



## Grade 10 Science

### *Senior 2 Science: A Foundation for Implementation 2003*

### Student Learning Outcomes Related to Sustainable Development

#### Cluster 1: Dynamics of Ecosystems

10-1-01 Illustrate and explain how carbon, nitrogen, and oxygen are cycled through an ecosystem.

10-1-02 Discuss factors that may disturb biogeochemical cycles.  
Include natural events, human activities

10-1-03 Describe bioaccumulation and explain its potential impact on consumers.  
*Examples: DDT, lead, dioxin, PCBs, mercury...*

10-1-07 Discuss the potential consequences of introducing new species and of species extinction to an ecosystem.

10-1-10 Investigate how human activities affect an ecosystem and use the decision-making model to propose a course of action to enhance its sustainability.  
Include: impact on biogeochemical cycling, population dynamics, and biodiversity

#### Cluster 2: Chemistry in Action

10-2-09 Discuss the occurrences of acids and bases in biological systems, industrial processes, and domestic applications.  
Include safety and health considerations

10-2-12 Investigate technologies that are used to reduce emissions of potential air pollutants.  
*Examples: catalytic converters in automobiles, regulation of vehicle emissions, elimination of CFCs from refrigerants and aerosol propellants...*

#### Cluster 4: Weather Dynamics

10-4-06 Investigate the social, economic and environmental impact of a recent severe weather event.  
Include related consequences on personal and societal decision-making

10-4-07 Investigate and evaluate evidence that climatic change occurs naturally and can be influenced by human activities.  
Include: the use of technology in gathering and interpreting data

10-4-08 Discuss potential consequences of climate change.  
*Examples: changes in ocean temperature may effect aquatic populations, higher frequency of severe weather events influencing social and economic activities, scientific debate over nature and degree of change...*