

Prince Edward Island

Prince Edward Island (PEI) follows similar structure and format as the other Atlantic provinces with the high school English curriculum resembling Nova Scotia's structure. Within Math, the Western and Northern Canadian Protocol is referenced as are connections to Education for Sustainable Development within the Pan-Canadian Science Learning outcomes.

English

PEI's English curricula have broad publication dates ranging from 1996-2015, perhaps due to ongoing curriculum redesign, with the newer curricula found in high school; these documents resemble in structure that of Nova Scotia's program of studies. With respect to outcomes tied to critical Indigenous environmental topics, there are no explicit outcomes however there are some spaces where teachers could utilize the openness of the English outcomes to do so, as well as within the ability to incorporate a variety of texts. The older grades begin to look at language and its' influence and Grades 7 and 8 have an outcome that teachers could tie to the project:

- SCO 3.3 Recognize that spoken language reveals values and attitudes such as bias, beliefs, and prejudice, and understand how language is used to influence and manipulate (p. 153)

As well in Grades 7, 8, and 9:

- SCO 4.1 Select texts that address their learning needs and range of special interests (p. 154)

Exploring how language is used to influence thought is a theme that runs throughout and Prince Edward Island's English curriculum also considers how power contributes to this influence and the role of bias in the media. Students are also required to engage in research processes which could assist them in considering Indigenous environmental topics.

PEI's high school English curricular documents demonstrate a shift—the previous documents were incredibly extensive, some over 450 pages. The recent high school curricula also shift to more inquiry based approaches but continue to question how language is used to shape perceptions. A few outcomes that could be connected with the present inquiry:

- SCO 6 Evaluate how identity and culture are portrayed in texts (p. 14)
- SCO 2 Create a defense for a critical audience (p. 14)
- SCO 6 Evaluate how gender and SES are portrayed in a variety of texts (p. 14)
- SCO 6 Evaluate how ideologies are portrayed in a variety of texts (p. 14)

Math

The publication dates of PEI's Math curricula range from 2009 – 2015 and follow similar structure to the other Atlantic provinces with respect to the strands, scope, and sequence. For example, the Statistics and Probability strand with outcomes related to data could tie to

sociocritical environmental issues by using environmental data as well as looking at maps of how resources are transported across Canada. In Grade 8, the following outcome within the Statistics and Probability strand approaches data from a critical lens:

- SP1 Critique ways in which data is presented (p. 56)

And in Grade 9:

- SP1 Describe the effect of: bias, use of language; ethics; cost; time and timing; privacy; cultural sensitivity on the collection of data (p. 62)

Students also need to engage in the research process and students could not only cross-circularly connect this to English, but they could explore environmental data and local Indigenous topics related to the environment.

PEI's high school Math program is streamed into different ability levels and, while there are no explicit outcomes that connect to this inquiry, there are some math courses (521A, 531A, 521E, 621A) that present the opportunity to use data related to the environment as well as a research project centred on a historical math event.

Science

PEI's Science curricular documents range between 2005 and 2012 follow similar structure as the other Atlantic provinces. Also of note is that Grade 7 and 8 documents were not available for review as they were under revision at the time of this inquiry. The front matter of the Science curriculum encourages teachers to work across curricular boundaries with other subjects to enhance student achievement. The documents also include cross-curricular connections to support such efforts. The outcomes for Science are also tied explicitly to specific textbooks. The general outcomes align with each Atlantic province with the Science, Technology, Society, and the Environment strand, which provides a means for teachers to look at Indigenous environmental topics.

The elementary grades, K-3, begin exploring the Earth and its diversity as well as relationships between Earth and humans. In Grade 2 a general outcome relates to this inquiry:

- Protecting our water sources (p. 35)

This outcome offers an opportunity to look at Indigenous environmental topics specifically, however, opportunities exist throughout the Science program for teachers to tie outcomes to the topics of this inquiry. In grade 5, there is perhaps an explicit linkage however the context of the lexicon use in the outcome may cause tension between the understanding of what constitutes folklore as, if Indigenous knowledge is considered folklore then this outcome could be used to incorporate Indigenous knowledge:

- Identify and use weather-related folklore to predict weather (105-2) (p. 59)

Also in Grade 5, a general outcome related to environmental issues opens up space for teachers to dive deeply into critical topics:

- Describe how studies of the depletion of the ozone layer, global warming and the increase in acid rain have led to new inventions and stricter regulations on emissions from cars, factories, and other polluting technologies (106-4) (p. 72)

High school Science splits into more specializations with no explicit connections to Indigenous environmental topics within Chemistry or Physics. Reflective perhaps of the province's economic industries, the high school Science curriculum includes elective courses in Animal Science and Agri-Science. Agri-Science courses require students to analyse the intersections of environment, social and economic significance of agriculture as well as the impact of agriculture on sustainability which could allow teachers to link to Indigenous environmental topics. Animal science courses focus on the intersections of the environment with social and economic development in Prince Edward Island, including an outcome that requires students to debate the concept of sustainability within an agricultural context.

Life Sciences and general Grade 10 Science (431A) explore the sustainability of ecosystems, encourage students to engage with the research process, and examine environmental issues as well as how shifts in thinking can influence understandings of sustainability. Within Biology 521A, students can engage in the research process by looking at content related to matter and energy for life that could link to Indigenous environmental topics which could continue in Biology 621A with a focus on maintaining a dynamic equilibrium. Environmental Science 621A is a project based learning course that brings in the concept of looking at an environmental issue through working through the research process. Topics within this course include an "Introduction to Environmental Science", "Ecological Principles", "Human Population and Carrying Capacity", "Natural Resources", "Environmental Challenges and Successes", and "Energy Resources", which includes an anecdote that this last unit is compulsory to the course. The "Environmental Challenges and Successes" unit offers a strong connection to this inquiry.

Social Studies

PEI's Social Studies curricula ranges in publication date from 2006-2015 with similar structure to the other Atlantic provinces. Within the front matter, there is explicit mention of this curriculum being learner-centred, skills, and issues-based. There is also a notation that items marked with a heart symbol are sensitive topics and teachers ought to be observant of the needs of their students when teaching these topics. Each grade between Kindergarten – Grade 9 has an overarching theme that then breaks into smaller strands. Some themes do not align with this project but there are many that do.

Grade 1's primary theme is Interactions and within the Environment unit teachers can draw connections to Indigenous environmental topics as well as within the space and time unit, specifically:

- 1.3.3 Demonstrate an understanding that Aboriginal peoples' relationship with place has changed over time (p. 24)

Grade 2's primary theme is "Change" and also within the Environment unit teachers can use the following outcomes to bring in content related to this project:

- 2.4.1 Explain how and why physical environments change over time (p. 24)
- 2.4.2 Describe how people's interactions with their environment have changed over time (p. 24)
- 2.4.3 Demonstrate an understanding of sustainable development and its importance to our future (p. 24)

Grade 3 examines the provincial identity and Grade 4 examines geographic exploration. Neither grade has any explicit outcomes related to Indigenous people however, there are references to diverse people and culture. Grade 5's theme is societies and Indigenous people are explored within the theme of past societies as well as in decision making and interactions. An outcome within the environment unit can be tied to this project if Indigenous people are regarded as a past society:

- 6.7.2 Demonstrate and understanding of a significant event in PEI history (p. 28)

Grade 6 examines the history of Prince Edward Island and world cultures with an outcome that teachers can tie to this project within the unit of Culture and Culmination:

- 6.7.2 Demonstrate and understanding of a significant event in PEI history (p. 28)

And also within the World Issues unit:

- 6.3.2 Examine selected examples of human rights issues around the world (p. 30)

Grade 7 focuses on individual empowerment and includes Indigenous references throughout the course with one outcome within the economic empowerment unit that could be tied directly to this project:

- 7.2.1 Examine the importance of land and natural resources as economic commodities in Canada's history (p. 22)

Other units include Political Empowerment and Cultural Empowerment and within those the Red River Resistance is examined as is how Indigenous people have been disempowered as well as the importance for ethnic groups to retain their cultural and linguistic identities. Grade 9's theme is interdependence and as well as exploring citizenship and human rights, it also looks at the environment in the global community with an outcome that ties to this project:

- 9.4.2 Analyse factors that contribute to environmental issue (p. 89)
- 9.4.3 Investigate a current environmental issue using an inquiry process (p. 93)

The Social Studies program in high school branches out into a few specialized areas including Geography, History, Economics, and Law. Canadian Geography 401A looks at:

- 10-1-4 Aboriginal settlement patterns, past and present, across Canada using physical and climatic factor (p. 28)
- 10-2-4 Plan and carry out historical research of a local nature (p. 29)

These outcomes could be explored more deeply to align with this project as well as bring up the impacts of colonization and environmental racism on Indigenous people. Geography 531A, within the world geography context, includes content related to renewable resources, including water, and how over time natural resources have changed over time including their value, distribution, and management. Factors that influence climate regions are also a part of this course and students need to:

- 3.6 Engage in an active citizenship project initiative as a part of a group or class (p. 27)

Geography 621A and 631A cover sustainability within the global community context as well as active citizenship where students again will conduct a research project and this can tie to the current events focus that also explores sustainability and environmental issues. Law 521A and 531A both have Indigenous content related to legislations and the impact of governmental power on Indigenous people. History 621A examines colonization and has a few outcomes that can be tied to this project:

- J2 Demonstrate an understanding of the relationship between land and culture and analyse the effects of displacement (p. 17)
- GL2 Analyse the effects of contact and subsequent colonization (p. 15)

Geography 621B looks at land and resources, as well as the impact of globalization, and includes outcomes related to this inquiry:

- 1.3 Analyse the impact of various factors on the Island's natural resources and environment (p. 24)
- 1.4 Analyse the impact of a past economic development initiative involving a natural resource (p. 24)

References

Council of Ministers of Education of Canada (1997). *Pan-Canadian science framework*. Retrieved from

<https://ia800508.us.archive.org/17/items/commonframework00coun/1996330.pdf>

Council of Atlantic Ministers of Education and Training (2015). *The Atlantic Canada framework for essential graduation competencies*. Retrieved from http://www.ednet.ns.ca/files/curriculum/atlantic_canada_essential_grad_competencies.pdf

Prince Edward Island Department of Education, Early Learning, and Culture (2017). *Curriculum guides, programs of study, and authorized materials, and curriculum support*. Retrieved from <https://www.princeedwardisland.ca/en/information/education-early-learning-and-culture/curriculum-guides-programs-study-and-authorized>

Western and Northern Canadian Protocol for Collaboration in Education (1993). *Western and*

northern Canadian protocol (WNCP) for collaboration in (Kindergarten to Grade 12) education. Retrieved from <https://www.wncp.ca/media/49521/protocol.pdf>