



## Grade 8 Science

### *Grades 5 to 8 Science: A Foundation for Implementation 2000*

#### Student Learning Outcomes Related to Sustainable Development

##### Cluster 1: Cells and Systems

8-1-02 Identify characteristics of living things, and describe how different living things exhibit these characteristics.

Include: composed of cells; reproduce; grow; repair themselves; require energy; respond to the environment; have a lifespan; produce wastes.

8-1-18 Research and describe disorders/diseases that affect body systems, and identify possible preventative measures.

##### Cluster 2: Optics

8-2-08 Provide examples of technologies that use electromagnetic radiation, and describe potential positive and negative impacts of their uses.

*Examples: satellite dish, x-ray machine, light telescope, motion sensors, microwave ovens...*

##### Cluster 4: Water Systems

8-4-05 Describe how the heat capacity of large bodies of water and the movement of ocean currents influence regional climates.

*Examples: Gulf Stream effects, El Niño, lake effect...*

8-4-11 Describe examples of human interventions to prevent riverbank or coastal erosion.

*Examples: vegetation, reinforcement (concrete, boulders), piers, breakwaters...*

8-4-12 Identify factors that can cause flooding either individually or in combination.

*Examples: heavy snow pack, quick thaw, rain in spring, lack of vegetation to remove water through transpiration, frozen ground preventing absorption, agricultural systems, dams, diversions...*

8-4-13 Provide examples of the way in which technology is used to contain or prevent damage due to flooding, and discuss related positive and negative impacts.

*Examples: floodway, diversion, dike, levee ...*

8-4-14 Identify sources of drinking water and describe methods for obtaining water in areas where supply is limited.

*Examples: desalination, melting of ice, condensation...*

8-4-15 Explain how and why water may need to be treated for use by humans.

Include: filtration, settling, chlorination, fluoridation.

8-4-16 Compare the waste-water disposal system within their communities to one used elsewhere.

Include: process involved, environmental impact, cost.

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.

*Examples: ecosystem preservation, employment, recreation, industrial growth, water quality...*

8-4-19 Use the design process to develop a system to solve a water-related problem.