



Course Outline
Science 10
2020-2021
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New science curricula is being developed for grade 3-10 science courses in New Brunswick. Topic areas in the current Science 10 curriculum have been reduced from four to two so that teachers can start shifting towards embedding Scientific Literacy in the course. See the reverse for information regarding the three processes of Scientific Literacy.

1. Unit 1: Chemistry

This unit builds on the study of atomic structure and the significance of the periodic table by examining chemical reactions.

2. Unit 2: Physics

This unit offers the first opportunity for students to observe, measure, and describe motion in a mathematical fashion. Analysis is restricted to one dimension only with uniform motion and uniformly accelerated motion.

Materials:

Pen/Pencil
Notebook/Binder
Scientific Calculator

Evaluation:

TBD

Three Processes of Scientific Literacy

1. **Decision making** involves the identification of a problem or situation, generation of possible solutions or courses of action, evaluation of the alternatives, and a thoughtful decision based on the information available.
 - gather information from a variety of sources
 - evaluate the validity of the information source
 - evaluate which information is relevant
 - identify the different perspectives that influence a decision
 - present information in a balanced manner
 - use information to support a given perspective
 - recommend a decision and provide supporting evidence
 - communicate a decision and provide a “best” solution
2. **Scientific inquiry** is a way of learning about the natural world. It involves asking a question and the searching for explanations about phenomena.
 - define questions related to a topic
 - refine descriptors/factors that focus practical and theoretical research
 - select an appropriate way to find information
 - make direct observations
 - perform experiments, record and interpret data, and draw conclusions
 - form a working hypothesis
 - design an experiment which tests relationships and variables
 - write lab reports that meet a variety of needs (limit the production of “formal” reports) and make inferences from recorded data
 - recognize that the quality of both the process and the product are important
3. **Problem solving** seeks solutions to human problems. The skills involved in problem solving facilitate a process which has different aims and different procedures from the inquiry process.
 - clearly define a problem
 - gather information from a variety of sources
 - produce a range of potential solutions for the problem
 - appreciate that several solutions should be considered
 - plan and design a product or device intended to solve a problem
 - construct a variety of acceptable prototypes, pilot test, evaluate, and refine to meet a need
 - present the refined process/product/device and support why it is “preferred”
 - recognize that the quality of both the process and the product are important