



SCIENCE DEPARTMENT

COURSE: Grade 9 Applied Science

COURSE CODE: SNC1P0

OVERARCHING LEARNING GOALS

<p>Scientific Investigation and Skills and Career Exploration</p> <ul style="list-style-type: none"> • Demonstrate scientific investigation skills in four areas: initiating and planning, performing and recording, analysing and interpreting and communicating. • Identify and describe a variety of Canadian contributions and careers related to the fields of science under study. 	
<p>Biology: Sustainable Ecosystems</p> <ul style="list-style-type: none"> • Analyze and synthesize that ecosystems consist of a variety of biotic and abiotic components and their sustainability depends on balanced interactions between their components. • Interpret and critique on potential impacts of human activities on the sustainability of aquatic and terrestrial ecosystems. 	<p>Chemistry: Atoms, Elements, and Compounds</p> <ul style="list-style-type: none"> • Investigate the physical and chemical properties of common elements and compounds and correlate their use to specific properties. • Analyze the organization of elements in the periodic table and interpret some of the trends.
<p>Earth and Space Science: The Study of the Universe</p> <ul style="list-style-type: none"> • Investigate and understand specific properties of Celestial objects in the solar system and the universe. • Evaluate the costs, risks and benefits of space exploration and learn about the contributions of Canadians to space research and exploration. 	<p>Physics: The Characteristics of Electricity</p> <ul style="list-style-type: none"> • Demonstrate an understanding of electricity as a form of energy produced from a variety of non-renewable and renewable sources. • Predict potential social, economic, and environmental implications of the production and consumption of electrical energy has social, economic, and environmental implications. • Compare static and current electricity and determine how they are used.

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SUCCESS CRITERIA

Scientific Investigation and Skills and Career Exploration

- I can use appropriate terminology, symbols and units related to scientific concepts and processes.
- I can identify and use lab equipment correctly and safely.
- I can accurately collect, record, analyze and communicate lab results.

Biology: Sustainable Ecosystems

- I can describe different characteristics of ecosystems, the interdependence of the components within ecosystems for sustainability and the human impact on these ecosystems.
- I can compare and contrast biotic and abiotic characteristics of ecosystems, interpret data and research how these factors affect the carrying capacity of an ecosystem.
- I can describe cell respiration & photosynthesis within an ecosystem.

Chemistry: Atoms, Elements, and Compounds

- I can classify substances as a pure substance or a mixture.
- I can identify the differences between an element (atom or molecule) and a compound (molecule) and give examples for each.
- I can determine if a property is qualitative or quantitative, physical or chemical for common elements.
- I can identify the location, charge, and mass of the three subatomic particles using atomic number and atomic mass.
- I can identify the symbol, name, atomic number, atomic mass and draw Bohr-Rutherford diagrams for the first 20 elements on the periodic table.
- I can describe the organization and general features of the periodic table.

Earth and Space Science: The Study of the Universe

- I can compare and contrast the characteristics and properties of a variety of celestial objects.
- I can analyze the main components of the solar system and the universe and some of the astronomical phenomena.
- I can make logical inferences about the hazards and benefits of space technology, research and exploration.

Physics: The Characteristics of Electricity

- I can use the idea of charges and static electricity to explain different situations and examples.
- I can compare and contrast between a conductor and an insulator.
- I can investigate various aspects of current electricity and use diagrams, models, and formulae to communicate my learning of circuits.
- I can calculate the costs of running common household electrical devices using their power rating, compare their efficiency and create a plan to reduce a family's energy costs.

ASSESSMENT & EVALUATION

TERM EVALUATION – 70%

Assessment and evaluation in this course will be based on provincial curriculum expectations. Evaluation throughout the course and the final evaluation will incorporate four broad categories:

Knowledge and Understanding	Thinking/ Inquiry	Communication	Application
-knowledge of content -understanding of content	-planning and performing lab investigations -problem solving, critical thinking processes and skills	-expression and organization of ideas and information -use of conventions and terminology	-making connections to society, technology and the environment -transfer of knowledge and skills to unfamiliar contexts

Students will also receive descriptive feedback as part of the learning process which may not be assigned a mark. More detailed information regarding the Port Credit Secondary School Assessment and Evaluation policy can be found in the Student Agenda.

FINAL EVALUATION – 30%

The final evaluation will consist of an in-class, practical culminating task and/or a formal written exam.

LEARNING SKILLS

The following learning skills will be taught and assessed throughout the course and rated on the report card:

***Responsibility**

***Independent Work**

***Initiative**

***Organization**

***Collaboration**

***Self-regulation**

These skills will not be included in the final numeric mark. However, it is important to remember that the development of these skills is critical to academic achievement and does have a direct bearing on the final mark.