

## Operation Water Flow Curriculum Connections

- ❖ A cross-curricular program that gives students a more thorough understanding of issues surrounding drinking water
- ❖ Lessons come in English and French
- ❖ Applies to Grades 6 - 12
- ❖ Curriculum Connections last updated February 2022.
- ❖ Science Lessons:
  - ❖ "What is an aquifer anyway?"
  - ❖ "What is Safe Drinking Water?"
  - ❖ "Water Treatment Plant"
  - ❖ "How is my water Purified?"
- ❖ Biology Lessons:
  - ❖ "Bacteria vs. Virus: What's the Difference?"
  - ❖ "You need to make a Decision!"
  - ❖ "How is my water Purified?"
- ❖ Chemistry Lessons:
  - ❖ "What is Acid Rain and how does it affect me?"
  - ❖ "Acids, Bases, and Water"
  - ❖ "That's Some Kind of Reaction!"
  - ❖ "How is my water Purified?"
- ❖ Math Lessons:
  - ❖ "I Use THAT Much Water?!"
- ❖ Social Studies Lessons:
  - ❖ "Creating Balance"
  - ❖ "Who is Responsible for Our Drinking Water?"
  - ❖ "A Case Study on Water Pollution in Canada"
  - ❖ "Is Safe Drinking Water a Privilege or a Human Right?"

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**Alberta**  
**Grade Six**  
**Social Studies**

**Curriculum Last Updated: 2009**

**6.1 Citizens Participating in Decision Making**

- 6.1.1: Recognize how individuals and governments interact and bring about change within their local and national communities
- 6.1.3: Analyze how the democratic ideals of equity and fairness have influenced legislation in Canada over time
- 6.1.6: Analyze how individuals, groups and associations within a community impact decision making of local and provincial governments

**Grade Seven**  
**Science**

**Curriculum Last Updated: 2014**

**Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)**

- 1: Investigate and describe relationships between humans and their environments, and identify related issues and scientific questions
- 2: Trace and interpret the flow of energy and materials within an ecosystem
- 4: Describe the relationships among knowledge, decisions and actions in maintaining life

**Social Studies**

**Curriculum Last Updated: 2006**

**7.2: Following Confederation: Canadian Expansions**

- 7.2.2: Recognize the positive and negative consequences of political decisions
- 7.2.6: Assess, critically, the impacts of social and political changes on individual and collective identities in Canada since 1918
- 7.2.7: Assess, critically, the impact of urbanization and of technology on individual and collective identities in Canada

## **Grade Eight Science**

**Curriculum Last Updated: 2014**

### **Unit E: Freshwater and Saltwater Systems (Social and Environmental Emphasis)**

- 1: Describe the distribution and characteristics of water in local and global environments, and identify the significance of water supply and quality to the needs of humans and other living things
- 2: Investigate and interpret linkages among landforms, water and climate

## **Grade Nine Math**

**Curriculum Last Updated: 2016**

### **Number**

- 3: Demonstrate an understanding of rational numbers by solving problems that involve arithmetic operations on rational numbers

## **Science**

**Curriculum Last Updated: 2014**

### **Unit C: Environmental Chemistry (Social and Environmental Emphasis)**

- 1: Investigate and describe, in general terms, the role of different substances in the environment in supporting or harming humans and other living things
- 2: Identify processes for measuring the quantity of different substances in the environment and for monitoring air and water quality
- 3: Analyze and evaluate mechanisms affecting the distribution of potentially harmful substances within an environment

## **Social Studies**

**Curriculum Last Updated: 2007**

### **9.1: Issues for Canadians: Governance and Rights**

- 9.1.3: Appreciate how emerging issues impact quality of life, citizenship and identity in Canada
- 9.1.5: Analyze the role that citizens and organizations play in Canada's justice system
- 9.2.6: Assess, critically, the interrelationship between political decisions and economic systems

**Grade Ten**  
**Social Studies**

**Curriculum Last Updated: 2007**

1-3: To what extent should we embrace globalization?

- 3.1: Recognize and appreciate multiple perspectives that exist with respect to the relationships among politics, economics, the environment and globalization
- 3.2: Recognize and appreciate impacts of globalization on the interdependent relationships among people, the economy and the environment
- 3.7: Explore multiple perspectives regarding the relationship among people, the land and globalization
- 3.8: Evaluate actions and policies associated with globalization that impact the environment

**Grade Eleven**  
**Biology**

**Curriculum Last Updated: 2014**

Unit A: Energy and Matter Exchange in the Biosphere

- 2: Explain the cycling of matter through the biosphere
- 3: Explain the balance of energy and matter exchange in the biosphere, as an open system, and explain how this maintains equilibrium

**Chemistry**

**Curriculum Last Updated: 2014**

Unit C: Matter as Solutions, Acids and Bases

- 1: Investigate solutions, describing their physical and chemical properties
- 2: Describe acidic and basic solutions qualitatively and quantitatively

**Grade Twelve**  
**Chemistry**

**Curriculum Last Updated: 2014**

Unit D: Chemical Equilibrium Focusing on Acid-Base Systems

- 1: Explain that there is a balance of opposing reactions in chemical equilibrium systems
- 2: Determine quantitative relationships in simple equilibrium systems

**Science**

**Curriculum Last Updated: 2014**

Unit B: Chemistry and the Environment

- 3: Analyze, from a variety of perspectives, the risks and benefits of using chemical processes in meeting human needs and assess technologies for reducing the impact of chemical compounds on the environment

**Social Studies**

**Curriculum Last Updated: 2007**

30-1-3: To what extent are the principles of liberalism viable?

- 3.5: Analyze the extent to which the practices of political and economic systems reflect principles of liberalism (consensus decision making, direct and representative democracies, authoritarian political systems, traditional economies, free market economies, command economies, mixed economies)
- 3.8: Evaluate the extent to which governments should promote individual and collective rights (American Bill of Rights; Canadian Charter of Rights and Freedoms; Québec Charter of Human Rights and Freedoms; First Nations, Métis and Inuit rights; language legislation; emergencies and security legislation)
- 3.9: Evaluate the extent to which the principles of liberalism are viable in the context of contemporary issues (environment concerns, resource use and development, debt and poverty, racism, pandemics, terrorism, censorship, liberalism)

30-2-3: To what extent should we embrace an ideology?

- 3.4: Explore the extent to which governments should encourage economic equality
- 3.8: Evaluate the extent to which the values of liberalism are viable in the context of contemporary issues (environment concerns, resource use and development, debt and poverty, racism, pandemics, terrorism, censorship)



## **British Columbia**

### **Grade Six**

#### **Science**

**Curriculum Last Updated: 2016**

#### Big Ideas

- Everyday materials are often mixtures

#### Content

- Heterogeneous mixtures

## **Social Studies**

**Curriculum Last Updated: 2016**

#### Big Ideas

- Economic self-interest can be a significant cause of conflict among peoples and governments
- Complex global problems require international co-operation to make difficult choices for the future
- Systems of government vary in their respect for human rights and freedoms

#### Content

- Global poverty and inequality issues, including class structure and gender
- Roles of individuals, governmental organizations, and NGOs, including groups representing indigenous peoples
- Different systems of government
- Economic policies and resource managements, including effects on indigenous peoples
- International co-operation and responses to global issues

## **Grade Seven**

### **Science**

**Curriculum Last Updated: 2016**

#### Content

- Survival needs
- Elements and compounds are pure substances
- Chemical changes

## **Social Studies**

**Curriculum Last Updated: 2016**

### Big Ideas

- Increasingly complex societies required new systems of laws and government

### Content

- Human responses to particular geographic challenges and opportunities, including climates, landforms, and natural resources
- Scientific, philosophical, and technological developments
- Social, political, legal, governmental, and economic systems and structures, including at least one indigenous to the Americas

## **Grade Eight**

### **Social Studies**

**Curriculum Last Updated: 2016**

### Big Ideas

- Human and environmental factors shape changes in population and living standards
- Exploration, expansion, and colonization had varying consequences for different groups

### Content

- Social, political, and economic systems and structures, including those of at least one indigenous civilization
- Scientific and technological innovations
- Exploration, expansion, and colonization
- Changes in population and living standards

## **Grade Nine**

### **Math**

**Curriculum Last Updated: 2016**

### Big Ideas

- Computational fluency and flexibility with numbers extend to operations with rational numbers

- Analyzing the validity, reliability, and representation of data enables us to compare and interpret

## Content

- Operations with rational numbers (addition, subtraction, multiplication, division, and order of operations)
- Statistics in society

## Science

**Curriculum Last Updated: 2016**

### Big Ideas

- The biosphere, geosphere, hydrosphere, and atmosphere are interconnected, as matter cycles and energy flows through them

## Content

- Matter cycles within biotic and abiotic components of ecosystems
- Sustainability of systems

## Social Studies

**Curriculum Last Updated: 2016**

### Big Ideas

- Emerging ideas and ideologies profoundly influence societies and events
- The physical environment influences the nature of political, social, and economic change

## Content

- Political, social, economic, and technological revolutions
- Imperialism and colonialism, and their continuing effects on indigenous peoples in Canada and around the world
- Global demographic shifts, including patterns of migration and population growth
- Physiographic features and natural resources in Canada

## **Grade Ten Science**

**Curriculum Last Updated: 2018**

### Big Ideas

- Energy change is required as atoms rearrange in chemical processes.

### Content

- How do chemical processes - personal, local, or global - affect your life?

## **Social Studies**

**Curriculum Last Updated: 2018**

### Big Ideas

- The development of political institutions is influenced by economic, social, ideological, and geographic factors.
- Worldviews lead to different perspectives and ideas about developments in Canadian society.

### Content

- Environmental issues, including climate change, renewable energy, overconsumption, water quality, food security, conservation
- Describe the structure and function of Canada's federal, provincial, and local governments
- Evaluate attitudes and practices in resource development in British Columbia and their impact on contemporary resource management

## **Grade Eleven Life Sciences**

**Curriculum Last Updated: 2018**

### Big Ideas

- Life is a result of interactions at the molecular and cellular levels

### Content

- Identification of bacteria and viruses

- Through the study of viruses and bacteria, how might scientists find new and innovative ways to prevent the spread of future diseases?

## **Chemistry**

**Curriculum Last Updated: 2018**

### Big Ideas

- Organic chemistry and its applications have significant implications for human health, society, and the environment
- Matter and energy are conserved in chemical reactions
- Solubility within a solution is determined by the nature of the solute and the solvent

### Content

- How could you measure negative and/or positive impacts of chemical reactions on human health, society, and the environment in your local community?
- How do lab techniques contribute to safety?
- How does the bent shape of the water molecule cause polarity?
- Why do some materials dissolve in water or other liquids, but others do not?

## **Earth Science**

**Curriculum Last Updated: 2018**

### Big Ideas

- Earth materials are changed as they cycle through the geosphere and are used as resources, with economic and environmental implications.
- The distribution of water has a major influence on weather and climate.

### Content

- What criteria must be met for an earth material to be considered a "resource"?
- Why might water be considered Earth's most important resource?
- How is the hydrosphere connected with the geosphere and the atmosphere?

## **Science and Technology**

**Curriculum Last Updated: 2008**

E1: Describe the major natural resources found in British Columbia

E2: Evaluate methods used in the extraction, processing, use and management of a locally used or produced resource

- Describe how water is prepared for public consumption or use
- Debate the use of political control of the management of a given resource

E3: Discuss the impact of society on natural resource management and the environment

- Describe local and global environmental issues

E4: Analyze the impact of technologies on the environment

- Identify technologies associated with the extraction of a natural resource
- Explore the relationship between the technology used for the extraction of water and its impact on the environment
- Describe the link between a local environmental issue and the use of technology

## **Social Studies**

**Curriculum Last Updated: 2018**

### Big Ideas

- Physical features and natural resources influence demographic patterns and population distribution (adapted from *Human Geography 12*)
- Decision making in urban and regional planning requires balancing political, economic, social, and environmental factors (from *Urban Studies 12*)
- Cultural expressions convey the richness, diversity, and resiliency of B.C. First Peoples

### Content

- Natural resource use and local, regional, national, or global development (adapted from *Human Geography 12*)
- Colonialism and contemporary issues for indigenous people in Canada and around the world (adapted from *Contemporary Indigenous Studies 12*)

## **Grade Twelve**

### **Biology**

**Curriculum Last Updated: 2006**

A2: Design an experiment using the scientific method

- Formulate and carry out a repeatable, controlled procedure to test the hypothesis
- Observe, measure and record data
- Draw conclusions from results

**A3: Interpret data from a variety of text and visual sources**

- Make inferences and generalizations
- Draw and present conclusions

**B2: Describe the characteristics of water and its role in biological systems**

- Describe the role of water and understand the chemicals it is treated with and for

**B3: Describe the role of acids, bases, and buffers in biological systems in the human body**

- Relate pH values to whether a solution is acidic or basic
- Differentiate among acids, bases, and buffers
- Describe the importance of pH to biological systems in the human body

**Chemistry**

**Curriculum Last Updated: 2018**

**Big Ideas**

- Acid or base strength depends on the degree of ion dissociation

**Content**

- How are the concepts of acid/base strength and acid/base concentration different?
- How are aquatic ecosystems affected by changes in pH?

**First Nations Studies**

**Curriculum Last Updated: 2018**

**Big Ideas**

- The impact of contact and colonialism continues to affect the political, social, and economic lives of B.C. First Peoples

- Through self-governance, leadership, and self-determination, B.C. First Peoples challenge and resist Canada's ongoing colonialism

## Content

- Provincial and federal government policies and practices that have affected, and continue to affect, the responses of B.C. First Peoples to colonialism
- Resistance of B.C. First Peoples to colonialism

## Manitoba

### Grade Five

#### Science

**Curriculum Last Updated: 2000**

#### Cluster 2: Properties of and Changes in Substances

- 5-2-02: Identify characteristics and properties that allow substances to be distinguished from one another
- 5-2-10: Recognize that a physical change alters the characteristics of a substance without producing a new substance, and that a chemical change produces a new substance with distinct characteristics and properties

### Grade Seven

#### Science

**Curriculum Last Updated: 2000**

#### Cluster 1: Interactions within Ecosystems

- 7-1-13: Demonstrate proper use and care of the microscope to observe micro-organisms
- 7-1-05: Identify and describe positive and negative examples of human interventions that have an impact on ecological succession or the makeup of ecosystems
- 7-1-14 Identify beneficial and harmful roles played by micro-organisms

#### Cluster 2: Particle Theory of Matter

- 7-2-23: Discuss the potential harmful effects of some substances on the environment, and identify methods to ensure their safe use and disposal



## **Social Studies**

**Curriculum Last Updated: 2003**

### Cluster 2: Global Quality of Life

- 7-KC-002: Describe the impact of various factors on quality of life in Canada and elsewhere in the world

### Cluster 4: Human Impact in Europe or the Americas

- 7-KL-026: Identify human activities that contribute to climate change
- 7-KL-027: Describe social, environmental, and economic consequences of climate change
- 7-VL-009: Be willing to take actions to help sustain the natural environment in Canada and the world
- 7-VE-017: Be willing to consider the consequences of their consumer choices

## **Grade Eight**

### **Science**

**Curriculum Last Updated: 2000**

### Cluster 4: Water Systems

- 8-4-03: Compare and contrast characteristics and properties of fresh water and salt water
- 8-4-07: Describe features of the North American drainage system
- 8-4-14: Identify sources of drinking water and describe methods for obtaining water in areas where supply is limited
- 8-4-15: Explain how and why water may need to be treated for use by humans
- 8-4-16: Compare the wastewater disposal system within their communities to one used elsewhere
- 8-4-17: Identify substances that may pollute water, related environmental and societal impacts of pollution, and ways to reduce or eliminate effects of pollution
- 8-4-18: Identify environmental, social, and economic factors that should be considered in the management of water resources

## **Grade Nine**

### **Mathematics**

**Curriculum Last Updated: 2008**

Number: Develop number sense

Patterns and Relations: Use patterns to describe and solve word problems

## **Social Studies**

**Curriculum Last Updated: 2007**

### Cluster 3: Canada in the Global Context

- 9.3.1: Living in the Global Village
- 9.3.2: Canada's Global Responsibilities
- 9.3.3: Living in an Industrialized Consumer Society

## **Grade Ten**

### **Science**

**Curriculum Last Updated: 2001**

### Cluster 1: Dynamics of Ecosystems

- S2-1-03 Describe bioaccumulation and explain its potential impact on consumers
- S2-1-10: Investigate how human activities affect an ecosystem and use the decision-making process to propose a course of action to enhance its sustainability

## **Social Studies**

**Curriculum Last Updated: 2006**

### Cluster 1: Geographic Literacy

- 1.4: Global Environmental Types
- 1.5: Why Care?

### Cluster 2: Natural Resources

- 2.3: Sustainable Development

### Cluster 5: Urban Places

- 5.3: Environmental and Economic Issues
- 5.4: The Impact of Urbanization

## **Grade Eleven**

### **Biology**

**Curriculum Last Updated: 2010**

### Unit 5: Protection and Control

- B11-5-02: Describe the body's response to allergens, vaccines, and viruses/bacteria

## **Chemistry**

**Curriculum Last Updated: 2006**

### Topic 3: Chemical Reactions

- C11-3-06: Predict the products of chemical reactions, given the reactants and type of reaction

### Topic 4: Solutions

- C11-4-19: Describe the process of treating a water supply, identifying the allowable concentrations of metallic and organic species in water suitable for consumption

## **History of Canada**

**Curriculum Last Updated: 2014**

### Cluster 5: Defining Contemporary Canada (1982-Present)

- 11.5.3: How are the First Nations, Métis, and Inuit peoples seeking a greater degree of cultural, political, and economic self-determination?

## **Grade Twelve**

### **Chemistry**

**Curriculum Last Updated: 2013**

### Topic 1: Reactions in Aqueous Solutions

- C12-1-04: Write balanced neutralization reactions involving strong acids and bases
- C12-1-08: Outline the development of scientific understanding of oxidation and reduction reactions
- C12-1-10: Identify reactions as redox or non-redox
- C12-1-11: Balance oxidation-reduction reactions using redox methods
- C12-1-12: Research practical applications of redox reactions

### Topic 5: Acids and Bases

- C12-5-03: Describe the relationship between the hydronium and hydroxide ion concentrations in water
- C12-5-04: Perform a laboratory activity to formulate an operational definition of pH
- C12-5-10: Perform a laboratory activity to determine the concentration of an unknown acid or base, using a standardized acid or base

## **First Nations Studies**

**Curriculum Last Updated: 2011**

### **Cluster 2: A Profound Ambivalence: First Nations, Métis, and Inuit Relations with Government**

- Learning Experience 2.1: Setting the Stage: Economics and Politics

### **Cluster 3: Toward a Just Society**

- Learning Experience 3.2: Health: Living in Balance
- Learning Experience 3.3: Justice
- Learning Experience 3.4: Wîcehtowin: Economic and Resource Development

## **New Brunswick**

### **Grade Seven**

#### **Science**

**Curriculum Last Updated: 2002**

#### **Unit 1: Interactions within Ecosystems**

- 306-3: Describe interactions between biotic and abiotic factors in an ecosystem
- 306-4: Identify signs of ecological succession in a local ecosystem

#### **Social Studies**

**Curriculum Last Updated: 2005**

#### **Unit 2: Economic Empowerment**

- 7.2.2: Investigate the various ways economic systems empower or disempowered people
- 7.2.3: Analyze trends that could impact future economic empowerment

#### **Unit 3: Political Empowerment**

- 7.3.1: Evaluate the conditions of everyday life for diverse peoples living in British North America in the mid-1800s, including Aboriginal peoples, African-Canadians and Acadians

#### **Unit 4: Cultural Empowerment**

- 7.4.3: Analyze the degree of empowerment and disempowerment for Aboriginal peoples in present day Atlantic Canada

## **Grade Nine**

#### **Math**

**Curriculum Last Updated: 2012**

- Number: Develop number sense
- Data Analysis: Collect, display and analyze data to solve problems

#### **Science**

**Curriculum Last Updated: 2002**

#### **Unit 2: Physical Science: Atoms and Elements**

- 307-12: Investigate materials and describe them in terms of their properties

- 307-13: Describe changes in the properties of materials that result from some common chemical reactions

## **Social Studies**

**Curriculum Last Updated: 2006**

### Unit 4: Citizenship

- 9.4.1: Take age-appropriate actions that demonstrate the rights and responsibilities of citizenship

## **Grade Ten**

### **Science**

**Curriculum Last Updated: 2002**

### Unit 1: Life Science: Sustainability of Ecosystems

- 318-1: Illustrate the cycling of matter through biotic and abiotic components of an ecosystem by tracking carbon, nitrogen, and oxygen
- 318-6: Explain how biodiversity of an ecosystem contributes to its sustainability
- 331-6: Analyze the impact of external factors on an ecosystem

## **Grade Eleven**

### **Biology 111/112**

**Curriculum Last Updated: 2008**

### Unit 2: Biodiversity

- 331-6: Analyze the impact of external factors on an ecosystem

### Unit 3: Maintaining Dynamic Equilibrium

- 314-1: Identify chemical elements that are commonly found in living systems
- 314-2: Identify the role of compounds, such as water, found in living systems
- 314-3: Identify and describe the structure and function of important biochemical compounds, including carbohydrates, proteins and lipids

## **Environmental Science 120**

**Curriculum Last Updated: 2012**

### Unit 1: An Overview of Environmental Science

- Explore and communicate current understanding of local, regional and global environmental issues

- Identify links between personal behavior and local, regional and global environmental issues
- Identify ways to measure environmentally sustainable behaviours, and describe links to economic and social factors
- Become aware of the range of issues arising from overpopulation and human activity
- Explore one or a few local or regional issues with respect to the impact on the environment, and on history, economics and social systems
- Practice research and presentation skills including experimenting to test environmental impact, identifying and accessing various organizations for information and expertise, and considering the legislation which impacts on environmental issues

## Unit 2: Sustainable Development

- Recognize that humans are just one part of a complex system of living things, with an inordinate impact on the biosphere, often accelerated by the use of technology

## Unit 3: Optional topics for Study (Fresh Water Use)

- Describe water use, locally, nationally, and globally
- Develop an understanding of the natural fresh water ecology and the impact of people
- Design and carry out an experiment to test the impact of people on fresh water ecology
- Describe ways in which we can use water more sustainably
- Contact relevant local, regional and/or national organizations and government agencies, and identify their mandate and perspective on water issues
- Develop a working knowledge of current environmental legislation and policy and how it applies to water issues

## Grade Twelve

### Indigenous Studies

Curriculum Last Updated: 2020

*GCO 4* Students will recognize the importance of Indigenous advocacy as agents of social change.

- *SCO 4.4* Students will take action in ways that reflect their learning and context.

## **Newfoundland and Labrador**

### **Grade Six**

#### **Social Studies**

**Curriculum Last Updated: 2007**

#### Unit 2: Environment and Culture

- 6.2.2 Assess the relationship between culture and environment in a selected cultural region
- 6.2.3 Compare the use of resources and sustainability practices between Canada and a selected country

#### Unit 5: World Issues

- 6.5.2 Examine selected examples of human rights issues around the world
- 6.5.3 Take age-appropriate actions to demonstrate an understanding of responsibilities as global citizens

### **Grade Seven**

#### **Science**

**Curriculum Last Updated: 2013**

#### Unit 1: Interactions within Ecosystem

- 306-3: Describe interactions between biotic and abiotic factors in an ecosystem

#### Unit 3: Mixtures and Solutions

- 307-2: Identify and separate the components of mixtures

#### **Social Studies**

**Curriculum Last Updated: 2004**

#### Unit 5: Societal Empowerment

- 7.5.1: Evaluate the conditions of everyday life for the peoples of Canada at the turn of the 20th century



## **Grade Eight Science**

**Curriculum Last Updated: 2010**

### Unit 2: Fluids

- 307-6: Compare the viscosity of various liquids
- 307-7: Describe factors that can modify the viscosity of a liquid
- 307-8: Describe the relationship between the mass, volume, and density of solids, liquids, and gases using the particle theory of matter gaseous fluids are compressed or heated

## **Social Studies**

**Curriculum Last Updated: 2005**

### Unit 2: History as a Story of People

- 2.1: The student will be expected to demonstrate an understanding of the Aboriginal peoples who lived in Newfoundland and Labrador in the 19<sup>th</sup> Century
- 2.4: The student will be expected to demonstrate an understanding of the political context and challenges in Newfoundland and Labrador in the 19th century

### Unit 5: History as a Story of the Past in the Present

- 5.1: The student will be expected to demonstrate an understanding of the role of history in shaping our current circumstances

## **Grade Nine Mathematics**

**Curriculum Last Updated: 2014**

### Rational Numbers

- SCO 9N3: Demonstrate an understanding of rational numbers by solving problems that involve arithmetic operations on rational numbers

## **Social Studies**

**Curriculum Last Updated: 2010**

### Unit Six: Canada's Changing Identity: Creating a Preferred Future

- SCO 15 - The student will be expected to demonstrate an understanding of economic challenges and opportunities that may affect Canada's future

- SCO 16 - The student will be expected to demonstrate an understanding of political challenges and opportunities that may affect Canada's future
- SCO 17 - The student will be expected to demonstrate an understanding of social and cultural challenges and opportunities that may affect Canada's future

## **Secondary Grades**

### **Biology 2201**

**Curriculum Last Updated: 2020**

*GCO 1* Students will develop an understanding of the nature of science and technology, of the relationships between science and technology, and of the social and environmental contexts of science and technology.

- 27.0 analyze natural systems to interpret and explain their structure and dynamics
- 32.0 analyze from a variety of perspectives the risks and benefits to society and the environment of applying scientific knowledge or introducing a particular technology
- 34.0 provide examples of how science and technology are an integral part of their lives and their community
- 36.0 propose courses of action on social issues related to science and technology, taking into account an array of perspectives, including that of sustainability

*GCO 3* Students will construct knowledge and understandings of concepts in life science, physical science, and Earth and space science, and apply these understandings to interpret, integrate, and extend their knowledge.

- 28.0 analyze interactions within and between populations
- 33.0 evaluate Earth's carrying capacity, considering human population growth and its demands on natural resources

### **Canadian Geography 1202**

**Curriculum Last Updated: 2012**

#### **2.1 Understandings**

- 2.1.4 Activities and issues related to how Canadians use resources on the land.
- 2.1.5 Activities and issues related to how Canadians use resources in the ocean environment

### **Canadian History 1201**

**Curriculum Last Updated: 2011**

#### **Unit 7: Issues in Canada**

- 7.0: The student will be expected to demonstrate an understanding of important contemporary issues in Canada
- 7.1: Aboriginal rights: legislation, women's rights, land claims, self-government

## **Chemistry 3202**

**Curriculum Last Updated: 2019**

### Unit 1: From Kinetics to Equilibrium

- 42.0: Explain how different factors affect chemical equilibrium

### Unit 2: Acids and Bases

- 51.0: Predict products of acid-base reactions
- 52.0: Calculate the pH of an acid or a base given its concentration, and vice versa
- 54.0: Explain how acid-base indicators function

## **Environmental Science 3205**

**Curriculum Last Updated: 2010**

### Unit 1: Introduction to Environmental Science

- 1.03: Describe the Newfoundland and Labrador transition, from aboriginals, European settlers, to present day, in terms of how they impacted the land
- 1.08: Identify the relationship between human population growth, demand for resources, and increased consumerism
- 1.11: Define environmental conservation
- 1.16: Recognize that environmental monitoring is an essential component of sustainability
- 1.19: Describe your community's impact on the environment
- 1.20: Describe environmental responsibility
- 1.21: Define eco-citizenship
- 1.40: Identify career opportunities related to the study of environmental issues

### Unit 4: Water Use and the Environment

- 4.02: Recognize that water is a finite resource
- 4.12: Identify physical, biological, and chemical impacts on water quality
- 4.13: Evaluate the impacts of human activities on the water resources
- 4.18: List the main sources of drinking water in Newfoundland and Labrador
- 4.19: Outline the risks involved in drinking untreated water

- 4.20: Identify the main components of the multi-barrier approach to ensure safe drinking water
- 4.21: Identify the phases of treating municipal water
- 4.22: Describe alternate methods of water treatment
- 4.23: List sources of wastewater
- 4.24: Indicate the impacts of untreated wastewater on freshwater and marine ecosystems
- 4.25: Describe the disposal and treatment methods for municipal and industrial effluent

**Science 1206**

**Curriculum Last Updated: 2018**

**Unit 4: Sustainability of Ecosystems**

- 68.0: Illustrate and explain the cycling of matter through biotic and abiotic components of an ecosystem by tracking carbon, nitrogen, and oxygen
- 71.0: Analyze the impact of external factors on an ecosystem

**Social Studies 3201**

**Curriculum Last Updated: 2020**

**SCO 4.0: Demonstrate an understanding of quality of life**

- 4.1: explain the concept of quality of life
- 4.2: explain indicators that can be used to measure quality of life

**SCO 6.0: Evaluate the relationship between sustainability and quality of life**

- 6.1: explain the concept of sustainability
- 6.2: explain how sustainability influences the human experience
- 6.3: respond to issues related to sustainability

**SCO 7.0: Demonstrate an understanding of how economic factors influence quality of life**

- 7.1: explain the concept of economic disparity
- 7.2: explain factors that influence economic disparity

**SCO 9.0: Respond to issues of political and economic concern that influence quality of life**

- 9.1: identify the issue
- 9.2: analyze the issue
- 9.3: develop a cogent response to the issue

SCO 10.0: Demonstrate an understanding of how population changes influence quality of life

- 10.1: explain the relationship between population, carrying capacity, science and technology

SCO 11.0: Respond to issues related to population that influence quality of life

- 11.1: identify the issue
- 11.2: analyze the issue
- 11.3: develop a cogent response to the issue

SCO 12.0: Demonstrate an understanding of how human-environmental interactions influence quality of life

- 12.1: explain the relationship between natural resource use and quality of life
- 12.2: explain the consequences of issues arising from human-environmental interaction
- 12.3: evaluate responses to issues of human-environmental interaction

SCO 13.0: Respond to issues related to human-environmental interaction that influence quality of life

- 13.1: identify the issue
- 13.2: analyze the issue
- 13.3: develop a cogent response to the issue

**Social Studies 3202**

**Curriculum Last Updated: 2021**

SCO 4.0: Demonstrate an understanding of quality of life

- 4.1: explain the concept of quality of life
- 4.2: explain indicators that can be used to measure quality of life

SCO 6.0: Evaluate the relationship between sustainability and quality of life

- 6.1: explain the concept of sustainability
- 6.2: explain how sustainability influences the human experience
- 6.3: respond to issues related to sustainability

SCO 7.0: Demonstrate an understanding of how economic factors influence quality of life

- 7.1: explain the concept of economic disparity
- 7.2: explain factors that influence economic disparity

SCO 9.0: Respond to issues of political and economic concern that influence quality of life

- 9.1: identify the issue
- 9.2: analyze the issue
- 9.3: develop a cogent response to the issue

SCO 10.0: Demonstrate an understanding of how population changes influence quality of life

- 10.1: explain the relationship between population, carrying capacity, science and technology

SCO 11.0: Respond to issues related to population that influence quality of life

- 11.1: identify the issue
- 11.2: analyze the issue
- 11.3: develop a cogent response to the issue

SCO 12.0: Demonstrate an understanding of how human-environmental interactions influence quality of life

- 12.1: explain the nature of natural resource use and quality of life
- 12.2: explain the consequences of issues arising from human-environmental interaction
- 12.3: evaluate responses to issues of human-environmental interaction

SCO 13.0: Respond to issues related to human-environmental interaction that influence quality of life

- 13.1: identify the issue
- 13.2: analyze the issue
- 13.3: develop a cogent response to the issue

## **Northwest Territories**

### **See Alberta's and Saskatchewan's Curriculum**

The Northwest Territories makes use of Alberta's curriculum for K-12 math, as well as grade 7 to grade 12 sciences and social studies, physical education, and career and technology studies. It also makes use of Saskatchewan's curriculum for grade 1 to grade 9 arts education and Alberta's curriculum for high school arts education.

**Nova Scotia**  
**Grade Six**  
**Social Studies**

**Curriculum Last Updated: 2012**

*Citizenship, Power, and Governance*

- A: Demonstrate an understanding of the rights and responsibilities of citizenship and the origins, functions, and sources of power, authority, and governance

*Interdependence*

- D: Demonstrate an understanding of the interdependent relationship among individuals, societies, and the environment—locally, nationally, and globally—and the implications for a sustainable future

*People, Place, and Environment*

- E: Demonstrate an understanding of the interactions among people, places, and the environment

**Grade Seven**

**Science**

**Curriculum Last Updated: 2012**

**Physical Science: Mixtures and Solutions**

*Mixtures*

- 209-6, 307-2: Examine and separate the components of a variety of mixtures, safely using materials in a laboratory

*Concentration of Solutions*

- 208-1, 210-9: Solve testable questions about solutions' concentrations
- 210-16-109-4: Identify questions and use a technology for collecting data

*Mixtures, Solutions, and the Environment*

- 112-7, 113-1: Identify and explain examples of mixtures and solutions that have an impact on development in science, technology, and environment
- 111-5: Describe the science underlying particular technologies designed to explore natural phenomena, extend human capabilities, or solve practical problems



## Life Science: Interactions within Ecosystems

### Components of an Ecosystem

- 208-2, 208-3, 210-1: Identify questions, investigate, and record collected data on the ecosystem's components using materials effectively
- 306-3: Describe interactions between biotic and abiotic factors in an ecosystem
- 304-1, 109-1, 109-12: Distinguish and explain how biological classification reflects the diversity of life on Earth, using specific terms and characteristics

### Action

- 113-11, 211-5, 113-10: Defend a proposal to protect a habitat and provide examples of various issues that can be addressed in multiple ways
- 112-4, 112-8, 209-5: Research individuals/groups in Canada that focus on the environment, using various print and electronic sources

## Social Studies

Curriculum Last Updated: 2012

### Unit One: Introduction

- 7.1.1: Explore the general concept of empowerment

### Unit Two: Economic Empowerment

- 7.2.2: Investigate the various ways economic systems empower or disempowered people
- 7.2.3: Analyze trends that could impact future economic empowerment

### Unit Three: Political Empowerment

- 7.3.2: Analyze how the struggle for responsible government was an issue of political empowerment and disempowerment

### Unit Four: Cultural Empowerment

- 7.4.3: Analyze the degree of empowerment and disempowerment for Aboriginal peoples in present day Atlantic Canada during this period

## Unit Seven: Reflection

- 7.7.1: Portray an understanding of the extent of empowerment of individuals, groups, and the nation up to 1920

## **Grade Eight Science**

**Curriculum Last Updated: 2012**

### **Physical Science: Fluids**

#### Forces in Fluids

- Provide examples and a course of action of how science and technology affect personal and community needs (111-1, 113-2)

## **Social Studies**

**Curriculum Last Updated: 2012**

## Unit Four: Citizenship

- 8.4.1: take age-appropriate actions that demonstrate the rights and responsibilities of citizenship (local, national, and global)
- 8.4.3: demonstrate an understanding of the structure and operation of government in Canada under a federal system

## **Grade Nine Math**

**Curriculum Last Updated: 2012**

- A: Demonstrate number sense and apply number-theory concepts
- B: Demonstrate operation sense and apply operation principles and procedures in both numeric and algebraic situations
- C: Explore, recognize, represent, and apply patterns and relationships, both informally and formally
- D: Demonstrate an understanding of and apply concepts and skills associated with measurement
- F: Solve problems involving the collection, display, and analysis of data

## Science

Curriculum Last Updated: 2012

### Atoms and Elements

#### Physical and Chemical Changes

- 209-7, 111-6, 210-11: Perform experiments, collect evidence, report findings, and demonstrate a knowledge of WHMIS standards in the laboratory
- 307-12: Investigate materials and describe them in terms of their physical properties
- 307-13: Describe changes in the properties of materials that result from some common chemical reactions

#### Periodic Table

- 210-1, 210-2: Use the periodic table as a classification system and compile data about its structure
- 112-3, 112-8: Explain and provide examples of how society's needs for chemistry incorporate science, technology, and environment

## Social Studies

Curriculum Last Updated: 2012

### Theme One: Physical Setting

- 9.1.4: Link human activity to the natural resources of the Atlantic region

### Theme Five: Interdependence

- 9.5.1: Explore his/her concept of world view and explain the factors that influence and are influenced by it
- 9.5.3: Access the individual qualities and attributes Atlantic Canadians need to become contributing members of the global community
- 9.5.4: Demonstrate an understanding that the future well-being of Atlantic Canada involves co-operation with the national and global communities

## **Grade Ten Science**

**Curriculum Last Updated: 2012**

### **Life Science: Sustainability of Ecosystems**

- 114-1: Question and analyze how a paradigm shift in sustainability can change society's views
- 318-2, 318-5: Distinguish between biotic and abiotic factors
- 214-1, 318-6: Describe how the classification involved in the biodiversity of an ecosystem is responsible for its sustainability
- 212-4, 214-3, 331-6: Predict and analyze the impact of external factors on the sustainability of an ecosystem, using a variety of formats
- 213-7, 215-1, 318-4: Diagnose and report the ecosystem's response to short-term stress and long-term change

## **Grade Eleven Chemistry**

**Curriculum Last Updated: 2012**

### **Stoichiometry**

#### **Calculations and Chemical Equations**

- 214-13: Identify practical problems that involve technology where equations were used
- 213-3: Use instruments effectively and accurately for collecting data
- 215-1: Communicate questions, ideas, and intentions, and receive, interpret, understand, support, and respond to the ideas of others

#### **Applications of Stoichiometry**

- 214-12: Explain how data support or refute the hypotheses or prediction of chemical reactions
- 117-2: Analyze society's influence on science and technology

**Grade Twelve  
Chemistry**

**Curriculum Last Updated: 2012**

**Acids and Bases**

Properties and Definitions of Acids and Bases

- 214-1: Describe and apply classification systems and nomenclature used in acids and bases
- 114-2: Explain the roles of evidence, theories, and paradigms in acid-base theories

Acid/Base Reactions

- 320-2: Predict products of acid-base reactions
- 217-17: Identify new questions or problems that arise from what was learned

## **Nunavut**

### **See Alberta's Curriculum**

Nunavut uses Alberta's math, science, English language arts and health curriculum.

**Ontario**  
**Grade Seven**  
**Geography**

**Curriculum Last Updated: 2018**

**Strand A. Physical Patterns in a Changing World**

- A1: Analyse some challenges and opportunities presented by the physical environment and ways in which people have responded to them

**Strand B: Natural Resources around the World: Use and Sustainability**

- B1: 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: 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: 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

**Science**

**Curriculum Last Updated: 2007**

**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
- 2: Investigate interactions within the environment, and identify factors that affect the balance between different components of an ecosystem
- 3: Demonstrate an understanding of interactions between and among biotic and abiotic elements in the environment

## **Grade Eight Science**

**Curriculum Last Updated: 2007**

### 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
- 2: Investigate a working system and the ways in which components of the system contribute to its desired function
- 3: Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation

### Understanding Earth and Space Systems: Water Systems

- 1: Assess the impact of human activities and technologies on the sustainability of water resources
- 2: Investigate factors that affect local water quality
- 3: Demonstrate an understanding of the characteristics of the earth's water systems and the influence of water systems on a specific region

## **Grade Nine Geography**

**Curriculum Last Updated: 2018**

### Strand B. Interactions in the Physical Environment

- B1: The Physical Environment and Human Activities: analyze various interactions between physical processes, phenomena, and events and human activities in Canada
- B2: Interrelationships between Physical Systems, Processes, and Events: analyze characteristics of various physical processes, phenomena, and events affecting Canada and their interrelationship with global physical systems
- B3: The Characteristics of Canada's Natural Environment: describe various characteristics of the natural environment and the spatial distribution of physical features in Canada, and explain the role of physical processes, phenomena, and events in shaping them



## Science

Curriculum Last Updated: 2008

### B. Biology: Sustainable Ecosystems

- B1: Assess the impact of human activities on the sustainability of terrestrial and/or aquatic ecosystems, and evaluate the effectiveness of courses of action intended to remedy or mitigate negative impacts
- B2: Investigate factors related to human activity that affect terrestrial and aquatic ecosystems, and explain how they affect the sustainability of these ecosystems
- B3: Demonstrate an understanding of the dynamic nature of ecosystems, particularly in terms of ecological balance and the impact of human activity on the sustainability of terrestrial and aquatic ecosystems

## Grade Ten

### History

Curriculum Last Updated: 2018

#### Strand B: Canada 1914-1929

- B1: Social, Economic, and Political Context: describe some key social, economic and political events, trends, and developments in Canada between 1914 and 1929, and assess how they affected the lives of people in Canada including First Nations, Métis, and Inuit individuals and communities
- B2: Communities, Conflict, and Cooperation: describe some key interactions between different communities in Canada, and between Canada and the international community, from 1914 to 1929, and explain their effects
- B3: Identity, Citizenship, and Heritage: Describe how some individuals, organizations, and domestic and international events contributed to the development of identity, citizenship, and/or heritage in Canada between 1914 and 1929

## Science

Curriculum Last Updated: 2008

### C. Chemistry: Chemical Reactions

- C1: Analyze a variety of safety and environmental issues associated with chemical reactions, including the ways in which chemical reactions can be applied to address environmental challenges

### D. Earth and Space Science: Climate Change

- D1: Analyze some of the effects of climate change around the world, and assess the effectiveness of initiatives that attempt to address the issue of climate change
- D2: Investigate various natural and human factors that influence Earth's climate and climate change
- D3: Demonstrate an understanding of natural and human factors, including the greenhouse effect, that influence Earth's climate and contribute to climate change

## **Grade Eleven**

### **Biology**

**Curriculum Last Updated: 2008**

#### **B. Diversity of Living Things**

- B1: Analyze the effects of various human activities on the diversity of living things
- B2: Investigate, through laboratory and/or field activities or through simulations, the principles of scientific classification, using appropriate sampling and classification techniques

### **Chemistry**

**Curriculum Last Updated: 2008**

#### **B. Matter, Chemical Trends, and Chemical Bonding**

- B1: Analyze the properties of commonly used chemical substances and their effects on human health and the environment, and propose ways to lessen their impact
- B2: Investigate physical and chemical properties of elements and compounds, and use various methods to visually represent them
- B3: Demonstrate an understanding of periodic trends in the periodic table and how elements combine to form chemical bonds

#### **C. Chemical Reactions**

- C1: Analyze chemical reactions used in a variety of applications, and assess their impact on society and the environment
- C2: Investigate different types of chemical reactions

#### **E. Solutions and Solubility**

- E1: Analyze the origins and effects of water pollution, and a variety of economic, social, and environmental issues related to drinking water

## **Environmental Science**

**Curriculum Last Updated: 2008**

### **B. Scientific Solutions to Contemporary Environmental Challenges**

- B1: Analyze social and economic issues related to an environmental challenge, and how societal needs influence scientific endeavors related to the environment
- B2: Investigate a range of perspectives that have contributed to scientific knowledge about the environment, and how scientific knowledge and procedures are applied to address contemporary environmental problems
- B3: Demonstrate an understanding of major contemporary environmental challenges and how we acquire knowledge about them

## **Grade Twelve**

### **Biology**

**Curriculum Last Updated: 2008**

#### **C. Metabolic Processes**

- C1: Analyze the role of metabolic processes in the functioning of biotic and abiotic systems, and evaluate the importance of an understanding of these processes and related technologies to personal choices made in everyday life

## **Chemistry**

**Curriculum Last Updated: 2008**

### **B. Organic Chemistry**

- B1: Assess the social and environmental impact of organic compounds used in everyday life, and propose a course of action to reduce the use of compounds that are harmful to human health and the environment
- B2: Investigate organic compounds and organic chemical reactions, and use various methods to represent the compounds
- B3: Demonstrate an understanding of the structure, properties, and chemical behaviour of compounds within each class of organic compounds

## **Prince Edward Island**

### **Grade Seven**

#### **Social Studies**

**Curriculum Last Updated: 2006**

#### Unit 2: Economic Empowerment

- 7.2.1: Analyze how commodities that lead to economic empowerment have changed
- 7.2.2: Investigate the various ways economic systems empower or disempower people
- 7.2.3: Analyze trends that could impact future economic empowerment

#### Unit 4: Cultural Empowerment

- 7.4.3: Analyze the degree of empowerment and disempowerment for Aboriginal peoples in present-day Atlantic Canada during this period

#### Unit 3: Societal Empowerment

- 7.5.1: Evaluate the conditions of everyday life for the peoples of Canada at the turn of the 20th century

#### **Science**

**Curriculum Last Updated: 2016**

#### Life Science: Interactions within Ecosystems

- LS1: Explain how different parts of an ecosystem interact and affect each other

#### Physical Science: Mixtures and Solutions

- PS3: Design and conduct experiments to explore methods of separating mixtures and solutions and extend the impact of those methods on society and the environment

## **Grade Eight**

### **Social Studies**

**Curriculum Last Updated: 2006**

#### Citizenship

- 8.4.1: Take age appropriate actions that demonstrate the rights and responsibilities of citizenship (local, national and global)

- 8.4.2: Demonstrate an understanding of how citizenship has evolved over time
- 8.4.3: Demonstrate an understanding of the structure and operation of government in Canada under a federal system

## **Grade Nine**

### **Math**

**Curriculum Last Updated: 2010**

Strand: Number

- N1: Demonstrate an understanding of powers with integral bases (excluding base 0) and whole number exponents
- N3: Demonstrate an understanding of rational numbers

## **Grade Ten**

### **Canadian Studies 401A**

**Curriculum Last Updated: 2007**

Canada's Place in the World

- GCO: Students will be expected to demonstrate an understanding of the interactions among people, places, and the environment

### **Science SCI431A**

**Curriculum Last Updated: 2019**

Unit 1: Ecosystems: Sustainability of Ecosystems

- 318-1: Illustrate the cycling of matter through biotic and abiotic components of an ecosystem by tracking carbon, nitrogen, and oxygen
- 331-6: Analyze the impact of external factors on an ecosystem
- 318-6: Explain how biodiversity of an ecosystem contributes to its sustainability

## **Grade Eleven**

### **Geography 531A**

**Curriculum Last Updated: 2011**

Unit 2: Physical Patterns of the World

- 2.4: Explain the significance of water as a renewable resource

## **Grade Twelve Chemistry 621A**

**Curriculum Last Updated: 2011**

### Acids and Bases

- 320-2: Predict products of acid-base reactions
- 320-4: Calculate the pH of an acid or a base given its concentration, and vice versa
- 320-7: Explain how acid-base indicators function

## **Environmental Science 621A**

**Curriculum Last Updated: 2011**

### Ecological Principles

- 3.5: Illustrate the cycling of matter through biotic and abiotic components of an ecosystem
- 3.6: Conduct an experiment to measure abiotic factors of an ecosystem

### Natural Resources

- 5.8: Demonstrate an understanding of sustainable water use at local, national, and global levels
- 5.9: Evaluate the significance of water resources for international relations

### Environmental Challenges and Successes

- 6.10: Summarize the main types, sources and effects of water pollution
- 6.11: Explain strategies that reduce air and water pollution
- 6.12: Conduct an experiment to determine water pollutants
- 6.13: Identify the types of solid domestic waste
- 6.14: Evaluate pollution management strategies from solid domestic waste on Prince Edward Island
- 6.15: Propose a course of action on a social issue related to waste management, taking into account human, economic, and environmental needs

**Quebec**  
**Elementary Cycle One**  
**Science and Technology**

**Curriculum Last Updated: 2011**

Earth and Space

A. Matter

- 3: Transformation of matter

Living Things

D. Systems and interaction

- 1: Interactions between living organisms and their environment
- 2: Use of living things for consumption

**Elementary Cycle Two and Three**  
**Science and Technology**

**Curriculum Last Updated: 2011**

Earth and Space

A. Matter

- Transformation of matter

Living Things

B. Energy

- Sources of energy for living things

D. Systems and interaction

- Interaction between humans and their environment

**Mathematics**

**Curriculum Last Updated: 2011**

Arithmetic

## Understanding and Writing Numbers

### B. Fractions (using objects or drawings)

1. Identifies fractions related to everyday items (using objects or drawings)
2. Represents a fraction in a variety of ways, based on a whole or a collection of objects
9. Matches a decimal or percentage to a fraction

## Operations Involving Numbers: Natural Numbers

### A. Natural numbers (based on the benchmarks for each cycle)

1. Approximates the results of
  - a. an addition or subtraction involving natural numbers
  - b. any of the four operations involving natural numbers

## Secondary Grades

### General Biology

**Curriculum Last Updated: 1990**

#### Module II: Balance in Nature

- Show that an ecosystem is a group of interacting components
- Show that the interactions among living and non-living things are regulating mechanisms that exist within an ecosystem
- Show that certain regulating mechanisms are necessary to maintain a balanced ecosystem
- Associate quality of life with a well-balanced organism and a stable ecosystem

### Ecology

**Curriculum Last Updated: 1985**

#### Module 5: Environmental Influences on Living Organisms

- Be aware of the details of environmental phenomena
- Be willing to take an investigative approach
- Be willing to follow a structured approach in consulting reference material
- Be willing to re-examine the ways in which they relate to nature



**Physical Science (Physical Environment)      Curriculum Last Updated: 1987**

- Gain knowledge of certain physical phenomena in the environment, and consequently, learn about the properties of matter
- Develop certain skills necessary for scientific experiments
- Develop certain attitudes regarding the scientific method, such as a critical sense and a taste for research

**Personal and Social Science                      Curriculum Last Updated: 1989**

- To enable the student to identify in his/her everyday experience various aspects of life: health, interpersonal relationships, life in society, sexuality, and consumption
- To enable the student to clarify his/her concepts, values, and actions in these various areas of his/her development.
- To enable the student to have a better understanding of the social dimension of his/her personality so that he/she may have a rewarding relationship with society
- To enable the student to discover and appreciate the unique character of each human being so that he/she may learn respect for others.
- To enable the student to understand his/her rights and responsibilities as a citizen and the necessity for generally accepted standards in a democratic society

## Saskatchewan

### Grade Six

#### Social Studies

Curriculum Last Updated: 2009

#### Interactions and Interdependence of Nations

- IN6.3: Develop an understanding that global interdependence impacts individual daily life in Canada and a selection of countries bordering the Atlantic Ocean

#### Dynamic Relationships

- DR6.1: Analyze the impact of the diversity of natural environments on the ways of life in Canada and a selection of countries bordering the Atlantic Ocean
- DR6.2: Analyze ways in which the land affects human settlement patterns and social organization, and ways in which human habitation affects land
- DR6.4: Relate contemporary issues to their historical origins in Canada and a selection of countries bordering the Atlantic Ocean

#### Power and Authority

- PA6.1: Examine the relationship between an individual's power and authority and the power and authority of others
- PA6.2: Analyze the distribution of power and privilege in Canada and a selection of countries bordering the Atlantic Ocean
- PA6.3: Explore examples and explain how people, such as ethnic minority groups, the disabled, youth, and the elderly, may be affected by injustice or abuses of power

#### Resources and Wealth

- RW6.1: Examine and analyze factors that contribute to quality of life, including material and non-material factors
- RW6.2: Contribute to initiating and guiding change in local and global communities regarding environmental, social, and economic sustainability

## **Grade Seven Science**

**Curriculum Last Updated: 2009**

### Life Science: Interactions within Ecosystems (IE)

- IE7.3: Evaluate biogeochemical cycles (water, carbon, and nitrogen) as representations of energy flow and the cycling of matter through ecosystems
- IE7.4: Analyze how ecosystems change in response to natural and human influences, and propose actions to reduce the impact of human behaviour on a specific ecosystem

## **Social Studies**

**Curriculum Last Updated: 2009**

### Dynamic Relationships

- DR7.2: Appraise the impact of human habitation on the natural environment in Canada, and in a selection of Pacific Rim and northern circumpolar countries
- DR7.3: Analyze the relationship between current and historical events and the physical and social environments in Pacific and northern Canada and in a selection of Pacific Rim and circumpolar countries

### Power and Authority

- PA7.1: Compare the sources of power for individuals, nations, and regions in a selection of Pacific Rim and circumpolar countries

### Resources and Wealth

- RW7.2: Investigate the influence of resources upon economic conditions of peoples in circumpolar and Pacific Rim countries

## **Grade Eight**

### **Science**

**Curriculum Last Updated: 2009**

### Earth and Space Science: Water Systems on Earth (WS)

- WS8.1: Analyze the impact of natural and human-induced changes to the characteristics and distribution of water in local, regional, and national ecosystems

## **Social Studies**

**Curriculum Last Updated: 2009**

### Power and Authority

- PA8.2: Examine the role of power and authority in the application of diverse decision-making processes in a variety of contexts
- PA8.4: Assess the impact of citizens' willingness and ability to actively engage in the Canadian political processes

### Resources and Wealth

- RW8.1: Analyze the social and environmental consequences of living in the Canadian mixed market economy based on consumerism
- RW8.2: Assess the implications of personal consumer choices
- RW8.3: Critique the approaches of Canada and Canadians to environmental stewardship and sustainability

## **Grade Nine**

### **Mathematics**

**Curriculum Last Updated: 2009**

### Patterns and Relations

- P9.1: Demonstrate understanding of linear relations
- P9.2: Model and solve situational questions using linear equations where  $a, b, c, d, e,$  and  $f$  are rational numbers

## **Social Studies**

**Curriculum Last Updated: 2009**

### Dynamic Relationships

- DR9.3: Assess the relationship of the natural environment in the development of a society

### Power and Authority

- PA9.1: Examine concepts of power and authority in the governance of the societies studied
- PA9.3: Investigate the roles and responsibilities of members of the societies studied and those of citizens in contemporary Canada

## Resources and Wealth

- RW9.1: Compare differing perspectives regarding the acquisition and distribution of resources and wealth in the societies studied

## Grade Ten

### Science

**Curriculum Last Updated: 2016**

#### Climate and Ecosystem Dynamics

- SCI10-CD1: Assess the implications of human actions on the local and global climate and the sustainability of ecosystems

#### Chemical Reactions

- SCI10-CR1: Explore the characteristics of a variety of chemical reactions, including the role of energy changes, and applications of acids and bases

## Grade Eleven

### Environmental Science

**Curriculum Last Updated: 2017**

#### Career Exploration

- ES20-CE1: Analyze and explore environmental science related career paths in Saskatchewan, Canada and the world

#### Human Population and Pollution

- ES20-HP1: Investigate technologies and processes used for mitigating and managing resource use, waste generation and pollution associated with a growing human population

#### Aquatic Systems

- ES20-AS1: Analyze the function and condition of freshwater aquatic systems such as rivers, streams, lakes, wetlands and watersheds
- ES20-AS2: Assess the importance of maintaining healthy water for humans and the environment

## **Native Studies**

**Curriculum Last Updated: 1992**

### Unit Three: Social Justice Case Studies and Readings

- Develop an understanding and increased awareness of the social justice issues and realities of Indigenous peoples in Canada and internationally
- Become familiar with human rights legislation and declarations made by diverse groups struggling for social justice and human dignity
- Become aware of their fundamental human rights and freedoms as stated and protected by national and international legislation
- Recognize rights and freedoms not yet stated and protected by national and international legislation
- Become aware of specific situations of social injustice, historical and current
- Increase their understanding of and appreciation for the role and necessity of social protest

## **Social Studies**

**Curriculum Last Updated: 1994**

### Unit One: Human Rights

- Know that human rights are those rights that an individual is entitled to simply because she or he is human
- Know that a human rights claim by an individual or group imposes a set of responsibilities and obligations which other individuals and groups must honour
- Know that human rights are more than "demands for rights", they involve a moral entitlement to the right question which other people in society collectively have decided they will honour
- Know that human rights are universal and as such apply to all people regardless of nationality, race, religion, political beliefs, age or gender

### Unit Three: Environment

- Know that the environment is a complex system of interacting, interdependent, living and non-living parts, with the whole environment being greater than the sum of each part
- Know that resources are those parts of the environment considered valuable because they meet human needs

**Grade Twelve  
Chemistry**

**Curriculum Last Updated: 2017**

Electrochemistry

- CH30-EC1: Investigate the chemistry of oxidation and reduction (redox) reactions

**Earth Science**

**Curriculum Last Updated: 2018**

Earth Science 30: Atmosphere and Hydrosphere

- ES30-AH2: Investigate the characteristics of the hydrosphere and how hydrospheric processes impact the atmosphere, biosphere and lithosphere

**Native Studies**

**Curriculum Last Updated: 1997**

Unit Four: Economic Development

- Understand how cultural factors influence a people's relationship to the environment and economic development
- Appreciate the impact of development of natural resources on Aboriginal peoples

## **Yukon**

### **See British Columbia's Curriculum**

The British Columbia program of studies forms the basis of the Yukon curriculum.