and electronic formats (*e.g., thematic and physical maps showing rivers, vegetation, volcanoes, soil types; ... religious/spiritual stories that provide evidence of society’s view of the environment; agricultural artefacts*)

**Sample questions:** “Where might you look for information on how rural people lived in medieval Europe? What do you think paintings from the time could tell you about the ways in which these people lived and their relationship with the land?” “What kinds of maps might provide clues about the sustainability of a society?” “What might the architecture of, or the art found in, religious buildings tell you about a society’s relationship with the natural environment?” “What do the creation stories of a local First Nation tell you about their traditional relationship with the land and with all living things?”

- A2.3** analyse and construct print and/or digital maps, including thematic maps, as part of their investigations into interrelationships between the environment and life in early societies (*e.g., analyse a climate map to determine the climatic challenges facing early settlements; construct soil and vegetation maps to determine the connection between soil type and agricultural activity; analyse maps to determine the proximity of early settlements to water*)  
**Sample questions:** “What does this map tell you about why the Nile was so important to ancient Egypt?” “What type of thematic map might help you make connections between local plant life and the development of medicines?”
- A2.4** interpret and analyse information relevant to their investigations, using a variety of tools (*e.g., use a graphic organizer to help them determine the relationship between soil type, availability of water, and agricultural activity; ... analyse artefacts found in a museum or on a website for information on a society’s daily life and relationship with the environment*)  
**Sample questions:** “What do these works of art reveal about the religious beliefs and practices of this society? Do they tell you anything about the connection between these beliefs and the environment?” “What does the archaeological evidence reveal about the way these people lived? What materials did they use to build their homes? What do these materials reveal about the local environment?”
- A2.5** evaluate evidence and draw conclusions about ways of life and relationships with the environment in early societies, with an emphasis on aspects of the interrelationship between the environment and life in those societies  
**Sample questions:** “What did you find out about religious beliefs/practices in medieval Japan? In what ways were these beliefs related to the physical features of the land?”
- A2.6** communicate the results of their inquiries, using appropriate vocabulary ... and formats (*e.g., an annotated map showing how a society situated on a flood plain was affected by and responded to its environment; an oral presentation on the impact of medieval cities on the environment; a stop-animation video on the lives of children in a society that followed animal migration routes or lived in different locations during different seasons; a chart and presentation comparing farming techniques of different societies*)
- A3. Understanding Context:** demonstrate an understanding of key aspects of a few early societies (3000 BCE–1500 CE), each from a different region and era and representing a different culture, with reference to their political and social organization, daily life, and relationships with the environment and with each other

### **A3. Understanding Context: Characteristics of Early Societies**

- A3.1** identify the location of some different early societies on a globe or on print, digital, and/or interactive maps, and demonstrate the ability to extract information on early societies’ relationship with the environment from thematic maps (*e.g., climate, physical, topographical, vegetation maps*)  
**Sample questions:** ... “What were the main physical features in this society, according to this map? What challenges do you think they might have presented? What benefits might they have provided?”
- A3.4** describe significant physical features and natural processes and events in two or more early societies (*e.g., physical features: rivers, flood plains, mountains, volcanoes, ocean shore, fertile soil; natural processes: seasonal changes in climate, animal migration, erosion; natural events: earthquakes, floods, volcanic eruptions*) and how they affected these societies, with a focus on the societies’ sustainability and food production (*e.g., how flooding of rivers*

*in ancient Egypt, India, and China enriched agricultural land, making it possible to sustain large populations; how the thin topsoil of Central America, Mesopotamia, and Easter Island limited population growth; how volcanoes threatened the survival of communities in ancient Greece and the Roman Empire)*

**Sample questions:** ... “What impact did the annual flooding of the Indus River have on food production in ancient India?”

**A3.5** describe the importance of the environment for two or more early societies, including how the local environment affected the ways in which people met their physical needs (*e.g., for food, housing, clothing*)

**Sample questions:** “What techniques did the Aztecs develop to allow them to farm on the sides of mountains and hills?” “What use did early Haida people make of cedar trees?”

## **B. People and Environments: Political and Physical Regions of Canada**

**B1. Application:** assess some key ways in which industrial development and the natural environment affect each other in two or more political and/or physical regions of Canada

### **B1. Application: Industrial Development and the Environment**

**B1.1** analyse some of the general ways in which the natural environment of regions in Canada has affected the development of industry (*e.g., how the characteristics of the Canadian Shield made possible the development of mining and smelting, forestry, fresh water fisheries, pulp and paper; how the characteristics of the Maritime provinces made possible the development of fisheries, coal mining, agriculture, off-shore oil drilling; how the topography and climate of the Prairies make the region suitable for large-scale farming and ranching*)

**Sample questions:** “What industries might develop in a forested area? Do all forested regions have the same types of industries? What accounts for the difference?” “Why do some industries need to be near water?” “What makes the Western Cordillera a good location for mining and smelting as well as forestry-based industries? What other types of industries have developed in this region? Why?”

**B1.2** assess aspects of the environmental impact of different industries in two or more physical and/or political regions of Canada (*e.g., hydro-electric development in Quebec, the development of the oil sands in northern Alberta, fishing in Atlantic Canada, steel production in Nova Scotia, forestry and fishing in British Columbia, coal-powered electrical plants in Ontario, smelting in northern Ontario, shipping in the Great Lakes–St. Lawrence region*)

**Sample questions:** “How has the increase in mining in the North affected the environment?” “What are the Sydney Tar Ponds? How were they created? What impact have they had on the environment?” “What is ‘clearcutting’? Why is that practice used by forestry companies? What is its environmental impact?”

**B1.3** describe some key actions taken by both industries and citizens to address the need for more sustainable use of land and resources (*e.g., controlling industrial tailings; putting solar panels on houses or other buildings; ensuring responsible hunting and fishing practices; consulting with First Nations, Métis, and/or Inuit communities about resource development in their territories*), and assess their effectiveness

**Sample questions:** “What are some things that the forestry industry has done to help manage forests? Are these actions enough to preserve forests for future use? If not, what else do you think should be done?” “What are some of the things you and your family can do to live in a more sustainable way?”

**B2. Inquiry:** use the social studies inquiry process to investigate some 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. Inquiry: Balancing Human Needs and Environmental Stewardship**

**B2.1** formulate questions to guide investigations into some of the 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

**Sample questions:** “What impact might ecotourism have on the Rockies or the Gulf Islands of British Columbia? How might such tourism be managed to limit its impact?” “How might the opening of a mine both help and hurt a community?” “Should wind turbines be developed in all regions of Canada? Why or why not?” “What is the best way to balance the demand for more housing with the responsibility to protect the environment?”

**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 (*e.g., spatial technologies and satellite images showing physical features; print and digital thematic maps showing land use or population; climate graphs for various regions ...*)

**Sample questions:** “What can satellite images reveal about the impact of an industry on a region?” ...

**B2.3** analyse and construct print and/or digital maps, including thematic maps, as part of their investigations into balancing human needs/wants and activities with environmental stewardship in Canada (*e.g., analyse population settlement maps; construct natural resource maps, using symbols to represent different resources; construct physical region maps, using shading to represent elevation change*)

**Sample questions:** ... “What would you need to include on a map to show the relationship between the Canadian Shield and mining industries?” ...

**B2.4** interpret and analyse information and data related to their investigations, using a variety of tools (*e.g., use a graphic organizer to help them determine the interrelationship between a region’s physical features and tourism or recreation; ... use a decision-making chart to determine the best location for a new hydroelectric dam; use a double bar graph to help them determine the effect of an increase in tourism on waste production in a region*)

**Sample question:** “How might you use an ideas web to help you determine the effect of the closing of a pulp and paper mill on the people in the community and on the environment?”

**B2.5** evaluate evidence and draw conclusions about issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in Canada

**Sample questions:** “What did you find out about the interrelationship between tourism and the environment on Vancouver Island? What would you recommend with regard to the development of the tourism industry in this area?” “What is your position on the issue of urban sprawl in the Greater Toronto Area?” “Do you think the environmental damage that resulted from building this dam was justified by the benefits that the dam brings? Why or why not?”

**B2.6** communicate the results of their inquiries using appropriate vocabulary (*e.g., mountains, foothills, prairies, tundra, wetlands, forestry, mining, agriculture, fish farming, tourism, commerce, hydro-electricity, wind farms*) and formats (*e.g., a poster explaining the chosen location for a hydro-electric project; a cooperatively produced big book of photos from a field study or from the Internet about how companies are responding to their role as*

*environmental stewards; a brochure outlining the steps an industry is taking to help protect the local area; a song, rap, or poem from the perspective of an animal that is losing its habitat because of a new housing development)*

- B3. Understanding Context:** identify Canada’s political and physical regions, and describe their main characteristics and some significant activities that take place in them

**B3. Understanding Context: Regions 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 (*e.g., the location of the Western Cordillera and the Appalachian regions and the characteristics of the mountains in each region; characteristics of boreal forest and tundra regions; similarities and differences between agricultural areas in the Niagara region, the Annapolis Valley, and the western plains; climatic differences between the rainforest of Vancouver Island and arid areas such as the Canadian badlands*)

**Sample questions:** “What are some of the physical regions within Canada’s landform regions?” “What characteristics of boreal forest make it different from mixed-wood forest?” “What are the differences in climate between the east and west coasts of Canada?”

- B3.2** identify some of the main human activities, including industrial development and recreational activities, in various physical regions of Canada (*e.g., large-scale farming in the plains and lowlands; mining and smelting in the Canadian Shield; cattle ranching in grasslands and plains; development of transportation routes along rivers and in valleys and mountain passes; fisheries in oceans, lakes, and rivers; skiing in mountain regions; boating on waterways; hiking on forest or coastal trails*)

- B3.3** describe the four main economic sectors (*i.e., the primary sector is resource based ...*), and identify some industries that are commonly associated with each sector (*e.g., primary: logging, fishing, mining; secondary: pulp and paper, car manufacturing; ...*)

**Sample questions:** “What is similar about all primary industries?” ...

- B3.6** describe significant opportunities and challenges related to quality of life in some of Canada’s political regions (*e.g., job opportunities in Alberta’s booming resource sector; loss of jobs in the fishing industry in Newfoundland and Labrador; pollution generated in the Alberta oil sands ...*)

**Sample questions:** “How has the development of the oil sands contributed to the Alberta economy? What are some environmental challenges related to its development?”



# GRADE 5

## The Arts (2009)

See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.

### **B. Drama**

#### **B1. Creating and Presenting**

**B1.1** engage actively in drama exploration and role play, with a focus on examining issues and themes in fiction and non-fiction sources from diverse communities, times, and places (*e.g., ... use role play to explore social issues related to topics such as the environment, ...*)  
**Teacher prompts:** ... “What drama strategy or convention can your group use to present solutions to the audience for your environmental issue?”

### **C. Music**

#### **C1. Creating and Performing**

**C1.3** create musical compositions for specific purposes and audiences (*e.g., compose an accompaniment for a story, poem, or drama presentation to address an environmental issue such as water conservation, recycling, or planting trees; ...*)

#### **C2. Reflecting, Responding, and Analysing**

**C2.1** express detailed personal responses to musical performances in a variety of ways (*e.g., ... analyse a movement from Vivaldi’s Four Seasons in a think-pair-share listening activity, and describe their feelings and personal impressions; ...*)  
**Teacher prompts:** ... “What in the ‘Spring’ movement of Vivaldi’s *Four Seasons* makes you think of spring?”

### **D. Visual Arts**

#### **D1. Creating and Presenting**

**D1.1** create two- and three-dimensional art works that express feelings and ideas inspired by their own and others’ points of view (*e.g., ... a coloured line drawing of an underwater setting or the view from an airplane that addresses environmental awareness by showing the interconnectedness of ecosystems; ...*)  
**Teacher prompts:** ... “How does our impression of the world change when we look at it from a bird’s-eye view rather than a worm’s-eye view? How can you use a particular point of view in your painting (not necessarily these) to create a particular impression?”

## **D2. Reflecting, Responding, and Analysing**

**D2.3** demonstrate an understanding of how to read and interpret signs, symbols, and style in art works (*e.g., Carl Ray’s paintings use symbols in the Woodland style of Aboriginal art to tell a story; ... a tiger is used in Asian art to signify bravery*)

**Teacher prompts:** “Why are creatures such as the thunderbird or eagle associated with the idea of power and privilege in some art works?” ...

## **French as a Second Language (2013)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **Core French**

#### **A. Listening**

##### **A1. Listening to Understand**

**A1.2 Demonstrating Understanding:** demonstrate an understanding of the purpose and meaning of oral French texts containing familiar words and expressions about themselves, family, friends, and their immediate environment, with contextual and visual support (*e.g., ... listen to a classmate or teacher describe the weather and draw a picture to illustrate the description; ...*)

#### **B. Speaking**

##### **B1. Speaking to Communicate**

**B1.2 Producing Oral Communications:** using familiar words and expressions, produce brief, rehearsed messages in French containing information and ideas about themselves, family, friends, and their immediate environment, with contextual, auditory, and visual support (*e.g., ... state their reactions to information in texts such as ... environmental brochures, ...*)

##### **B2. Speaking to Interact**

**B2.2 Interacting:** engage in brief, structured spoken interactions with their peers and the teacher, using familiar words and expressions, with teacher modelling and support (*e.g., ... ask and answer questions about ... environmental issues ...*)

### **Extended French**

#### **B. Speaking**

##### **B1. Speaking to Communicate**

**B1.4 Creating Media Texts:** create a variety of oral media texts using forms, conventions, and techniques appropriate to the purpose and audience (*e.g., create a video clip on a[n]...*)

*environmental movement or campaign, ...; ... deliver a news report about global warming; ... create a commercial to advertise eco-tourism in Quebec)*

## **B2. Speaking to Interact**

**B2.2 Interacting:** engage in rehearsed and spontaneous spoken interactions, in structured and guided social and academic contexts, on familiar topics related to matters of personal interest and academic topics (*e.g., ... discuss the importance of recycling practices in their community; ...*)

## **C. Reading**

### **C1. Reading Comprehension**

**C1.2 Reading for Meaning:** demonstrate an understanding of the intent and meaning of French texts containing familiar words and expressions and dealing with everyday and academic topics, with contextual and visual support (*e.g., ... summarize the key message from the home page of an environmental organization's website*)

**C1.5 Responding to and Evaluating Media Texts:** express their personal opinions about the treatment and presentation of the messages in a variety of media texts about familiar, academic, and personally relevant topics, and give evidence from the text for their opinions, with teacher support as appropriate (*e.g., ... explain what can and cannot be recycled, using information from a municipal recycling flyer*)

### **C3. Intercultural Understanding**

**C3.1 Intercultural Awareness:** using information from a variety of French texts, identify French-speaking communities in Quebec, find out about aspects of their cultures, and make connections to personal experiences and their own and other communities (*e.g., ... discuss various Aboriginal legends and make connections to current environmental and social issues; ...*)

## **D. Writing**

### **D1. Purpose, Audience, and Form**

**D1.2 Writing in a Variety of Forms:** write a variety of texts in French, conveying information, ideas, and opinions about themselves, friends, family, and their immediate environment, following models appropriate to the purpose and incorporating some of the basic elements of each form (*e.g., ... create a picture book explaining an environmental or social issue to a younger audience; write an article or report about green living choices; ...*)

**D1.5 Creating Media Texts:** using familiar words and expressions, create a variety of media texts in French for specific purposes and audiences, using several media forms and the conventions and techniques appropriate to the chosen form (*e.g., write a script for a radio announcement on an environmental issue; ...*)

### **D2. The Writing Process**

**D2.1 Generating, Developing, and Organizing Ideas:** generate, develop, focus, and organize ideas for writing, using a variety of strategies and print, electronic, and other resources, as appropriate (*e.g., use a word web to brainstorm ideas about energy conservation; ...*)

## **French Immersion**

### **A. Listening**

#### **A1. Listening to Understand**

**A1.4 Responding to and Evaluating Media Texts:** express their personal opinions about the treatment and presentation of the messages in a variety of oral media texts about familiar, academic, and personally relevant topics, and give evidence from the texts for their opinions, with teacher support as appropriate (*e.g., ... evaluate the effectiveness of an advertisement about an eco-friendly product*)

### **B. Speaking**

#### **B1. Speaking to Communicate**

**B1.4 Creating Media Texts:** create a variety of oral media texts using forms, conventions, and techniques appropriate to the purpose and audience (*e.g., ... record an advertisement for a local farmers' market; create a podcast promoting Earth Day or Earth Hour*)

### **C. Reading**

#### **C1. Reading Comprehension**

**C1.2 Reading for Meaning:** demonstrate an understanding of the intent and meaning of a variety of French texts about familiar, academic, and personally relevant topics, with contextual and visual support (*e.g., ... illustrate the main points of a newspaper article on an environmental issue; ...*)

**Teacher prompts:** ... “Pouvez-vous expliquer comment le sujet de la protection de la planète est abordé dans le texte?” ...

**C1.5 Responding to and Evaluating Media Texts:** express their personal opinions about the treatment and presentation of the messages in a variety of media texts about familiar, academic, and personally relevant topics, and give evidence from the text for their opinions, with teacher support as appropriate (*e.g., ... describe the main message of an environmental website and explain how the message connects to the organization that created it*)

#### **C3. Intercultural Understanding**

**C3.1 Intercultural Awareness:** using information from a variety of French texts, identify French-speaking communities in Quebec, find out about aspects of their cultures, and make connections to personal experiences and their own and other communities (*e.g., ... discuss various Québécois and/or Aboriginal stories or legends, such as “Le Cap diamant” or “Le Rocher de Grand-mère”, and make connections to current environmental or social issues; ...*)

### **D. Writing**

#### **D1. Purpose, Audience, and Form**

**D1.1 Identifying Purpose and Audience:** determine, with support from the teacher, their purpose for writing and the audience for French texts they plan to create (*e.g., ... to draft notes for a speech on an environmental issue*)

**D1.5 Creating Media Texts:** using familiar words and expressions, create a variety of media texts in French for specific purposes and audiences, using several media forms and the conventions and techniques appropriate to the chosen form (*e.g., ... compose song lyrics about an environmental issue*)

## Health and Physical Education (2015)

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### A. Active Living

#### A1. Active Participation

**A1.2** demonstrate an understanding of factors that contribute to their personal enjoyment of being active ..., as they participate in a wide variety of individual and small-group activities and lead-up games

**Teacher prompt:** “What can you do to keep school and community play spaces clean, tidy, and attractive so that you can enjoy being physically active outside?”

**Student:** “We can get the school or community to put garbage and recycling containers in the area, use them ourselves, and encourage others to use them. We would also volunteer to plant trees. Trees provide shady places where we can go to keep cool.”

#### A3. Safety

**A3.2** demonstrate an understanding of proactive measures that should be taken to minimize environmental health risks that may interfere with their safe participation in and enjoyment of outdoor physical activities (*e.g., ... applying sunscreen and wearing a hat and sunglasses to protect the skin and eyes from sun damage; checking weather reports for the humidex, wind chill, air quality index, and UV index to determine what preparations may be needed to be safe and comfortable outdoors; ...*)

**Teacher prompt:** “Using ‘active transportation’ means using muscle power instead of vehicles to get ourselves around. It helps to reduce air pollution. When using active transportation, what can you do to keep yourself safe?”

**Student:** “I can travel with a buddy or a group because there’s safety in numbers. When I’m biking, walking, or skateboarding, I can follow the rules of the road and also use trails or side streets instead of the main roads whenever I can. That way, I avoid the dangers of travelling in traffic and I don’t have to breathe in the exhaust from cars.”

### B. Movement Competence

#### B2. Movement Strategies

**B2.1** demonstrate an understanding of the components of physical activities ... and apply this understanding as they participate in a variety of physical activities (*e.g., ... orienteering, ...*)

**B2.2** describe common features of specific categories of physical activities ... and describe strategies that they found effective while participating in a variety of physical activities in different categories

**Teacher prompt:** “Consider what is similar about activities like cross-country running or skiing, orienteering, long-distance running in track, and power walking. What strategies might you use in all of these activities?” ...

## **Language (2006)**

Although no specific or overall expectations explicitly address environmental education, in each of the strands the learning context (e.g., a topic or thematic unit related to the environment) and/or learning materials (e.g., books, websites, media) could be used to foster in students the development of environmental understanding. Also, in each of the strands, there are some expectations that can provide opportunities for exploring environmental education – for example, expectations on making inferences, making connections, analysing and evaluating texts, developing a point of view, and doing research. Some examples in the expectations in the Writing and Media Literacy strands support environmental literacy skill development.

## **Mathematics (2005)**

Although no overall or specific expectations explicitly address environmental education, in each of the strands the learning context could be used to foster in students the development of environmental understanding. This is especially so in the context of a cross-disciplinary approach to teaching and learning (e.g., problems relating to climate or waste management could be the focus of student learning). In addition, the mathematical processes (e.g., problem solving, connecting) address skills that can be used to support the development of environmental education. The specific expectation below provides an example that teachers could connect to a broader environmental context.

### ***Data Management and Probability***

#### **Collection and Organization of Data**

- collect data by conducting a survey or an experiment (*e.g., gather and record air temperature over a two-week period*) to do with themselves, their environment, issues in their school or community, or content from another subject, and record observations or measurements

## **Native Languages (2001)**

Although no overall or specific expectations explicitly address environmental education, the learning context (e.g., a topic or thematic unit related to the environment) and/or learning materials (e.g., books, websites, media) could be used to foster the development of environmental understanding. Learning about aspects of Native culture and communities may provide opportunities for students to make connections with local places.

## Science and Technology (2007)

See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.

There are many opportunities to support environmental education in the science and technology curriculum. Only the overall and specific expectations, and examples that have explicit connections to environmental education, have been included here. For the sake of brevity, sample guiding questions, teacher prompts, and sample issues that support the specific expectations have not been included.

### **Understanding Life Systems: Human Organ Systems**

1. analyse the impact of human activities and technological innovations on human health

#### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess the effects of social and environmental factors on human health, and propose ways in which individuals can reduce the harmful effects of these factors and take advantage of those that are beneficial

### **Understanding Structures and Mechanisms: Forces Acting on Structures and Mechanisms**

1. analyse social and environmental impacts of forces acting on structures and mechanisms

#### **1. Relating Science and Technology to Society and the Environment**

- 1.1 analyse the effects of forces from natural phenomena (*e.g., tornadoes, hurricanes, earthquakes, tsunamis*) on the natural and built environment
  - 1.2 evaluate the impact of society and the environment on structures and mechanisms, taking different perspectives into account (*e.g., the perspectives of golfers, local bird-watching groups, families, a school board*), and suggest ways in which structures and mechanisms can be modified to best achieve social and environmental objectives
3. identify forces that act on and within structures and mechanisms, and describe the effects of these forces on structures and mechanisms

#### **3. Understanding Basic Concepts**

- 3.4 describe forces resulting from natural phenomena that can have severe consequences for structures in the environment (*e.g., a house loses its roof in a wind storm*), and identify structural features that help overcome some of these forces (*e.g., cross supports for roofs, steel beams in bridges*)

## ***Understanding Matter and Energy: Properties of and Changes in Matter***

1. evaluate the social and environmental impacts of processes used to make everyday products

### **1. Relating Science and Technology to Society and the Environment**

- 1.1 evaluate the environmental impacts of processes that change one product into another product through physical or chemical changes
- 1.2 assess the social and environmental impact of using processes that rely on chemical changes to produce consumer products, taking different perspectives into account (*e.g., the perspectives of food manufacturers, consumers, landfill operators, people concerned about the environment*), and make a case for maintaining the current level of use of the product or for reducing it

## ***Understanding Earth and Space Systems: Conservation of Energy and Resources***

1. analyse the immediate and long-term effects of energy and resource use on society and the environment, and evaluate options for conserving energy and resources

### **1. Relating Science and Technology to Society and the Environment**

- 1.1 analyse the long-term impacts on society and the environment of human uses of energy and natural resources, and suggest ways to reduce these impacts (*e.g., turning off the faucet while brushing teeth or washing and rinsing dishes conserves water; reusing or recycling products, or using fewer products, conserves natural resources and energy*)
  - 1.2 evaluate the effects of various technologies on energy consumption (*e.g., improving our home's insulation allows us to conserve heat and reduce energy consumption; aerodynamic design can improve the energy efficiency of cars and buses; household appliances designed to make our lives easier use large amounts of energy; some cars and recreational vehicles use energy less efficiently than others*), and propose ways in which individuals can improve energy conservation
3. demonstrate an understanding of the various forms and sources of energy and the ways in which energy can be transformed and conserved

### **3. Understanding Basic Concepts**

- 3.2 identify renewable and non-renewable sources of energy (*e.g., renewable: sun, wind, ocean waves and tides, wood; non-renewable: fossil fuels such as coal and natural gas*)

## **Social Studies (2013)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*



## **A. Heritage and Identity: First Nations and Europeans in New France and Early Canada**

### **A1. Applications: The Impact of Interactions**

**A1.2** analyse aspects of early contact between First Nations and Europeans in New France to determine the ways in which different parties benefited (*e.g., early settlers benefited from First Nations people’s knowledge of medicine, geography, and modes of transportation appropriate for local conditions ...*)

**A1.3** explain some of the ways in which interactions between and among First Nations and Europeans in New France are connected to issues in present-day Canada (*e.g., ... environmental stewardship, resource ownership and use*)

**Sample questions:** ... “Why did early settlers rely on the traditional ecological knowledge (TEK) of First Nations people? In what ways might the TEK of today’s First Nations, Métis, and/or Inuit people be relevant to an environmental issue such as climate change?” ...

### **A2. Inquiry: Perspectives on Interactions**

**A2.3** analyse and construct maps as part of their investigations into interactions among and between First Nations and Europeans (*e.g., thematic maps showing physical features that influenced settlement patterns, agricultural practices, or the habitat of animals that sustained the fur trade ...*)

**A2.4** interpret and analyse information and evidence relevant to their investigations, using a variety of tools (*e.g., use a graphic organizer to compare First Nations and European views on nature and resource use ...*)

### **A3. Understanding Context: Significant Characteristics and Interactions**

**A3.1** identify major First Nations in the Great Lakes–St. Lawrence region and Atlantic Canada at the time of contact with Europeans ... and describe key characteristics of selected nations ...

**Sample questions:** ... “What natural resources did the Innu rely on?” ...

**A3.6** describe some significant differences among First Nations and between selected First Nations and European settlements in early Canada (*e.g., ... land use/ownership ... attitudes towards the environment ...*), and identify some of the reasons for these differences (*e.g., climate; availability of resources and arable land ... familiarity with the land and its resources*)

**Sample questions:** ... “How did climate and the availability of resources affect the way the Innu lived?”

## **B. People and Environments: The Role of Government and Responsible Citizenship**

**B1. Application:** assess responses of governments in Canada to some significant issues, and develop plans of action for governments and citizens to address social and environmental issues

### **B1. Application: Governments and Citizens Working Together**

**B1.1** assess the effectiveness of actions taken by one or more levels of government to address an issue of national, provincial/territorial, and/or local significance (*e.g., the effectiveness of the Far North Act in addressing concerns of Inuit and First Nations about development in northern Ontario; the effectiveness of policies related to the management of the Great Lakes*)

**Sample questions:** ... “How would you rate the effectiveness of different governments’ involvement in the protection of the Rouge Valley?” “Which levels of government are involved in managing the Alberta oil sands? Are their actions effective? Why or why not?” ...

- B1.3** create a plan of action to address an environmental issue of local, provincial/ territorial, and/ or national significance (*e.g., managing waste disposal, regulating industrial practices that damage the environment, ensuring safe drinking water, expanding availability of energy from renewable sources, reducing vehicle emissions*), specifying the actions to be taken by the appropriate level (or levels) of government as well as by citizens, including themselves

**Sample questions:** “Which level or levels of government should address the issue of the sale and export of spring water from Ontario? What action should citizens of the province take on this issue?” “What types of policy and action are needed to address the problems facing communities affected by erosion and the melting permafrost in Nunavut?”

- B2. Inquiry:** use the social studies inquiry process to investigate Canadian social and/or environmental issues from various perspectives, including the perspective of the level (or levels) of government responsible for addressing the issues

## **B2. Inquiry: Differing Perspective on Social and Environmental Issues**

- B2.1** formulate questions to guide investigations into social and/or environmental issues in Canada from various perspectives, including the perspective of the level (or levels) of government responsible for addressing the issues (*e.g., ... climate change in the Arctic, waste disposal, or deforestation*)

**Sample questions:** ... “What groups should be consulted when policy to address climate change is being developed?”

- B2.2** gather and organize a variety of information and data that present various perspectives about Canadian social and/or environmental issues, including the perspective of the level (or levels) of government responsible for addressing the issues (*e.g., with respect to the issue of climate change, gather data on sources of carbon dioxide emissions affecting Canada, photographic evidence of melting polar ice and its impact on Inuit and Arctic wildlife, information on the positions and/or actions of various NGOs working on climate change, projections from corporations on the costs of addressing greenhouse gas emissions, and/or information on the positions of the federal, provincial, and territorial governments*)

**Sample questions:** ... “What key words might you use to search a government website for information on the issue of climate change? How would you find material that reflects the perspectives of NGOs working in this area?”

- B2.3** analyse and construct maps in various formats, including digital formats, as part of their investigations into social and/or environmental issues (*e.g., a thematic map showing the extent of the areas affected by climate change or how air pollution generated in one jurisdiction affects another ...*)

**Sample questions:** “What information would you need to include on your map to show how and why the issue of pollution in the Great Lakes involves several different governments?” ... “What information could you include on a map on the potential impact of climate change to show that the issue involves all levels of government as well as people in different regions?”

- B2.4** interpret and analyse information and data relevant to their investigations, using a variety of tools (*e.g., use an idea web to help them determine connections between the way in which a group is affected by climate change and its perspective on the issue; ... use a double bar graph to help them determine the effectiveness of recycling and waste-diversion programs*)
- B2.5** evaluate evidence and draw conclusions about social and/or environmental issues, outlining the strengths and weaknesses of different positions on the issues, including the position of the level (or levels) of government responsible for addressing the issues
- B3. Understanding Context:** demonstrate an understanding of the roles and key responsibilities of citizens and of the different levels of government in Canada

**B3. Understanding Context: Roles and Responsibilities of Government**

- B3.2** describe the jurisdiction of different levels of government in Canada ... and some of the services provided by each (*e.g., ... garbage collection, water services ...*)
- B3.3** describe the shared responsibility of various levels of government for providing some services and for dealing with selected social and environmental issues (*e.g., services/issues related to ... the environment ...*)
- Sample questions:** ... “Why are there both provincial and federal ministries of the environment or natural resources?” ...
- B3.5** describe key actions taken by different levels of government to solve some significant national, provincial/territorial, and/or local issues (*e.g., federal policies relating to the effects of climate change in the Arctic ... ; ... municipal recycling and waste diversion programs; government action to relocate elk from the town of Banff, Alberta*)
- Sample questions:** “What programs are in place in our community to reduce the amount of garbage going to landfill?” “What are some national and provincial parks and regional conservation authorities in Canada? What is their purpose?”
- B3.6** explain why different groups may have different perspectives on specific social and environmental issues (*e.g., why oil industry representatives, farmers, environmentalists, and the Alberta government might differ on development of the oil sands ...*)
- Sample questions:** “Why might farmers, land developers, residents, and environmentalists all have different perspectives about development on the Oak Ridges Moraine or Niagara Escarpment?” ...
- B3.7** describe some different ways in which citizens can take action to address social and environmental issues ...

# GRADE 6

## The Arts (2009)

See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.

### A. Dance

#### A1. Creating and Presenting

**A1.2** use dance as a language to interpret and depict central themes in literature (*e.g., develop a movement vocabulary that reinterprets themes such as good versus evil or humans versus nature; ...*)

### B. Drama

#### B1. Creating and Presenting

**B1.1** engage actively in drama exploration and role play, with a focus on identifying and examining a range of issues, themes, and ideas from a variety of fiction and non-fiction sources and diverse communities, times, and places (*e.g., adapt roles and develop improvised scenes based on human rights issues and/or environmental issues such as species extinction; ...*)

### D. Visual Arts

#### D1. Creating and Presenting

**D1.3** use elements of design in art works to communicate ideas, messages, and understandings (*e.g., a design of a letter of the alphabet using shapes, symbols, colour, and font style to represent a selected animal and its habitat; ...*)

**D1.4** use a variety of materials, tools, techniques, and technologies to determine solutions to design challenges (*e.g., ...*)

- printmaking: *cut and gouge a variety of lines and marks to enhance the background and negative spaces in a softoleum, linoleum, or block print that depicts an endangered animal species ...*
- technology: *create a digital photo montage that represents aspects of environmentalism*)

#### D2. Reflecting, Responding, and Analysing

**D2.2** explain how the elements and principles of design are used in their own and others' art work to communicate meaning or understanding (*e.g., ... explain how Kenojuk Ashevak's use of formal balance [symmetry] in The World Around Me conveys a sense of harmony in nature; ...*)

**Teacher prompts:** ... "How does Bill Reid's *The Raven and the First Men* depict the relationship of form to its surroundings through the use of positive and negative space?"

## French as a Second Language (2013)

See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.

### Core French

#### A. Listening

##### A1. Listening to Understand

**A1.2 Demonstrating Understanding:** demonstrate an understanding of the purpose and meaning of oral French texts containing familiar and new words and expressions about themselves, family, friends, and topics of personal interest, with contextual and visual support (*e.g., ... listen to a read-aloud of an authentic text about the environment, ... and use words, pictures, and/or actions to restate the main idea and related details; ...*)

##### A2. Listening to Interact

**A2.2 Interacting:** respond with understanding to what others say while participating in guided interactions about familiar topics, with contextual and visual support (*e.g., ... plan a waste-free lunch; ...*)

#### B. Speaking

##### B1. Speaking to Communicate

**B1.2 Producing Oral Communications:** using familiar words and expressions, produce brief, rehearsed messages in French containing ideas and information about themselves, family, friends, and their environment, with contextual, auditory, and visual support (*e.g., ... describe how they are caring for the planet by being environmentally friendly; describe the roles of an animal within its ecosystem*)

##### B2. Speaking to Interact

**B2.2 Interacting:** engage in guided spoken interactions with their peers and the teacher, using familiar words and expressions, with teacher modelling and support (*e.g., ... ask questions, describe different perspectives, and outline possible solutions in discussions about environmental issues; ...*)

#### D. Writing

##### D1. Purpose, Audience, and Form

**D1.1 Identifying Purpose and Audience:** determine, with support from the teacher, their purpose in writing and the audience for French texts they plan to create (*e.g., ... to add healthy or locally grown foods to the family's weekly shopping; to describe, for an advertising brochure, a company's ... environmentally responsible practices; ...*)

## **Extended French**

### **A. Listening**

#### **A1. Listening to Understand**

**A1.2 Understanding Purposes for Listening:** demonstrate an understanding of the purpose for listening in a variety of situations (*e.g., to identify new vocabulary and expressions in a media presentation on a[n]... environmental issue; ...*)

**A1.4 Responding to and Evaluating Media Texts:** express their personal opinions about the treatment and presentation of the messages in a variety of oral media texts about familiar, academic, and personally relevant topics, and give evidence from the text for their opinions, with teacher support as appropriate (*e.g., ... identify the various perspectives present and missing in a video related to a[n]... environmental issue*)

#### **A2. Listening to Interact**

**A2.2 Interacting:** respond with understanding to what others say while participating in a variety of interactions about familiar, academic, and personally relevant topics (*e.g., ... participate in a debate about a[n]... environmental issue; ...*)

### **B. Speaking**

#### **B1. Speaking to Communicate**

**B1.2 Producing Oral Communications:** using familiar words and expressions, produce planned, rehearsed, and increasingly spontaneous messages in French containing information and ideas about academic topics and matters of immediate personal relevance, with contextual, auditory, and visual support (*e.g., present their point of view on a[n]... environmental issue; ...*)

### **C. Reading**

#### **C3. Intercultural Understanding**

**C3.1 Intercultural Awareness:** using information from a variety of French texts, identify French-speaking communities in eastern, western, and northern Canada, find out about aspects of their cultures, and make connections to personal experiences and their own and other communities (*e.g., ... read maps to identify differences and similarities with respect to economic and agricultural activity in various French-speaking communities; ...*)

**Teacher prompts:** “Comment la localisation et l’environnement d’une communauté affectent-ils les habitudes alimentaires de cette communauté?” “Comment l’activité agricole peut-elle influencer la culture d’une communauté?” ...

### **D. Writing**

#### **D1. Purpose, Audience, and Form**

**D1.5 Creating Media Texts:** using familiar words and expressions, create a variety of media texts in French for specific purposes and audiences, using several media forms and the conventions and techniques appropriate to the chosen form (*e.g., ... create a multimedia presentation on an environmental issue; ...*)

## **French Immersion**

### **A. Listening**

#### **A1. Listening to Understand**

**A1.4 Responding to and Evaluating Media Texts:** express their personal opinions about the treatment and presentation of the messages in a variety of oral media texts about familiar, academic, and personally relevant topics, and give evidence from the texts for their opinions, with teacher support as appropriate (*e.g., ... identify the target audience for a documentary on an environmental issue; ...*)

#### **A2. Listening to Interact**

**A2.2 Interacting:** respond with understanding to what others say while participating in a variety of interactions about familiar, academic, and personally relevant topics (*e.g., ... offer suggestions in a group discussion on preserving biodiversity; ...*)

### **B. Speaking**

#### **B1. Speaking to Communicate**

**B1.2 Producing Oral Communications:** produce planned, rehearsed, and increasingly spontaneous messages in French containing information and ideas about academic topics and matters of personal interest, with contextual, auditory, and visual support (*e.g., ... prepare an oral presentation to persuade peers to react to a[n]... environmental issue; ... deliver a speech to motivate students to participate in an environmental initiative; ...*)

**Teacher prompts:** ...“Comment peux-tu développer une argumentation logique pour convaincre tes pairs de vouloir participer à une activité environnementale?” ...

**B1.4 Creating Media Texts:** create a variety of oral media texts using forms, conventions, and techniques appropriate to the purpose and audience (*e.g., ... create a multimedia report on renewable sources of energy*)

### **C. Reading**

#### **C1. Reading Comprehension**

**C1.2 Reading for Meaning:** demonstrate an understanding of the intent and meaning of a variety of French texts about familiar, academic, and personally relevant topics, with contextual and visual support (*e.g., ..., read an article on an environmental issue and design the cover page for a magazine featuring the article; ...*)

**C1.5 Responding to and Evaluating Media Texts:** express their personal opinions about the treatment and presentation of the messages in a variety of media texts about familiar, academic, and personally relevant topics, and give evidence from the text for their opinions, with teacher support as appropriate (*e.g., ... identify features of an eco-tourism brochure that are intended to attract travellers*)

**Teacher prompts:** ...“Comment est-ce que les éléments visuels d’une brochure aident à inciter les clients à visiter un endroit?”

### **C3. Intercultural Understanding**

**C3.1 Intercultural Awareness:** using information from a variety of French texts, identify French-speaking communities in eastern, western, and northern Canada; find out about aspects of their cultures; and make connections to personal experiences and their own and other communities (*e.g., ... read maps to identify differences and similarities with respect to economic and agricultural activity in various French-speaking communities; ... discuss various Aboriginal stories or legends, such as Légende de la Prairie-du-Cheval-Blanc, and make connections to current environmental ... issues; ...*)

**Teacher prompts:** “Comment la localisation et l’environnement d’une communauté affectent-ils la nourriture quotidienne de la communauté en question?” “Comment l’activité agricole peut-elle influencer les cultures d’une communauté?” ...

### **D. Writing**

#### **D1. Purpose, Audience, and Form**

**D1.1 Identifying Purpose and Audience:** determine, with support from the teacher, their purpose for writing and the audience for French texts they plan to create (*e.g., ... to describe the importance of forest conservation for the protection of animal and plant species*)

**D1.2 Writing in a Variety of Forms:** write a variety of French texts to convey information, ideas, and opinions about familiar, personally relevant, and academic topics, following models appropriate to the purpose and incorporating some elements of each form (*e.g., ... write a letter to their city councillor about steps to improve the local environment*)

**D1.5 Creating Media Texts:** using familiar words and expressions, create a variety of media texts in French for specific purposes and audiences, using several media forms and the conventions and techniques appropriate to the chosen form (*e.g., ... write a script for a public service announcement to encourage ... litterless lunches*)

#### **D3. Intercultural Understanding**

**D3.1 Intercultural Awareness:** in their written work, communicate information about French-speaking communities in eastern, western, and northern Canada, including aspects of their culture and their contributions to *la francophonie* and the world, and make connections to personal experiences and their own and other communities (*e.g., ... following an example of a French Canadian myth or legend, write a legend explaining a cultural event or geographic phenomenon from their own community; ...*)

## **Health and Physical Education (2015)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **A. Active Living**

#### **A1. Active Participation**

**A1.3** describe factors that motivate them to participate in physical activity every day, at school and during leisure time, and that influence their choice of activities (*e.g., ... enthusiasm for the outdoors; ...*)



**Students:** “I really like being outdoors, so I will pick activities that give me a chance to be outside. There is a new hiking and outdoor activities club being started at lunch. None of my friends are joining, but I think it sounds interesting, and I might meet someone new.” ...

## **A2. Physical Fitness**

**A2.1 Daily physical activity (DPA):** participate in sustained moderate to vigorous physical activity with appropriate warm-up and cool-down activities, to the best of their ability for a minimum of twenty minutes each day (*e.g., hiking ... orienteering, ...*)

**A2.2** explain how participation in physical activities affects personal health-related fitness ...

**Teacher prompt:** “According to the Canadian Sedentary Behaviour Guidelines, young people should limit the amount of time that they spend sitting without being active. That means they should restrict their recreational screen time to no more than 2 hours per day and try to limit their use of motorized transport and the amount of time they spend indoors during the day. ...”

**Student:** “... I ride my bike or walk to school every day, and I play road hockey as often as I can after school. ...”

## **A3. Safety**

**A3.1** demonstrate behaviours and apply procedures that maximize their safety and that of others during physical activity (*e.g., ... activities such as bike riding, tobogganing, snowboarding, downhill skiing, or skateboarding; ...*)

## **B. Movement Competence**

### **B2. Movement Strategies**

**B2.1** demonstrate an understanding of the basic components of physical activities ... and apply this understanding as they participate in a variety of physical activities (*e.g., ... recreational activities such as mini-triathlons, hiking, ...*)

## **C. Healthy Living**

### **C2. Making Healthy Choices**

#### *Healthy Eating*

**C2.1** apply their knowledge of medical, emotional, practical, and societal factors that influence eating habits and food choices (*e.g., ... environmental impact ...*) to develop personal guidelines for healthier eating

#### *Personal Safety and Injury Prevention*

**C2.3** apply personal skills and interpersonal skills ... to promote positive interaction and avoid or manage conflict in social situations ...

**Teacher prompt:** “If someone does something that makes you feel very angry, what can you do to manage your anger?”

**Student:** “I can take some deep breaths, walk away, and give myself some time and space to cool down. Doing something outdoors and physical, like running, swimming, playing basketball, or biking, helps me. ...” ...

### **C3. Making Connections for Healthy Living**

#### *Personal Safety and Injury Prevention*

**C3.2** recognize the responsibilities and risks associated with caring for themselves and others ... and demonstrate an understanding of related safety practices and appropriate procedures for responding to dangerous situations (*e.g., ... hypothermia, ...*)

## **Language (2006)**

Although no specific or overall expectations explicitly address environmental education, in each of the strands the learning context (e.g., a topic or thematic unit related to the environment) and/or learning materials (e.g., books, websites, media) could be used to foster in students the development of environmental understanding. Also, in each of the strands, there are some expectations that can provide opportunities for exploring environmental education – for example, expectations on making inferences, making connections, analysing and evaluating texts, developing a point of view, and doing research. No examples in the language document explicitly provide a context for environmental education.

## **Mathematics (2005)**

Although no overall or specific expectations explicitly address environmental education, in each of the strands the learning context could be used to foster in students the development of environmental understanding. This is especially so in the context of a cross-disciplinary approach to teaching and learning (e.g., problems relating to climate or waste management could be the focus of student learning). In addition, the mathematical processes (e.g., problem solving, connecting) address skills that can be used to support the development of environmental education. The specific expectation below provides an example that teachers could connect to a broader environmental context.

### ***Data Management and Probability***

#### **Collection and Organization of Data**

- collect data by conducting a survey ... or an experiment to do with themselves, their environment, issues in their school or community, or content from another subject, and record observations or measurements

## **Native Languages (2001)**

Although no overall or specific expectations explicitly address environmental education, the learning context (e.g., a topic or thematic unit related to the environment) and/or learning materials (e.g., books, websites, media) could be used to foster the development of environmental understanding. Learning about aspects of Native culture and communities may provide opportunities for students to make connections with local places.

The example in the following expectation from the Reading strand provides a good opportunity for environmental education.

### **Reading**

- read a variety of simple written texts (*e.g., traditional Native stories and legends, short stories by Native authors*)

## **Science and Technology (2007)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

There are many opportunities to support environmental education in the science and technology curriculum. Only the overall and specific expectations, and examples that have explicit connections to environmental education, have been included here. For the sake of brevity, sample guiding questions, teacher prompts, and sample issues that support the specific expectations have not been included.

### **Understanding Life Systems: Biodiversity**

1. assess human impacts on biodiversity, and identify ways of preserving biodiversity

#### **1. Relating Science and Technology to Society and the Environment**

- 1.1 analyse a local issue related to biodiversity (*e.g., the effects of human activities on urban biodiversity, flooding of traditional Aboriginal hunting and gathering areas as a result of dam construction*), taking different points of view into consideration (*e.g., the points of view of members of the local community, business owners, people concerned about the environment, mine owners, local First Nations, Métis, Inuit*), propose action that can be taken to preserve biodiversity, and act on the proposal
  - 1.2 assess the benefits that human societies derive from biodiversity (*e.g., thousands of products such as food, clothing, medicine, and building materials come from plants and animals*) and the problems that occur when biodiversity is diminished (*e.g., monocultures are more vulnerable to pests and diseases*)
2. investigate the characteristics of living things, and classify diverse organisms according to specific characteristics

#### **2. Developing Investigation and Communication Skills**

- 2.3 use scientific inquiry/research skills to compare the characteristics of organisms within the plant or animal kingdoms (*e.g., compare the characteristics of a fish and a mammal, of coniferous and deciduous trees, of ferns and flowering plants*)
- 2.4 use appropriate science and technology vocabulary, including *classification, biodiversity, natural community, interrelationships, vertebrate, invertebrate, stability, characteristics, and organism*, in oral and written communication

3. demonstrate an understanding of biodiversity, its contributions to the stability of natural systems, and its benefits to humans

### **3. Understanding Basic Concepts**

- 3.1 identify and describe the distinguishing characteristics of different groups of plants and animals (*e.g., invertebrates have no spinal column; insects have three basic body parts; flowering plants produce flowers and fruits*), and use these characteristics to further classify various kinds of plants and animals (*e.g., invertebrates – arthropods – insects; vertebrates – mammals – primates; seed plants – flowering plants – grasses*)
- 3.2 demonstrate an understanding of biodiversity as the variety of life on earth, including variety within each species of plant and animal, among species of plants and animals in communities, and among communities and the physical landscapes that support them
- 3.3 describe ways in which biodiversity within species is important for maintaining the resilience of those species (*e.g., because of genetic differences, not all squirrels are affected equally by infectious diseases such as mange; some species of bacteria have become resistant to antibiotics because resistant individuals have survived and reproduced*)
- 3.4 describe ways in which biodiversity within and among communities is important for maintaining the resilience of these communities (*e.g., having a variety of species of wheat allows for some part of the crop to survive adverse conditions*)
- 3.5 describe interrelationships within species (*e.g., wolves travel in packs to defend their territory, raise their cubs, and hunt large prey*), between species (*e.g., the brightly-coloured anemone fish protects its eggs by laying them among the poisonous tentacles of the sea anemone, and in return the fish's bright colours attract prey for the anemone to eat; birds and bees take sustenance from plants and carry pollen between plants*), and between species and their environment (*e.g., algae and water lilies compete for sunlight in a pond*), and explain how these interrelationships sustain biodiversity
- 3.6 identify everyday products that come from a diversity of organisms (*e.g., traditional pain relievers are derived from the bark of the white willow tree; tofu is made from soybeans; silk is made from silkworm cocoons; nutritional supplements, shampoos, toothpastes, and deodorants contain pollen collected by bees*)
- 3.7 explain how invasive species (*e.g., zebra mussel, Asian longhorned beetle, purple loosestrife*) reduce biodiversity in local environments

### **Understanding Structures and Mechanisms: Flight**

1. assess the societal and environmental impacts of flying devices that make use of properties of air

#### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess the benefits and costs of aviation technology for society and the environment, taking different social and economic perspectives into account (*e.g., the perspectives of farmers, airline workers, doctors, home owners, tour operators*)

## **Understanding Matter and Energy: Electricity and Electrical Devices**

1. evaluate the impact of the use of electricity on both the way we live and the environment

### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess the short- and long-term environmental effects of the different ways in which electricity is generated in Canada (*e.g., hydro, thermal, nuclear, wind, solar*), including the effect of each method on natural resources and living things in the environment
- 1.2 assess opportunities for reducing electricity consumption at home or at school that could affect the use of non-renewable resources in a positive way or reduce the impact of electricity generation on the environment

## **Understanding Earth and Space Systems: Space**

1. assess the impact of space exploration on society and the environment

### **1. Relating Science and Technology to Society and the Environment**

- 1.2 evaluate the social and environmental costs and benefits of space exploration, taking different points of view into account (*e.g., the point of view of health care workers and workers in other agencies that compete with space programs for public money; astronauts and their families; the general public; scientists*)

## **Social Studies (2013)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **A. Heritage and Identity: Communities in Canada, Past and Present**

#### **A1. Application: Diversity, Inclusiveness, and Canadian Identity**

- A1.1 explain how various features that characterize a community can contribute to the identity and image of a country (*e.g., built features such as ... parks; physical features such as climate, landscape, vegetation, wildlife ...*), and assess the contribution of some of these features to Canada's image and identity (*e.g., with reference to resource-based communities such as mining or logging towns or fishing outports; the Canadian winter; landscapes such as mountains, prairies, sea coasts, tundra; wildlife such as moose, elk, beaver, bison, cod ...*)

**Sample questions:** ... "In what ways does the Canadian climate contribute to the identity of the country? To its global image?" ...

#### **A3. Understanding Context: The Development of Communities in Canada**

- A3.1 identify the main reasons why different peoples came to Canada (*e.g., ... available land ..., famine ...*)

**Sample questions:** ... "Why did so many people from Ireland come to Quebec and Ontario in the middle of the nineteenth century?" ...

## **B. People and Environments: Canada's Interactions with the Global Community**

### **B1. Application: Canada and International Cooperation**

**B1.2** analyse responses of Canadian governments, non-governmental organizations (NGOs), and individual citizens to an economic, environmental, political, and/or social issue of international significance (*e.g., ... how governments, development and human rights NGOs, and individuals, including students in their school, have responded to an issue such as a natural disaster in another region, ... climate change ...*)

**B1.3** explain why some environmental issues are of international importance and require the participation of other regions of the world, along with that of Canada, if they are to be effectively addressed (*e.g., issues such as global warming, carbon dioxide and sulphur dioxide emissions, ownership and availability of fresh water, deforestation, overfishing, invasive species, habitat protection of migrating species, or disposal of electronic waste*)

**Sample questions:** “Why does the issue of invasive species require action at the international level?” “How have disagreements over ocean fishing affected fish stocks in Canadian waters?” “Why can the disposal of your old computer be an environmental issue of international importance?” “What are the main sources of smog in southern Ontario?”

**B2. Inquiry:** use the social studies inquiry process to investigate some global issues of political, social, economic, and/or environmental importance, their impact on the global community, and responses to the issues

### **B2. Inquiry: Responses to Global Issues**

**B2.1** formulate questions to guide investigations into global issues of political, social, economic, and/or environmental importance (*e.g., ... ownership of and access to fresh water, climate change, ... or natural disasters*), their impact on the global community, and responses to the issues

**Sample questions:** ... “What impact does Canada’s consumption of coffee or chocolate have on the people and environment of the producer countries?” “How have the Canadian government and the Canadian people reacted to the melting of Arctic ice fields?”

**B2.2** gather and organize information on global issues of political, social, economic, and/or environmental importance, including their impact and responses to them, using a variety of resources and various technologies (*e.g., use spatial technologies, satellite images, and/or online image banks as part of their investigation into the diminishing of ocean reef life; gather accounts by Inuit and northern First Nations witnesses to the effects of climate change; find annual precipitation rates for a region to study the relationship between drought and famine ...*)

**Sample questions:** “If you were studying the impact of climate change in the North, why would it be useful to listen to an Elder speak about the changes in the migration patterns of animals?” “How could you use photographs in your inquiry into climate change?” “Where might you look for data on changes in temperature and precipitation?”

**B2.3** analyse and construct different types of maps, both print and digital, as part of their investigations into global issues, their impact, and responses to them ...

**Sample questions:** ... “What types of information would you need to plot on a map to examine whether arid countries that export agricultural products to Canada are being affected by desertification?”

**B2.4** interpret and analyse information and data relevant to their investigations, using a variety of tools (*e.g., ... analyse climate graphs to help them determine the effects of declining precipitation in a region or country; ...*)

**Sample questions:** “What does this double bar graph reveal about the relationship between this NGO’s activities and access to clean water in various countries in this region?” ...

**B2.5** evaluate evidence and draw conclusions about global issues of political, social, economic, and/or environmental importance, their impact on the global community, and responses to the issues

**Sample questions:** ... “What impact has climate change had on desertification in Africa? What other factors might contribute to desertification in this region? In what ways does the aid directed at this region attempt to address this issue? What else do you think needs to be done?”

**B2.6** communicate the results of their inquiries, using appropriate vocabulary ... and formats (*e.g., ... a map that shows the impact of climate change in an agricultural region*)

### **B3. Understanding Context: Canada’s Global Interactions**

**B3.1** identify some of the major ways in which the Canadian government interacts with other nations of the world (*e.g., ... environmental accords ...*)

**B3.2** describe Canada’s participation in different international accords, organizations, and/or programs (*e.g., ... the Blue Flag Program ...*)

**Sample questions:** “What is the Kyoto Protocol? What is Canada’s current position on it?” ...

**B3.3** describe several groups or organizations through which Canada and Canadians are involved in global issues (*e.g., ... World Wide Fund for Nature...*)

**B3.4** describe the responses of the Canadian government and some NGOs to different disasters and emergencies around the world (*e.g., the 2010 earthquake in Haiti; the 2004 tsunami in the Indian Ocean; ... drought in the Horn of Africa*)

**Sample questions:** ... “What types of aid are required by a region hit by a natural disaster? How do the Canadian government and Canadian NGOs attempt to address these needs?”

**B3.7** identify countries/regions with which Canada has a significant economic relationship ... and some of the reasons why close relationships developed with these countries/regions and not others (*e.g., ... types of ... environmental regulations*)

**B3.9** describe some ways in which Canada’s interactions with other regions of the world have affected the environment (*e.g., the impact of Canada’s participation in the African tree-planting campaign of the United Nations Environment Programme; the proliferation of invasive species in the Great Lakes as a result of international trade/ transportation; over-farming and loss of production for local markets as a result of Canadians’ desire for cheap cotton, sugar, cocoa, and tea*)

**Sample question:** “What is an invasive species? How have Canada’s relations with other regions around the world led to the expansion of invasive species in Canada?” “How does over-farming hurt the environment?”

# GRADE 7

## The Arts (2009)

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### A. Dance

#### A1. Creating and Presenting

**A1.2** use dance as a language to communicate ideas from their own writing or media works (*e.g., create a dance piece inspired by a student-authored poem about relationships with the natural world ...*)

#### A2. Reflecting, Responding, and Analysing

**A2.1** construct personal interpretations of the messages in their own and others' dance pieces, including messages about issues relevant to their community and/or the world (*e.g., dance pieces on topics such as urban sprawl, land claims, poverty, homophobia, homelessness*), and communicate their responses in a variety of ways ...

**Teacher prompt:** "What statement did the dance we just watched make about global warming? Do you agree or disagree with the message the dance conveyed? Why? Was the message effectively conveyed?"

**A2.2** analyse, using dance vocabulary, their own and others' dance pieces to identify the elements of dance and the choreographic forms used in them and explain how they help communicate meaning (*e.g., ... ; use of site-specific locations [outdoor playground] to structure a dance communicates the idea of connection to the environment*)

#### A3. Exploring Forms and Cultural Contexts

**A3.1** describe the evolution of dance and performance as different groups of people have responded to external factors such as migration, a new environment, and/or contact with other groups or cultures (*e.g., ... ; the evolution of the Métis jig out of imitations of wildlife movements [prairie wild birds] and the intricate footwork of Native dancing and European jigs*)

### B. Drama

#### B2. Reflecting, Responding, and Analysing

**B2.1** construct personal interpretations of drama works, connecting drama issues and themes to their own and others' ideas, feelings, and experiences (*e.g., ... write in role about an environmental issue, first from the point of view of an audience member and then from the point of view of an animal whose habitat is threatened*)

**Teacher prompt:** "This drama presented one side of an environmental issue. Whose perspective is missing? Why do you think it has been left out? How do you feel about that? What words might you give to this voice?"



## **C. Music**

### **C1. Creating and Performing**

**C1.3** create musical compositions in a variety of forms for specific purposes and audiences  
(*e.g., ... create compositions using found sounds or recycled materials*)

## **D. Visual Arts**

### **D1. Creating and Presenting**

**D1.1** create art works, using a variety of traditional forms and current media technologies, that express feelings, ideas, and issues, including opposing points of view (*e.g., ... performance art or an installation that portrays both sides of the struggle between humankind and nature; ...*)

**Teacher prompts:** “How will your art work convey opposing perspectives on an issue that you have chosen to explore (*e.g., consumerism versus sustainability, land development versus conservation, global warming, poverty*)?” ... “How does your installation communicate the benefits and challenges of environmental stewardship?”

### **D2. Reflecting, Responding, and Analysing**

**D2.1** interpret a variety of art works and identify the feelings, issues, themes, and social concerns that they convey (*e.g., compare the mood of two different works by two peers, such as Above the Gravel Pit by Emily Carr and Reflections, Bishop’s Pond by David Milne; ...*)

### **D3. Exploring Forms and Cultural Contexts**

**D3.1** identify and describe some of the ways in which visual art forms and styles reflect the beliefs and traditions of a variety of cultures and civilizations

**Teacher prompts:** ... “Compare the ways in which Impressionist artists and contemporary Cree artists depict nature. How are they different?” ...

## **French as a Second Language (2013)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

## **Core French**

### **A. Listening**

#### **A1. Listening to Understand**

**A1.2 Demonstrating Understanding:** demonstrate an understanding of the purpose and meaning of oral French texts containing increasingly complex messages about everyday matters and matters of personal interest, with contextual and visual support (*e.g., ... listen to a public service announcement about an environmental issue and identify the main message; ...*)

## **A2. Listening to Interact**

**A2.2 Interacting:** respond with understanding to what others say while participating in interactions of various lengths about everyday matters and matters of personal interest (*e.g., ... listen to and participate in a class discussion about ways to conserve energy; ...*)

## **B. Speaking**

### **B1. Speaking to Communicate**

**B1.2 Producing Oral Communications:** using familiar words and expressions, produce rehearsed and increasingly spontaneous messages in French about matters of immediate personal relevance, with contextual, auditory, and visual support (*e.g., ... present a personal point of view on an environmental issue; ...*)

## **C. Reading**

### **C1. Reading Comprehension**

**C1.2 Reading for Meaning:** demonstrate an understanding of a variety of French texts containing visuals and familiar names, words, and expressions, with teacher modelling and guidance as appropriate (*e.g., ... respond to the information in an environmental brochure by brainstorming ways to implement environmentally responsible projects in the school*)

## **D. Writing**

### **D1. Purpose, Audience, and Form**

**D1.1 Identifying Purpose and Audience:** determine, with support from the teacher, their purpose in writing and the audience for French texts they plan to create (*e.g., ... to submit a proposal to the principal recommending environmentally responsible practices for the school*)

## **Extended French**

### **A. Listening**

#### **A1. Listening to Understand**

**A1.2 Understanding Purposes for Listening:** demonstrate an understanding of the purpose for listening in a variety of situations (*e.g., to identify the intent of a message on an environmental issue in a presentation or report; ...*)

**Teacher prompts:** “Quels sont les messages clés de la présentation/du rapport sur les problèmes environnementaux dans ta communauté?”

**A1.3 Listening for Meaning:** demonstrate an understanding of the intent and meaning of various oral French texts containing familiar and unfamiliar words and expressions and dealing with familiar, academic, and personally relevant topics, with support as appropriate (*e.g., share personal reactions to an audio text on global warming; ...*)

## **A2. Listening to Interact**

**A2.2 Interacting:** respond with understanding to what others say while participating in a variety of interactions about familiar, academic, and personally relevant topics (*e.g., ... acknowledge the ideas of peers when contributing to a group discussion on an environmental issue; ...*)

## **B. Speaking**

### **B1. Speaking to Communicate**

**B1.2 Producing Oral Communications:** using familiar words and expressions, produce planned, rehearsed, and increasingly spontaneous messages in French containing information and ideas about academic topics and matters of immediate personal relevance, with contextual, auditory, and visual support (*e.g., deliver a report on a[n]... environmental issue that affects the local, provincial, national, or world community; ... communicate solutions to global warming in a speech or oral report*)

**Teacher prompts:** ... “Comment peux-tu communiquer tes solutions au problème du réchauffement de la planète?”

**B1.4 Creating Media Texts:** create a variety of increasingly complex oral media texts using forms, conventions, and techniques appropriate to the purpose and audience (*e.g., ... create a multimedia report on renewable sources of energy; ...*)

### **B3. Intercultural Understanding**

**B3.1 Intercultural Awareness:** communicate information orally about French-speaking communities in the Americas outside Canada, including aspects of their cultures and their contributions to *la francophonie* and the world, and make connections to personal experiences and their own and other communities (*e.g., ... report on environmental factors that influence the way of life in various French-speaking communities in the Americas*)

**Teacher prompts:** ... “Comment l’environnement contribue-t-il au développement de la vie culturelle et sociale de cette communauté francophone?”

## **C. Reading**

### **C1. Reading Comprehension**

**C1.5 Responding to and Evaluating Media Texts:** evaluate the effectiveness of the treatment and presentation of ideas and information in a variety of media texts about familiar, academic, and personally relevant topics, with teacher support as appropriate (*e.g., ... analyse information from a multimedia presentation on a[n]... environmental issue and discuss their personal opinions with peers*)

### **C3. Intercultural Understanding**

**C3.1 Intercultural Awareness:** using information from a variety of French texts, identify French-speaking communities in the Americas outside Canada, find out about aspects of their cultures, and make connections to personal experiences and their own and other communities (*e.g., ... infer from posted signage the interests, values, and societal norms of a French-speaking community [such as ideas about ... environmental stewardship]; ...*)

## **D. Writing**

### **D1. Purpose, Audience, and Form**

**D1.5 Creating Media Texts:** using familiar words and expressions, create a variety of media texts in French for specific purposes and audiences, using several media forms and the conventions and techniques appropriate to the chosen form (*e.g., ... create a photo essay about an environmental ... issue to increase public awareness of the targeted issue*)

## **French Immersion**

### **A. Listening**

#### **A1. Listening for Understanding**

**A1.2 Understanding Purposes for Listening:** demonstrate an understanding of the purpose for listening in a variety of situations (*e.g., to identify contrasting points of view during a discussion related to an environmental, social, or political issue; ...*)

**A1.3 Listening for Meaning:** demonstrate an understanding of the intent and meaning of various oral French texts containing familiar and unfamiliar words and expressions and dealing with a variety of familiar, academic, and personally relevant topics, with support as appropriate (*e.g., ... synthesize different points of view heard in a media clip about the effects of environmental changes on various Aboriginal communities*)

**A1.4 Responding to and Evaluating Media Texts:** evaluate the effectiveness of the treatment and presentation of ideas and information in a variety of oral media texts about familiar, academic, and personally relevant topics, with teacher support as appropriate (*e.g., discuss how the language, music, and special effects convey the message in a public service announcement related to a[n] ... environmental issue*)

### **B. Speaking**

#### **B1. Speaking to Communicate**

**B1.2 Producing Oral Communications:** produce planned, rehearsed, and spontaneous messages in French containing information and ideas about academic topics and matters of personal interest, with contextual, auditory, and visual support (*e.g., compose and recite a poem about the impact of a natural disaster; ...*) ...

#### **B2. Speaking to Interact**

**B2.2 Interacting:** engage in rehearsed and spontaneous spoken interactions, in social and academic contexts, about academic and personally relevant topics (*e.g., ... with a partner, brainstorm and discuss what could have been done to prepare for a natural disaster; ...*)  
**Teacher prompts:** ... “De quelle façon un remue-méninges avec un partenaire sur un désastre naturel alimente-t-il la discussion sur les solutions possibles?” ...

## **D. Writing**

### **D1. Purpose, Audience, and Form**

**D1.1 Identifying Purpose and Audience:** determine, with support from the teacher, their purpose for writing and the audience for French texts they plan to create (*e.g., ... to explain an environmental disaster and describe possible preventative measures in a report*)

**Teacher prompts:** ... “De quelle façon la rédaction d’un rapport sur un désastre environnemental te permet-elle de communiquer les détails importants du désastre?”

**D1.5 Creating Media Texts:** using words and expressions suited to the context, create a variety of media texts in French for specific purposes and audiences, using a range of media forms and the conventions and techniques appropriate to the chosen form (*e.g., ... create an anti-littering sign for a local park, beach, or trail*)

### **D3. Intercultural Understanding**

**D3.1 Intercultural Awareness:** in their written work, communicate information about French-speaking communities in the Americas outside Canada, including aspects of their culture and their contributions to *la francophonie* and the world, and make connections to personal experiences and their own and other communities (*e.g., ... compare the carbon footprint of a family in Guadeloupe to that of their own family*)

## **Health and Physical Education (2015)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **A. Active Living**

#### **A1. Active Participation**

**A1.1** actively participate in a wide variety of program activities, according to their capabilities (*e.g., ... outdoor pursuits ...*), while applying behaviours that enhance their readiness and ability to take part ... in all aspects of the program

**A1.2** demonstrate an understanding of the factors that contribute to their personal enjoyment of being active ..., as they participate in a diverse range of physical activities in a variety of indoor and outdoor environments

#### **A2. Physical Fitness**

**A2.2** identify factors that can affect health-related fitness (*e.g., ... environmental factors, ...*), and describe how training principles ... can be applied to develop fitness

#### **A3. Safety**

**A3.1** demonstrate behaviours and apply procedures that maximize their safety and that of others in a variety of physical activity settings (*e.g., ... outdoor recreational venues*)

**A3.2** demonstrate an understanding of procedures for anticipating and responding to hazards that may lead to injury or ailments while participating in physical activity outdoors ...

**Teacher prompt:** “Being safe helps you enjoy your time outdoors. When cycling on a forest trail, what do you need to be mindful of?”

**Student:** “I need to make sure to wear a helmet, follow trail etiquette, and stay in control, so that if there is a fallen tree or another unexpected object on the trail I can avoid it and not be hurt. By following trail etiquette, I am less likely to get into situations where I can hurt myself or somebody else, or damage the environment.”

**Teacher prompt:** “What can you do to protect yourself from the sun’s UV radiation outdoors?”

**Student:** “I need to be aware of the UV index for the day and limit my time in the sun during peak periods. I can protect myself by wearing sunglasses and a hat and applying sunscreen.” ...

## **B. Movement Competence**

### **B1. Movement Skills and Concepts**

**B1.2** perform a wide variety of locomotor movements, with and without equipment, while responding to a variety of external stimuli (*e.g., ... lift feet and show awareness of trail conditions and obstacles when running cross-country on trails*)

### **B2. Movement Strategies**

**B2.1** demonstrate an understanding of the components of a range of physical activities ... and apply this understanding as they participate in a variety of physical activities in indoor and outdoor environments

**Teacher prompt:** “Why do you need to consider etiquette and how to work well with others when engaging in various kinds of activities?”

**Student:** “... part of etiquette is showing that you respect the environment as well as other people. For example, you could show that you respect the environment when running by staying on trails or pathways rather than running off the path.”

**B2.2** describe and compare different categories of physical activities ... and describe strategies that they found effective while participating in a variety of physical activities in different categories

**Teacher prompt:** “Consider what is similar about activities like canoeing, triathlons, and track and field. What do these activities have in common, and what strategies might you use in all of these activities?”

## **History and Geography (2013)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **History**

#### **A. New France and British North America, 1713–1800**

##### **A1. Application: Colonial and Present-day Canada**

**A1.2** analyse some of the main challenges facing individuals and/or groups in Canada between 1713 and 1800 and ways in which people responded to those challenges (*e.g., with reference to ... climatic and environmental challenges ...*), and assess similarities and differences between some of these challenges and responses and those of present-day Canadians

**Sample questions:** “What were some of the environmental challenges facing people in early Canada? What similarities do you see between these challenges and current environmental challenges facing Canadians?” ...

## **Geography**

In Grade 7 geography, students explore opportunities and challenges presented by the physical environment and the ways in which people around the world have responded to them. They develop an understanding of patterns in Earth’s physical features and other physical processes and human activities that create and change these features. All expectations within both strands of the geography course support learning in, about, and for the environment. Only the overall expectations are listed below; refer to the specific expectations in the curriculum document for details about the knowledge and skills that students are expected to develop.

### **A. Physical Patterns in a Changing World**

- A1. Application:** analyse some challenges and opportunities presented by the physical environment and ways in which people have responded to them
- A2. Inquiry:** use the geographic inquiry process to investigate the impact of natural events and/or human activities that change the physical environment, exploring the impact from a geographic perspective
- A3. Understanding Geographic Context:** demonstrate an understanding of significant patterns in Earth’s physical features and of some natural processes and human activities that create and change those features

### **B. Natural Resources Around the World: Use and Sustainability**

- B1. Application:** analyse aspects of the extraction/harvesting and use of natural resources in different regions of the world, and assess ways of preserving these resources
- B2. Inquiry:** use the geographic inquiry process to investigate issues related to the impact of the extraction/harvesting and/or use of natural resources around the world from a geographic perspective
- B3. Understanding Geographic Context:** demonstrate an understanding of the sources and use of different types of natural resources and of some of the effects of the extraction/harvesting and use of these resources

## **Language (2006)**

Although no specific or overall expectations explicitly address environmental education, in each of the strands the learning context (e.g., a topic or thematic unit related to the environment) and/or learning materials (e.g., books, websites, media) can be used to foster in students the development of environmental understanding, with a focus on critical literacy. Also, in each of the strands, there are some expectations that can provide opportunities for exploring environmental education – for example, expectations on making inferences, making connections, analysing and evaluating texts,

developing a point of view, and doing research. Critical literacy involves the capacity for analysing texts and challenging their underlying messages, demonstrating self-criticism, and remaining open to further insights into the text. The example in the following specific expectation from the language document provides a context for environmental education.

## ***Writing***

### **1. Developing and Organizing Content**

- 1.1 identify the topic, purpose, and audience for more complex writing forms (*e.g., ... a report for a community newspaper about a public meeting on an environmental issue affecting local neighbourhoods; ...*)

## **Mathematics (2005)**

Although no overall or specific expectations explicitly address environmental education, in each of the strands the learning context could be used to foster in students the development of environmental understanding. This is especially so in the context of a cross-disciplinary approach to teaching and learning (e.g., problems relating to climate or waste management could be the focus of student learning). In addition, the mathematical processes (e.g., problem solving, connecting) address skills that can be used to support the development of environmental education. The specific expectation below provides an example that teachers could connect to a broader environmental context.

### ***Data Management and Probability***

#### **Collection and Organization of Data**

- collect data by conducting a survey or an experiment to do with themselves, their environment, issues in their school or community, or content from another subject and record observations or measurements

## **Native Languages (2001)**

Although no overall or specific expectations explicitly address environmental education, the learning context (e.g., a topic or thematic unit related to the environment) and/or learning materials (e.g., books, websites, media) could be used to foster the development of environmental understanding. Learning about aspects of Native culture and communities may provide opportunities for students to make connections with local places.

## **Science and Technology (2007)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*



There are many opportunities to support environmental education in the science and technology curriculum. Only the overall and specific expectations, and examples that have explicit connections to environmental education, have been included here. For the sake of brevity, sample guiding questions, teacher prompts, and sample issues that support the specific expectations have not been included.

## ***Understanding Life Systems: Interactions in the Environment***

1. assess the impacts of human activities and technologies on the environment, and evaluate ways of controlling these impacts

### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess the impact of selected technologies on the environment
  - 1.2 analyse the costs and benefits of selected strategies for protecting the environment
2. investigate interactions within the environment, and identify factors that affect the balance between different components of an ecosystem

### **2. Developing Investigation and Communication Skills**

- 2.2 design and construct a model ecosystem (*e.g., a composter, a classroom terrarium, a greenhouse*), and use it to investigate interactions between the biotic and abiotic components in an ecosystem
3. demonstrate an understanding of interactions between and among biotic and abiotic elements in the environment

### **3. Understanding Basic Concepts**

- 3.1 demonstrate an understanding of an ecosystem (*e.g., a log, a pond, a forest*) as a system of interactions between living organisms and their environment
- 3.2 identify biotic and abiotic elements in an ecosystem, and describe the interactions between them (*e.g., between hours of sunlight and the growth of plants in a pond; between a termite colony and a decaying log; between the soil, plants, and animals in a forest*)
- 3.3 describe the roles and interactions of producers, consumers, and decomposers within an ecosystem (*e.g., Plants are producers in ponds. They take energy from the sun and produce food, oxygen, and shelter for the other pond life. Black bears are consumers in forests. They eat fruits, berries, and other consumers. By eating other consumers, they help to keep a balance in the forest community. Bacteria and fungi are decomposers. They help to maintain healthy soil by breaking down organic materials such as manure, bone, spider silk, and bark. Earthworms then ingest the decaying matter, take needed nutrients from it, and return those nutrients to the soil through their castings.*)
- 3.4 describe the transfer of energy in a food chain and explain the effects of the elimination of any part of the chain
- 3.5 describe how matter is cycled within the environment and explain how it promotes sustainability (*e.g., bears carry salmon into the forest, where the remains decompose and add nutrients to the soil, thus supporting plant growth; through crop rotation, nutrients for future crops are created from the decomposition of the waste matter of previous crops*)

- 3.7 explain why an ecosystem is limited in the number of living things (*e.g., plants and animals, including humans*) that it can support
- 3.8 describe ways in which human activities and technologies alter balances and interactions in the environment (*e.g., clear-cutting a forest, overusing motorized water vehicles, managing wolf-killings in Yukon*)
- 3.9 describe Aboriginal perspectives on sustainability and describe ways in which they can be used in habitat and wildlife management (*e.g., the partnership between the Anishinabek Nation and the Ministry of Natural Resources for managing natural resources in Ontario*)

### **Understanding Structures and Mechanisms: Form and Function**

- 1. analyse personal, social, economic, and environmental factors that need to be considered in designing and building structures and devices

#### **1. Relating Science and Technology to Society and the Environment**

- 1.1 evaluate the importance for individuals, society, the economy, and the environment of factors that should be considered in designing and building structures and devices to meet specific needs (*e.g., function; efficiency; ease of use; user preferences; aesthetics; cost; intended lifespan; effect on the environment; safety, health, legal requirements*)

### **Understanding Matter and Energy: Pure Substances and Mixtures**

- 1. evaluate the social and environmental impacts of the use and disposal of pure substances and mixtures

#### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess positive and negative environmental impacts related to the disposal of pure substances (*e.g., uranium*) and mixtures (*e.g., paint, sewage*)
- 1.2 assess the impact on society and the environment of different industrial methods of separating mixtures and solutions

### **Understanding Earth and Space Systems: Heat in the Environment**

- 1. assess the costs and benefits of technologies that reduce heat loss or heat-related impacts on the environment

#### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess the social and environmental benefits of technologies that reduce heat loss or transfer (*e.g., insulated clothing, building insulation, green roofs, energy-efficient buildings*)
- 1.2 assess the environmental and economic impacts of using conventional (*e.g., fossil fuel, nuclear*) and alternative forms of energy (*e.g., geothermal, solar, wind, wave, biofuel*)

3. demonstrate an understanding of heat as a form of energy that is associated with the movement of particles and is essential to many processes within the earth's systems

### **3. Understanding Basic Concepts**

- 3.7 describe the role of radiation in heating and cooling the earth, and explain how greenhouse gases affect the transmission of radiated heat through the atmosphere (*e.g., The earth is warmed by absorbing radiation from the sun. It cools by radiating thermal energy back to space. Greenhouse gases absorb some of the radiation that the earth emits to space and reradiate it back to the earth's surface. If the quantity of greenhouse gases in the atmosphere increases, they absorb more outgoing radiation, and the earth becomes warmer.*)
- 3.8 identify common sources of greenhouse gases (*e.g., carbon dioxide comes from plant and animal respiration and the burning of fossil fuels; methane comes from wetlands, grazing livestock, termites, fossil fuel extraction, and landfills; nitrous oxide comes from soils and nitrogen fertilizers*), and describe ways of reducing emissions of these gases

# GRADE 8

## The Arts (2009)

See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.

### A. Dance

#### A1. Creating and Presenting

**A1.1** create dance pieces to respond to issues that are personally meaningful to them (e.g., *young people’s relationship to authority, global warming [glacial melting, extreme weather events], recycling, land claims, bike lanes*)

**Teacher prompts:** “How would you structure a dance to convey the impact of a tsunami (the calm before the storm, storm escalating, chaos) on the environment and humans?” ...

**A1.2** use dance as a language to communicate messages about themes of social justice and/or environmental health (e.g., *possible solutions to bullying, poverty, racism, pollution, land claims, homelessness, war, deforestation, oppression, colonization*)

**A1.3** determine the appropriate choreographic form and create dance pieces for a specific audience or venue (e.g., *... use features of a site-specific outdoor space to structure a dance on an environmental theme*)

**A1.4** use technology, including multimedia, to enhance the message communicated by the choreography in a dance piece

**Teacher prompt:** “How could you use light and/or sound technology to enhance the message of your dance piece about the majesty of forests?”

#### A2. Reflecting, Responding, and Analysing

**A2.1** construct personal and/or group interpretations of the themes in their own and others’ dance pieces (e.g., *the role of greed in deforestation, war, global warming, poverty*) and communicate their responses in a variety of ways (e.g., *through writing, discussion, oral report, song, drama, visual art, dance*)

**Teacher prompts:** “How do the projected images (e.g., of deforestation, war, global warming, poverty) in this dance piece reinforce the choreographer’s intent?” “What choices did you make in your dance about how to convey your opinion on homelessness?”

### B. Drama

#### B1. Creating and Presenting

**B1.1** engage actively in drama exploration and role play, with a focus on examining multiple perspectives and possible outcomes related to complex issues, themes, and relationships from a wide variety of sources and diverse communities ...

**Teacher prompt:** “How could you use drama conventions such as conversations, mapping, or role on the wall to dramatize two opposing views on a community issue (e.g., consumerism, landfills, bike lanes)?”

**B1.2** demonstrate an understanding of the elements of drama by selecting and manipulating multiple elements and conventions to create and enhance a variety of drama works and shared drama experiences (*e.g., use “a day in the life” to compare farming, fishing, or hunting practices at the beginning of the twentieth century to those of today; ...*)

### **B3. Exploring Forms and Cultural Contexts**

**B3.2** identify and describe a wide variety of ways in which drama and theatre make or have made contributions to social, cultural, and economic life in a variety of times and places (*e.g., ... by raising awareness of political, environmental, medical, and other social/global issues*)

## **D. Visual Arts**

### **D2. Reflecting, Responding, and Analysing**

**D2.1** interpret a variety of art works and identify the feelings, issues, themes, and social concerns that they convey

*Teacher prompts:* “How can a landscape image express ideas or concepts, such as the power of nature in works by printmaker Hokusai or photographer Ansel Adams?” ...

## **French as a Second Language (2013)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

## **Core French**

### **A. Listening**

#### **A1. Listening to Understand**

**A1.2 Demonstrating Understanding:** demonstrate an understanding of the purpose and meaning of oral French texts containing increasingly complex messages about everyday matters and matters of personal interest, with contextual and visual support (*e.g., ... listen to a question-and-answer session on a social or environmental issue and create a poster to illustrate the message; ...*)

#### **A3. Intercultural Understanding**

**A3.2 Awareness of Sociolinguistic Conventions:** using information from oral French texts, identify and demonstrate an understanding of sociolinguistic conventions used in a variety of situations in diverse French-speaking communities\* (*e.g., ... listen to an interview with a[n] ... environmentalist, ... and identify vocabulary/expressions that are specific to the occupation of the person being interviewed; ...*)

## **B. Speaking**

### **B1. Speaking to Communicate**

**B1.2 Producing Oral Communications:** produce rehearsed and increasingly spontaneous messages in French to communicate ideas and information about matters of personal interest, with contextual, auditory, and visual support (*e.g., ... create and deliver an oral presentation about an environmental issue ... of concern to adolescents; ...*)

## **D. Writing**

### **D1. Purpose, Audience, and Form**

**D1.1 Identifying Purpose and Audience:** determine, with support from the teacher, their purpose in writing and the audience for French texts they plan to create (*e.g., to highlight the environmental impact of different kinds of transportation systems in a poster for a community conservation campaign; ... to describe a favourite ... animal ... in an article for the class newspaper ...*)

## **Extended French**

## **A. Listening**

### **A1. Listening to Understand**

**A1.2 Understanding Purposes for Listening:** demonstrate an understanding of the purpose for listening in a variety of situations (*e.g., to learn about an environmental issue that affects their community; ...*)

**Teacher prompts:** “Comment est-ce que le fait d’écouter les arguments d’un groupe environnementaliste t’aide à prendre une décision pour réduire l’effet du réchauffement planétaire?” ...

**A1.3 Listening for Meaning:** demonstrate an understanding of the intent and meaning of various oral French texts containing familiar and unfamiliar words and expressions and dealing with a variety of familiar, academic, and personally relevant topics, with support as appropriate (*e.g., describe the effects of the melting of the polar ice caps after listening to a news report; describe personal connections made while listening to accounts from survivors of natural disasters; ... track short-term, long-term, and monthly weather patterns based on radio forecasts*)

**Teacher prompts:** “Comment le reportage que tu as entendu sur la fonte des calottes polaires te permet-il de réagir sur l’impact de ce changement sur la vie des Inuits et sur la tienne?” “Comment tes expériences personnelles t’ont-elles permis de mieux comprendre les expériences exprimées par les victimes d’une catastrophe naturelle?” ...

### **A2. Listening to Interact**

**A2.2 Interacting:** respond with understanding to what others say while participating in a variety of interactions about familiar, academic, and personally relevant topics (*e.g., respond to opposing points of view in a debate about ... the environmental impact of bottled water; ...*)

### **A3. Intercultural Understanding**

**A3.2 Awareness of Sociolinguistic Conventions:** using information from oral French texts, identify and demonstrate an understanding of French sociolinguistic conventions used in a variety of situations in diverse French-speaking communities (*e.g., recognize and interpret expressions that are specific to spoken language in an interview with an ... environmental activist ...*)

## **B. Speaking**

### **B1. Speaking to Communicate**

**B1.2 Producing Oral Communications:** produce planned, rehearsed, and spontaneous messages in French containing information and ideas about academic topics and matters of personal interest, with contextual, auditory, and visual support (*e.g., ... critique a documentary on endangered species*)

*Teacher prompts:* ... “En quoi la critique d’un documentaire sur la préservation des animaux en voie de disparition t’incite-t-elle à évaluer cette crise? Comment cette critique te sensibilise-t-elle aux implications pour les générations à venir?” ...

## **C. Reading**

### **C3. Intercultural Understanding**

**C3.1 Intercultural Awareness:** using information from a variety of French texts, identify French-speaking communities in France, find out about aspects of their cultures, and make connections to personal experiences and their own and other communities (*e.g., ... using an online encyclopedia and maps of France, identify the major regions and cities and discuss local agriculture or businesses; ...*)

## **D. Writing**

### **D1. Purpose, Audience, and Form**

**D1.2 Writing in a Variety of Forms:** write a variety of French texts to convey information, ideas, and opinions about academic and personally relevant topics, following models appropriate to the purpose and applying their knowledge of the basic structural and stylistic elements of each form (*e.g., ... develop an expository text regarding a[n]... environmental issue outlining arguments from multiple perspectives; ...*)

## **French Immersion**

### **A. Listening**

#### **A1. Listening to Understand**

**A1.3 Listening for Meaning:** demonstrate an understanding of the intent and meaning of various oral French texts containing familiar and unfamiliar words and expressions and dealing with a variety of familiar, academic, and personally relevant topics, with support as appropriate (*e.g., ... summarize the points made by a spokesperson on an environmental issue; ...*)

**Teacher prompts:** ...“Après avoir écouté le discours d’un porte-parole d’un organisme politique sur le réchauffement climatique, comment peux-tu exprimer ton point de vue en réponse au message?” ...

## **B. Speaking**

### **B1. Speaking to Communicate**

**B1.2 Producing Oral Communications:** produce planned, rehearsed, and spontaneous messages in French containing information and ideas about academic topics and matters of personal interest, with contextual, auditory, and visual support (*e.g., ... communicate their thoughts and feelings on a social or environmental issue through a rap or song lyrics*)

**B1.4 Creating Media Texts:** create a variety of increasingly complex oral media texts using forms, conventions, and techniques appropriate to the purpose and audience (*e.g., create a multimedia presentation about a social or environmental issue; ... create a public service announcement about the benefits of buying locally produced food*)

### **B2. Speaking to Interact**

**B2.2 Interacting:** engage in rehearsed and spontaneous spoken interactions, in social and academic contexts, about academic and personally relevant topics (*e.g., ... participate in a debate on a current environmental issue*)

**Teacher prompts:** ... “Quelles sont les structures langagières qui te seront utiles pour préparer ton débat sur un événement d’actualité touchant l’environnement?”

## **C. Reading**

### **C1. Reading Comprehension**

**C1.5 Responding to and Evaluating Media Texts:** evaluate the effectiveness of the treatment and presentation of ideas and information in a variety of media texts about familiar, academic, and personally relevant topics, with teacher support as appropriate (*e.g., ... compare the treatment in various print media of an environmental issue such as the exportation of water*)

### **C3. Intercultural Understanding**

**C3.1 Intercultural Awareness:** using information from a variety of French texts, identify French-speaking communities in France, find out about aspects of their cultures, and make connections to personal experiences and their own and other communities (*e.g., ... identify the major regions and cities and discuss local agriculture; ... identify and compare environmental issues of concern in France and Canada; ...*)

## **D. Writing**

### **D1. Purpose, Audience, and Form**

**D1.1 Identifying Purpose and Audience:** determine their purpose for writing and the audience for French texts they plan to create (*e.g., ... to support the school’s environmental initiatives with a campaign flyer or brochure; to depict the point of view of a survivor of a natural disaster in a journal; ...*)

**Teacher prompts:** “... “Quel langage utilise-t-on pour exprimer clairement les initiatives environnementales de ton école?” “Comment est-ce qu’un journal intime exprimant le point



de vue d'une victime d'un désastre environnemental te permet de comprendre ses émotions et ses expériences?"

**D1.2 Writing in a Variety of Forms:** write a variety of French texts to convey information, ideas, and opinions about academic and personally relevant topics, following models appropriate to the purpose and applying their knowledge of the basic structural and stylistic elements of each form (*e.g., ... write a report on an environmental issue to persuade their peers to take action in their community; ...*)

**Teacher prompts:** ... "Quels sont les éléments d'un rapport qui te permettent de persuader tes pairs d'agir pour faire une différence dans votre communauté?"

**D1.5 Creating Media Texts:** using words and expressions suited to the context, create a variety of media texts in French for specific purposes and audiences, using a range of media forms and the conventions and techniques appropriate to the chosen form (*e.g., ... create an ad campaign to raise awareness about a[n]... environmental ... topic; create a slideshow explaining the threats to endangered animals in Canada and describing possible solutions*)

### **D3. Intercultural Understanding**

**D3.1 Intercultural Awareness:** in their written work, communicate information about French-speaking communities in France, including aspects of their culture and their contributions to *la francophonie* and the world, and make connections to personal experiences and their own and other communities (*e.g., ... prepare a report on water consumption and conservation in France; ...*)

## **Health and Physical Education (2015)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **Living Skills**

#### **Critical and Creative Thinking**

**1.5** use a range of critical and creative thinking skills and processes to assist them in making connections, planning and setting goals, analysing and solving problems, making decisions, and evaluating their choices in connection with learning in health and physical education (*e.g., Active Living: ... plan ways to promote the involvement of all the students in the school in "healthy schools" activities such as litterless lunch programs ...*)

### **A. Active Living**

#### **A1. Active Participation**

**A1.1** actively participate according to their capabilities in a wide variety of program activities (*e.g., ... outdoor pursuits*)

**A1.2** demonstrate an understanding of factors that contribute to their personal enjoyment of being active (*e.g., ... being able to take part in activities in a natural environment; ...*) as they participate in a diverse range of physical activities in a variety of indoor and outdoor environments

**A1.3** demonstrate an understanding of factors that motivate personal participation in physical activities every day ..., and explain how these factors can be used to influence others ... to be physically active

**Teacher prompt:** “How can your participation in physical activity have an impact on others?”

**Students:** ... “On the weekends when I go for a bike ride, my father often comes with me. He might not go out on his own if I were not going.”

### **A3. Safety**

**A3.1** demonstrate behaviours and apply procedures that maximize their safety and that of others (*e.g., ... wearing sunscreen, long sleeves, sunglasses, and a hat to limit UV exposure*) in a variety of physical settings (*e.g., ... outdoor recreational venues*)

**Teacher prompt:** “Other than school facilities, what are some local indoor and outdoor recreational venues in our community that we can use for physical activities? ...”

**Student:** “We have several parks, including a skateboard park, as well as fields, hiking and snow trails, bike paths, a rink, and a lake that is close by. ...”

## **B. Movement Competence**

### **B1. Movement Skills and Concepts**

**B1.2** perform a wide variety of locomotor movements, with and without equipment, while responding to a variety of external stimuli (*e.g., ... strive to beat a time record in orienteering; ... change styles of cross-country skiing depending on snow and terrain conditions, using a skate technique on open, flat sections and a classic technique on narrower trails*)

### **B2. Movement Strategies**

**B2.1** demonstrate an understanding of the components of a range of physical activities ... and apply this understanding as they participate in a variety of physical activities in indoor and outdoor environments

**B2.2** demonstrate an understanding of how movement skills, concepts, and strategies are transferable across different physical activities within various categories ..., and identify skills, concepts, and strategies that they found effective while participating in a variety of physical activities in different categories

**Teacher prompt:** “Think about activities you do at school and those you do on your own time. How can knowing how to do an activity well affect your performance in that activity and in other activities?”

**Students:** “At school, we did cross-country running. I also go running sometimes at home. Learning how to pace myself when I run has made it a lot easier for me to run in my neighbourhood.” ...

**B2.3** apply a variety of tactical solutions to increase chances of success as they participate in physical activities

**Teacher prompt:** “What are some important ideas that transfer across different types of activities done in the natural environment, such as canoeing, hiking, and skiing?”

**Student:** “When taking part in any activity in the natural environment, you should always respect the environment and everything that lives in it. Your activities should not harm or significantly change the environment. You should also take steps to ensure your safety. Monitor the weather conditions, have an emergency action plan, and always make sure others know where you will be and when you will return.”

## **C. Healthy Living**

### **C1. Understanding Health Concepts**

#### *Personal Safety and Injury Prevention*

**C1.2** identify situations that could lead to injury or death ... and describe behaviours that can help to reduce risk (*e.g., ... being cautious when driving or riding ATVs, tractors, boats, or snowmobiles; ...*)

## **History and Geography (2013)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

### **History**

#### **B. Canada, 1890–1914: A Changing Society**

##### **B. Application: Canada – Past and Present**

**B1.2** analyse some of the challenges facing different individual, groups, and/or communities in Canada between 1890 and 1914 ... and compare some of these challenges with those facing present-day Canadians

**Sample questions:** ... “What do these climate and landform maps tell you about the environmental challenges Prairie settlers faced at the beginning of the twentieth century? Do similar challenges still exist today?”

### **Geography**

In Grade 8 geography, students will build on what they have learned in earlier grades about Earth’s physical features and processes in order to explore the relationship between these features/processes and human settlement patterns around the world. They will focus on where people live and why they live there, and on the impact of human settlement and land use on the environment. All expectations in Strand A of the geography course support learning in, about, and for the environment. Only the overall expectations are listed below; refer to the specific expectations in the curriculum document for details about the knowledge and skills that students are expected to develop. Specific expectations that support learning in, about, and for the environment are listed for Strand B.

#### **A. Global Settlement: Patterns And Sustainability**

**A1. Application:** analyse some significant interrelationships between Earth’s physical features and processes and human settlement patterns, and some ways in which the physical environment and issues of sustainability may affect settlement in the future

- A2. **Inquiry:** use the geographic inquiry process to investigate issues related to the interrelationship between human settlement and sustainability from a geographic perspective
- 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

## **B. Global Inequalities: Economic Development and Quality of Life**

### **B1. Application: Global Inequalities in Quality of Life**

**B1.1** analyse some interrelationships among factors that can contribute to quality of life (*e.g., lack of access to clean water leads to an increase in water-borne diseases and to high death rates overall as well as high infant mortality rates; ...*)

**Sample questions:** “What role does access to natural resources play in quality of life? What factors can affect people’s access to resources?” “What is the relationship between land/resources and wealth/power? How has the forced removal of indigenous populations from land with many resources to land with few resources contributed to an inequitable distribution of wealth?” “What is the relationship between deforestation and the migration of independent subsistence farmers to urban centres? What impact has this migration had on farmers? In what ways can it affect quality of life more broadly within a country?”

**B1.2** analyse how various factors have affected the economies of specific developed and developing countries around the world (*e.g., with reference to foreign ownership of natural resources in Nigeria or Indonesia; ...*), and explain the interrelationship between these factors and quality of life in some of these countries ...

### **B2. Inquiry: Development and Quality of Life Issues**

**B2.1** formulate questions to guide investigations into issues related to global development and quality of life from a geographic perspective (*e.g., ... the ... environmental implications of fair trade; ... environmental considerations relating to the increase in foreign ownership of natural resources; ...*)

**Sample questions:** “... How might an increase in education spending affect the health of the people in a country? How might it affect the environment?”

### **B3. Understanding Geographic Context: Global Economic Development and Quality of Life**

**B3.8** identify and describe various factors that can contribute to economic development (*e.g., access to ... natural resources, ...*)

## **Language (2006)**

Although no specific or overall expectations explicitly address environmental education, in each of the strands the learning context (e.g., a topic or thematic unit related to the environment) and/or learning materials (e.g., books, websites, media) can be used to foster in students the development of environmental understanding, with a focus on critical literacy. Also, in each of the strands, there are some expectations that can provide opportunities for exploring environmental education – for example, expectations on making inferences, making connections, analysing and evaluating texts,

developing a point of view, and doing research. Critical literacy involves the capacity for analysing texts and challenging their underlying messages, demonstrating self-criticism, and remaining open to further insights into the text.

The examples in the following specific expectations from the language document provide a context for environmental education.

## **Oral Communication**

### **1. Listening to Understand**

- 1.1** identify a range of purposes for listening in a variety of situations, formal and informal, and set goals appropriate to specific listening tasks (*e.g., to evaluate the effectiveness of the arguments on both sides of a class debate on an environmental, social, or global issue; ...*)

## **Reading**

### **1. Reading for Meaning**

- 1.9** identify the point of view presented in texts, including increasingly complex or difficult texts; give evidence of any biases they may contain; and suggest other possible perspectives (*e.g., determine whether an environmental argument should include an economic perspective or an economic argument should include an environmental perspective*)

## **Media Literacy**

### **1. Understanding Media Texts**

- 1.3** evaluate the effectiveness of the presentation and treatment of ideas, information, themes, opinions, issues, and/or experiences in media texts (*e.g., ... as a class, evaluate the media's coverage of a social or environmental issue over a two-week period*)

## **Mathematics (2005)**

Although no overall or specific expectations explicitly address environmental education, in each of the strands the learning context could be used to foster in students the development of environmental understanding. This is especially so in the context of a cross-disciplinary approach to teaching and learning (e.g., problems relating to climate or waste management could be the focus of student learning). In addition, the mathematical processes (e.g., problem solving, connecting) address skills that can be used to support the development of environmental education. The specific expectations below provide examples that teachers could connect to a broader environmental context.

## **Data Management and Probability**

### **Collection and Organization of Data**

- collect data by conducting a survey or an experiment to do with themselves, their environment, issues in their school or community, or content from another subject, and record observations or measurements

## **Data Relationships**

- make inferences and convincing arguments that are based on the analysis of charts, tables, and graphs (*Sample problem:* Use data to make a convincing argument that the environment is becoming increasingly polluted.)

## **Native Languages (2001)**

Although no overall or specific expectations explicitly address environmental education, the learning context (e.g., a topic or thematic unit related to the environment) and/or learning materials (e.g., books, websites, media) could be used to foster the development of environmental understanding. Learning about aspects of Native culture and communities may provide opportunities for students to make connections with local places.

An example in the following specific expectation provides an opportunity for environmental education.

### **Writing**

- write for a variety of purposes using different forms (*e.g., ... write a story to illustrate how Native people view the relationship between humans and the land*)

## **Science and Technology (2007)**

*See page 3 for information about ways in which environmental education can be incorporated in teaching and learning in this subject.*

There are many opportunities to support environmental education in the science and technology curriculum. Only the overall and specific expectations, and examples that have explicit connections to environmental education, have been included here. For the sake of brevity, sample guiding questions, teacher prompts, and sample issues that support the specific expectations have not been included.

### **Understanding Life Systems: Cells**

1. assess the impact of cell biology on individuals, society, and the environment

#### **1. Relating Science and Technology to Society and the Environment**

- 1.2 assess the potential that our understanding of cells and cell processes has for both beneficial and harmful effects on human health and the environment, taking different perspectives into account (*e.g., the perspectives of farmers, pesticide manufacturers, people with life-threatening illnesses*)

## ***Understanding Structures and Mechanisms: Systems in Action***

1. assess the personal, social, and/or environmental impacts of a system, and evaluate improvements to a system and/or alternative ways of meeting the same needs

### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess the social, economic, and environmental impacts of automating systems
  - 1.2 assess the impact on individuals, society, and the environment of alternative ways of meeting needs that are currently met by existing systems, taking different points of view into consideration
3. demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation

### **3. Understanding Basic Concepts**

- 3.9 identify social factors that influence the evolution of a system (*e.g., growing concern over the amount of waste creates a need for recycling centres, and the recycling centres must grow as population and waste increase; ...*)

## ***Understanding Matter and Energy: Fluids***

1. analyse how the properties of fluids are used in various technologies, and assess the impact of these technologies on society and the environment

### **1. Relating Science and Technology to Society and the Environment**

- 1.1 assess the social, economic, and environmental impacts of selected technologies that are based on the properties of fluids
- 1.2 assess the impact of fluid spills on society and the environment, including the cost of the cleanup and the effort involved

## ***Understanding Earth and Space Systems: Water Systems***

1. assess the impact of human activities and technologies on the sustainability of water resources

### **1. Relating Science and Technology to Society and the Environment**

- 1.1 evaluate personal water consumption, compare it with personal water consumption in other countries, and propose a plan of action to reduce personal water consumption to help address water sustainability issues
- 1.2 assess how various media sources (*e.g., Canadian Geographic; the science section in newspapers; Internet websites; local, national, and international news on television and radio*) address issues related to the impact of human activities on the long-term sustainability of local, national, or international water systems
- 1.3 assess the impact on local and global water systems of a scientific discovery or technological innovation (*e.g., enhancing the efficiency of naturally occurring bacteria that consume hydrocarbons from oil spills and convert them to carbon dioxide and water; development of desalination techniques to provide fresh water from sea water*)

3. demonstrate an understanding of the characteristics of the earth's water systems and the influence of water systems on a specific region

### **3. Understanding Basic Concepts**

- 3.3 explain how human and natural factors cause changes in the water table (*e.g., lawn watering, inefficient showers and toilets, drought, floods, overuse of wells, extraction by bottled water industry*)
- 3.4 identify factors (*e.g., annual precipitation, temperature, climate change*) that affect the size of glaciers and polar ice-caps, and describe the effects of these changes on local and global water systems





