



SCIENCE DEPARTMENT

COURSE: Grade 10 SciTech Science

COURSE CODE: SNC2DR

OVERARCHING LEARNING GOALS

<p>Scientific Investigation Skills and Career Exploration</p> <ul style="list-style-type: none"> • Demonstrate scientific investigative skills in four areas: initiating and planning, performing and recording, analyzing and interpreting and communicating. • Identify and describe a variety of careers related to the fields of science under study, and identify scientists, including Canadians, who have made contributions to those fields. 	<p>Chemistry: Chemical Reactions</p> <ul style="list-style-type: none"> • Understand chemical reactions and the various ways to represent them. • Investigate and analyze chemical reactions. • Analyze the impact of chemical reactions on society and the environment.
<p>Biology: Tissues, Organs & Systems of Living Things</p> <ul style="list-style-type: none"> • Understand the organization of cells, tissues, organs and systems in plants and animals. • Investigate cell division, cell specialization, organs and systems in plants and animals. • Evaluate and analyze the importance of medical and other technological developments related to systems biology. 	<p>Physics: Light and Optics</p> <ul style="list-style-type: none"> • Understand the characteristics and properties of light. • Investigate and predict the behaviours and properties of light. • Evaluate and assess technological devices and procedures that use light.
<p>Earth and Space Science: Climate Change</p> <ul style="list-style-type: none"> • Understand natural and human factors that influence climate and contribute to climate change. • Investigate the factors that contribute to the Earth's climate and climate change. • Analyze the effects of climate change and various initiatives to address it. 	

SUCCESS CRITERIA

Scientific Investigation Skills and Career Exploration

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

Biology: Tissues, Organs & Systems of Living Things

- I can provide the proper name, diagram, and chemical formula for a compound for different organic families.
- I can compare the structural differences of the each of the organic families and predict their physical and chemical properties based on their structures.
- I can identify the structure of organic molecules that perform an organic reaction, explain the changes that occur, and predict the products of a reaction.

Chemistry: Chemical Reactions

- I can accurately identify, name and create formulae for different compounds.
- I can use proper format for word and chemical equations.
- I can accurately balance chemical equations including conservation of mass.
- I can identify the type of chemical reaction and analyze the safety and environmental effects of these reactions.
- I can determine if a substance is an acid, base or neutral substance based on pH.

Physics: Light and Optics

- I can describe and explain the various types of light emissions and optical phenomena.
- I can accurately state and apply the laws of reflection and refraction.
- I can locate an image and describe the characteristics using S.A.L.T
- I can accurately solve problems using the thin lens and magnification equations.
- I can use the index of refraction to calculate the speed of light or vice versa.

Earth and Space Science: Climate Change

- I can identify and describe the parts of an environment that contribute to and create climate and weather.
- I can identify and explain how short term and long-term factors (both natural and human) cause changes to climate, including the greenhouse effect.
- I can identify and describe how scientists show that climate is changing now and in the past.
- I can identify and describe some impacts of climate change on humans, the environment and ecosystems.
- I can analyze and assess the various initiatives to address the issue of climate change.

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.