Science

Energy Flow in Global Systems

- explain how climate affects the lives of people and other species, and explain the need to investigate climate change
- identify the potential effects of climate change on environmentally sensitive biomes (e.g., impact of a reduction in the Arctic ice pack on local species and on Aboriginal societies that rely on traditional lifestyles)
- investigate and identify human actions affecting biomes that have a potential to change climate (e.g., emission of greenhouse gases, draining of wetlands, forest fires, deforestation) and critically examine the evidence that these factors play a role in climate change (e.g., global warming, rising sea level(s)
- describe and evaluate the role of science in furthering the understanding of climate and climate change through international programs (e.g., World Meteorological Organization, World Weather Watch, Global Atmosphere Watch, Surface Heat Budget of the Arctic Ocean (SHEBA) project, The Intergovernmental Panel on Climate Change (IPCC); the study of paleoclimates and models of future climate scenarios)
- describe the role of technology in measuring, modelling and interpreting climate and climate change (e.g., computer models, devices to take measurements of greenhouse gases, satellite imaging technology)
- identify questions to investigate that arise from practical problems and issues (e.g., develop questions related to climate change, such as "How will global warming affect Canada's northern biomes?"; and "How will a species be affected by an increase or decrease in average temperature?"
- identify and apply criteria for evaluating evidence and sources of information, including identifying bias (e.g., investigate the issue of global climate change)
- identify limitations of data, evidence or measurement (e.g., list the limitations of data and evidence of past climate changes, evaluate the validity of interpolations and extrapolations, use significant digits appropriately)
- explain how data support or refute a hypothesis or a prediction (e.g., provide evidence for or against the hypothesis that human activity is responsible for climate change)

AB 11

Political Science

Political Thinking 20

- to provide an understanding of the process of political decision making
- to establish an awareness on the part of the student of different political points of view and to create in the student an element of political sophistication
- to illustrate the relationship that exists in society between freedom, on the one hand, and responsibility on the other

Science

The Changing Earth

- explain, in general terms, how changes to Earth's climate and how mass extinctions could be caused by changes or variation in the following: Earth's orbit around the sun, the inclination of Earth's axis, solar energy output, Earth's geography due to crustal movement, volcanic activity, ocean currents, atmospheric composition or asteroid impact

• distinguish between correlation and cause and effect when describing the relationship between climate change and mass extinction
• synthesize information from multiple sources when making inferences about global warming and climate change, recording relevant data, acknowledging sources of information and citing sources correctly

AB 12

Science

Students will develop an understanding that:

- science and technology have both intended and unintended consequences for humans and the environment **(SEC3)**
- society provides direction for scientific and technological development **(SEC4)**
    - − Canadian society supports scientific research and technological development to facilitate a sustainable society, economy and environment **(SEC4a)**
    - − Decisions regarding the application of scientific and technological development involve a variety of perspectives, including social, cultural, environmental, ethical and economic considerations **(SEC4b)**

Ontario

ON 7

Science

7. B1.3 analyse how diverse First Nations, Métis, and Inuit practices and perspectives contribute to environmental sustainability

Social Studies

7.B2.1 formulate questions to guide investigations into issues related to the impact of the extraction/ harvesting and/or use of natural resources around the world from a geographic perspective

ON 8

Science

8.E1.3 assess the impact of scientific discoveries and technological innovations on local and global water systems

Social Studies