

Sir John A. Macdonald Collegiate Institute Course Brief

Course Name	Grade 9 Academic Science	Grade	9
Course Code	SNC 1D1	Credit Value	1.0
Pre-Requisite	Grade 8 Science		
Type of Course	Academic		

TEXTBOOK

REPLACEMENT COST (if lost or damaged)

INVESTIGATING SCIENCE 9

\$ 99.25

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COURSE DESCRIPTION

This course enables students to develop their understanding of basic concepts in biology, chemistry, earth and space science, and physics, and to relate science to technology, society, and the environment. Throughout the course, students will develop their skills in the processes of scientific investigation. Students will acquire an understanding of scientific theories and conduct investigations related to sustainable ecosystems; atomic and molecular structures and the properties of elements and compounds; the study of the universe and its properties and components; and the principles of electricity.

Curriculum Strands/Categories (this may differ depending on discipline and level)

Biology

- Ecosystems are dynamic and have the ability to respond to change, within limits, while maintaining their ecological balance.
- People have the responsibility to regulate their impact on the sustainability of ecosystems in order to preserve them for future generations.

Chemistry

- Elements and compounds have specific physical and chemical properties that determine their practical uses.
- The use of elements and compounds has both positive and negative effects on society and the environment.

Earth and Space Science

- Different types of celestial objects in the solar system and universe have distinct properties that can be investigated and quantified.
- People use observational evidence of the properties of the solar system and the universe to develop theories to explain their formation and evolution.
- Space exploration has generated valuable knowledge but at enormous cost.

Physics

- Electricity is a form of energy produced from a variety of non-renewable and renewable sources.
- The production and consumption of electrical energy has social, economic, and environmental implications.
- Static and current electricity have distinct properties that determine how they are used.

Assessment and Evaluation of Student Achievement

Unit	Unit Title/Description	Evaluation Task	Achievement Chart Focus
Unit 1	Chemistry	Chemistry Quiz Properties Activity Periodic Table Assignment Teacher's Choice(s) Unit Test Chemistry Project	K and/or A T, C, A K, C T and/or C and/or A K and A or T K, T, C and A
Unit 2	Ecology	Ecology Quiz Biodiversity Study Predator/Prey Lab Teacher's Choice(s) Unit Test	K and/or A T and/or C and/or A T and/or C and/or A K and/or T and/or C and/or A K and A or T

Unit 3	Electricity	Static Lab(s) Electrostatics Quiz Current Lab(s) Home Energy Audit Teacher's Choice(s) Current Electricity Test	T and/or C and/or A K and A or T T and/or C and/or A T, A K and/or T and/or C and/or A K and A or T
Unit 4	Space	Star Chart Activity H-R Diagrams Activity Teacher's Choice	T C, A K and/or T and/or C and/or A

****Assessments and Evaluations are subject to change****

Levels of Achievement

For Grades 9 to 12, a student's achievement of the overall curriculum expectations will be evaluated in accordance with the achievement charts in the provincial curriculum and will be reported using percentage marks.

Achievement Level	Percentage Mark Range	Achievement Description
HL4/L4+ L4 LL4/L4-	95 – 100 87 – 94 80 – 86	Level 4 identifies achievement that surpasses the provincial standard. The student demonstrates the specified knowledge and skills with a high degree of effectiveness.
HL3/L3+ L3 LL3/L3-	77 – 79 73 – 76 70 – 72	Level 3 represents the provincial standard for achievement. The student demonstrates the specified knowledge and skills with considerable effectiveness. Parents of students achieving at level 3 can be confident that their children will be prepared for work in subsequent grades/courses
HL2/L2+ L2 LL2/L2-	67 – 69 63 – 66 60 – 62	Level 2 represents achievement that approaches the provincial standard. The student demonstrates the specified knowledge and skills with some effectiveness. Students performing at this level need to work on identified learning gaps to ensure future success.
HL1/L1+ L1 LL1/L1-	57 – 59 53 – 56 50 – 52	Level 1 represents achievement that falls much below the provincial standard. The student demonstrates the specified knowledge and skills with limited effectiveness. Students must work at significantly improving learning in specific areas, as necessary, if they are to be successful in the next grade/course

Students who achieve below 50% have not met curriculum expectations; a credit will not be granted.

Learning Skills	Assessment of Learning Skills
Responsibility Organization Independent Work Collaboration Initiative Self-Regulation	Excellent (E) Good (G) Satisfactory (S) Needs Improvement (N)

Weighting by Strands/Categories			
Knowledge and Understanding	34%	Communication	22%
Thinking	22%	Application	22%

Assessment and Evaluation Strategies: the following is a list of potential A/E strategies used within the course; the list may not be exhaustive and is subject to change

- Paper & pencil quizzes & tests
- Formal examination
- Practical lab performance
- Written assignment/projects
- Research presentations
- Library/Internet research projects
- Formal lab reports
- Scientific illustration
- Graphical analysis & presentation
- Portfolio assessment

CALCULATION OF FINAL MARK

- 70% for evaluations conducted throughout the course
- 30% for culminating activities