Alberta

AB 7

Science

7. A Interactions and Ecosystems
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;
3. Monitor a local environment, and assess the impacts of environmental factors on the growth, health and reproduction of organisms in that environment;
4. Describe the relationships among knowledge, decisions and actions in maintaining life-supporting environments

AB 8

Science

8. E. Freshwater and Saltwater Systems
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;
4. Analyze human impacts on aquatic systems; and identify the roles of science and technology in addressing related questions, problems and issues

AB 9

Health and Life Skills

Personal Health

- use knowledge of a healthy, active lifestyle to promote and encourage family/peer/ community involvement

Learning Strategies

- use decision-making skills to select appropriate risk-taking activities for personal growth and empowerment (e.g., increasing freedom means increased responsibility for consequences of choices)

AB 10

Knowledge and Employability Science

Investigating Matter and Energy in Environmental Systems

- examine how various abiotic factors influence biodiversity in an ecosystem (e.g., climate, substrate, temperature, elevation)
- explain how various factors influence the size of populations (e.g., immigration, emigration, birth rate and death rate, food supply, predation, disease, number of offspring produced, climate change)

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