



Grade 9 Science

Senior 1 Science: A Foundation for Implementation 2000

Student Learning Outcomes Related to Sustainable Development

Cluster 0 Overall Skills and Attitudes

9-0-3e Determine criteria for evaluation of an STSE decision.

Examples: scientific merit; social cultural, economic, and political factors: safety; cost; sustainability...

9-0-4b Demonstrate work habits that ensure personal safety, the safety of others, as well as consideration for the environment.

Include: knowledge and use of relevant safety precautions, WHMIS regulations, emergency equipment.

9-0-5d Evaluate, using predetermined criteria, different STSE options leading to a possible decision.

Include: scientific merit; technological feasibility; social, cultural, economic, and political factors; safety; cost; sustainability.

9-0-7b Select the best option and determine a course of action to implement the STSE decision.

9-0-7c Implement an STSE decision and evaluate its effects.

9-0-9e Be sensitive and responsive in maintaining a balance between the needs of humans and a sustainable environment.

9-0-9f Demonstrate personal involvement and be proactive with respect to STSE issues.

Cluster 1: Reproduction

9-1-04 Investigate and describe agricultural applications of asexual reproduction.

Examples: cloning, cuttings, grafting, bulbs...

9-1-13 Describe the relationships among DNA, chromosomes, genes, and the expression of traits.

Include: genetic similarity among all humans.

9-1-15 Investigate and describe environmental factors and personal choices that may lead to a genetic mutation or changes in an organism's development.

Examples: fetal exposure to alcohol overexposure to sunlight, toxins, hormone mimics, food additives, radiation...

9-1-16 Investigate Canadian and international contributions to research and technological development in the field of genetics and reproduction.

Example: Human Genome Project...

9-1-17 Discuss current and potential applications and implications of biotechnologies including their effects upon personal and public decision making.

Include: genetic engineering, cloning, Human Genome Project, DNA fingerprinting.

9-1-18 Use the decision-making process to address a current biotechnology issue.

Cluster 3: The nature of electricity

9-3-23 Recognize and explain the importance of incorporating principals of electrical energy conservation into the decision making process.

9-3-24 Use the decision-making process to address an issue associated with the generation and transmission of electricity in Manitoba.

Include: hydroelectric power, sustainability.