

-Communicate scientific ideas and information, and perhaps a suggested course of action, for a specific purpose and audience, constructing evidence-based arguments and using appropriate scientific language, conventions, and representations

## Science for Citizens 11

Big idea: Scientific understanding enables humans to respond and adapt to changes locally and globally.

### Content:

- human impact on Earth's systems:
  - natural resources
    - including availability (e.g., food, water, energy, minerals) and responsible development and use
  - effects of climate change
    - impact on food production
    - impact on climate (e.g., desertification, changing range of plants and animals)
    - impact on weather
    - sea level rise (e.g., infrastructure changes in coastal communities)
    - ocean acidification
- actions and decisions affecting the local and global environment, including those of First Peoples
  - ethical, cultural, social, economic, environmental, and political implications
  - waste recycling and disposal including limitations of recycling
  - agriculture/aquaculture practices and processes (e.g., hydroponics, food crops, feed crops, fuel crops, animal husbandry, fish farms, new technologies, use of chemicals, environmental impacts)
  - energy generation, use, and efficiency (e.g., production, economics, environmental impacts)
  - sustainability of resources (e.g., impacts of personal choices, product life cycles)

### Competencies:

- Contribute to care for self, others, community, and world through individual or collaborative approaches
- Co-operatively design projects with local and/or global connections and applications
- Contribute to finding solutions to problems at a local and/or global level through inquiry
- Implement multiple strategies to solve problems in real-life, applied, and conceptual situations
- Communicate scientific ideas and information, and perhaps a suggested course of action, for a specific purpose and audience, constructing evidence-based arguments and using appropriate scientific language, conventions, and representations

## Environmental Science 12

### Big idea:

- Human actions affect the quality of water and its ability to sustain life
- Human activities cause changes in the global climate system.
- Sustainable land use is essential to meet the needs of a growing population.
- Living sustainably supports the well-being of self, community, and Earth.

### Content:

- changes to climate systems
  - sinks and sources of greenhouse gases, snow and ice coverage, land surface coverage, solar radiation, energy balance, ocean temperatures, sea levels
- impacts of global warming
  - increase in extreme weather events, flooding, desertification, ocean acidification, permafrost melting, drought, wildfires, hurricanes, migratory changes, human health, food security, traditional ways of being and doing
- personal choices and sustainable living
  - diet (e.g., 100-mile diet, organic farming, community gardens, reducing meat consumption), sustainable building products, reduce household energy use, consumerism (reduce, reuse, repurpose, recycle, upcycle), conserve water, alternate transportation methods, traditional ecological knowledge (TEK)
- global environmental ethics, policy, and law
  - trade agreements, wildlife trafficking laws, Kyoto Agreement, fishing and hunting licences, traditional ecological knowledge (TEK), United Nations Declaration on the Rights of Indigenous Peoples, species at risk, Canadian laws

### Competencies:

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## Physical Geography 12

### Big idea:

- Interactions between human activities and the atmosphere affect local and global weather and climate.

### Content:

- natural disasters and their effects on human and natural systems
- climate, weather, and interactions between humans and the atmosphere
- natural resources and sustainability

### Competencies:

- Use geographic inquiry processes and geographic literacy skills to ask questions; gather, interpret, and analyze data and ideas from a variety of sources and spatial/temporal scales; and communicate findings and decisions (evidence and interpretation)
- Identify and assess how human and environmental factors and events influence each other (interactions and associations)

## Political Studies 12

Big idea: Understanding how political decisions are made is critical to being an informed and engaged citizen.

Content:

- issues in local, regional, national, and international politics
- Sample topics: economic development, sustainability, conflict resolution

Competencies:

- Explain and infer different perspectives on political issues, decisions, or developments (perspective)

## Comparatives Cultures 12

Big idea: Geographic and environmental factors influenced the development of agriculture, trade, and increasingly complex cultures.

Content:

- interactions between cultures and the natural environment
- climate and native plants and animals
  - natural resources and economic development
  - human adaptation to the physical environment:
    - Polynesian wayfinders' use of ocean currents
    - Cree seasonal hunting practices
    - fish farming in B.C.
    - transportation issues in local urban development
  - degrees of separation between the physical environment and cultural world:
    - San people's relationship to water
    - Canadian First Peoples community water supplies
    - protection of waterways in central/northern B.C.
    - local urban life and bottled water usage
  - interdependence of cultural identity and the physical environment:
    - Yanomamo group identity and hunting practices in the Amazon
    - Newfoundlanders, fishing, and identity

## Social Justice 12

Big idea: Social justice issues are interconnected.

Content:

- Social justice issues
- Sample topics: environmental and ecological justice

Competencies:

- Assess the justification for competing accounts after investigating points of contention, reliability of sources, and adequacy of evidence, including data (evidence)

## Urban Studies 12

Big idea: Decision making in urban and regional planning requires balancing political, economic, social, and environmental factors.

Content:

- urban planning and urban design

Sample topics: livability and sustainability

Competencies:

-Explain and identify the forces that shape opinions and decision making on current issues related to urban studies (perspective)