



Islamic Foundation School Course Outline

Course Title: Science	
Course Code: SNC1D	
Course Type: Academic	
Grade: 9	
Credit Value: 1.0	
Prerequisites: None	
Co requisites: None	
Course developed by: Fazeel Siddiqui	Date: August 20,2013
Course Revised by: Fazeel Siddiqui	Date: August 20, 2015
Course based on Ministry curriculum document: Ministry of Education Curriculum Document 2008 titled as: “Science; The Ontario Curriculum; Grades 9 and 10”	



ISLAMIC FOUNDATION SCHOOL

Course Outline – Science (SNC1D)

Course Type: Academic, Grade: 9, Credit Value: 1.0

Prerequisite: None , Co-requisite: None

Department: Science

Teacher: Fazeel Siddiqui

Course Description / Rationale

This course enables students to develop their understanding of basic concepts in biology, chemistry, earth and space science, and physics (electricity), 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 ecosystem; atomic and molecular structures; the study of the universe and its properties and components; and the principles of electricity.

Overall Curriculum Expectations

By the end of this course, students will:

- A1.** Demonstrate scientific investigation skills (related to both inquiry and research) in the four areas of skills (initiating and planning, performing and recording, analyzing and interpreting, and communicating);
- A2.** Identify and describe careers related to the fields of science under study, and describe the contributions of scientists, including Canadians, to those fields;
- B1.** Assess the impact of human activities on the sustainability of terrestrial and/or aquatic ecosystems, and evaluate the effectiveness of courses of action intended to remedy or mitigate negative impacts;
- B2.** Investigate factors related to human activity that affect terrestrial and aquatic ecosystems, and explain how they affect the sustainability of these ecosystems;
- B3.** Demonstrate an understanding of the dynamic of ecosystems, particularly in terms of ecological balance and the impact of human activity on the sustainability of terrestrial and aquatic ecosystems;
- C1.** Assess social, environmental, and economic impacts of the use of common elements and compounds, with reference to their physical and chemical properties;
- C2.** Investigate, through inquiry, the physical and chemical properties of common elements and compounds;
- C3.** Demonstrate an understanding of the properties of common elements and compounds, and of the organization of elements in the periodic table;
- D1.** Assess some of the costs, hazards, and benefits of space exploration and the contributions of Canadians to space research and technology;
- D2.** Investigate the characteristics and properties of a variety of celestial objects visible from Earth in the night sky;
- D3.** Demonstrate an understanding of the major scientific theories about the structure, formation, and evolution of the universe and its components and of the evidence that supports these theories;
- E1.** Assess some of the costs and benefits associated with the production of electrical energy from renewable and non-renewable sources, and analyse how electrical efficiencies and savings can be achieved, through both the design of technological devices and practices in the home;
- E2.** Investigate, through inquiry, various aspects of electricity, including the properties of static and current electricity, and the quantitative relationships between potential difference, current, and resistance in electrical circuits;
- E3.** Demonstrate an understanding of the principles of static and current electricity.

Outline of Course Content

<u>Unit</u>	<u>Chapters</u>	<u>Title</u>	<u>Approximate Hours</u>
1	Chapters 1-3	Biology: Sustainable Ecosystems	30
2	Chapters 4-6	Chemistry: Atoms, Elements, and Compounds	30
3	Chapters 7-9	Earth and Space Science: The Study of the Universe	20
4	Chapters 10-12	Physics: The Characteristics of Electricity	30

Unit 1 (Biology: Sustainable Ecosystems)

This unit serves as the introductory unit to science 9. Students will address the main issues surrounding the sustainability of ecosystems. Throughout the unit, students will demonstrate an understanding of the dynamic nature of ecosystems, particularly in terms of ecological balance and the impact of human activity on the sustainability of terrestrial and aquatic ecosystems. They will also investigate factors related to human activity that affect terrestrial and aquatic ecosystems, and explain how they affect the sustainability of these ecosystems. Finally, students will assess the impact of human activities on the environment and the sustainability of terrestrial and/or aquatic ecosystems, and evaluate the effectiveness of courses of action intended to remedy or mitigate negative impacts.

Unit 2 (Chemistry: Atoms, Elements and Compounds)

This unit serves as an introduction to the study of chemistry and its effects on the environment. Throughout the unit, students will demonstrate an understanding of the properties of common elements and compounds, and of the organization of the elements on the periodic table. Additionally, students will investigate, through inquiry, the physical and chemical properties of common elements and compounds (i.e., comparisons between metals and non-metals, and ionic and covalent compounds). Finally, students will assess the social, environmental, and economic impacts of the use of common elements and compounds, with reference to their physical and chemical properties.

Unit 3 (Earth and Space Science: The Study of the Universe)

The purpose of this unit is to introduce students to the study of the universe and its components. Throughout the unit, students demonstrate an understanding of the major scientific theories about the structure, formation, and evolution of the universe and its components and of the evidence that supports these theories. They will also investigate the characteristics and properties of a variety of celestial objects visible in the night sky from Earth and extend their knowledge by assessing some of the costs, hazards, and benefits of space exploration and the contributions of Canadians to space research and technology.

Unit 4 (Physics: The Characteristics of Electricity)

This unit serves and an introduction to physics and the study of electricity. Throughout this unit, students will demonstrate and understanding of the general principles of electricity, both static and current. They will also investigate, through inquiry, various aspects of electricity, including the properties of static and current electricity, and the quantitative relationship between potential difference, current, and resistance in electrical circuits. Additionally, students will assess some of the costs and benefits associated with the production of electrical energy from renewable and non-renewable sources, and analyze how electrical efficiencies and savings can be achieved, through both the design of technological devices and practices in the home.

Teaching & Learning Strategies

In this class, a variety of teaching strategies will be used to enhance students learning. These include (but are not limited to): note taking, interactive lessons, cooperative work, investigations through experiments and laboratory work, independent learning and study notes.

Learning Skills:

In addition to earning a mark on the report card, Learning Skills will be evaluated as outlined by **Growing Success. Assessment, Evaluation and Reporting in Ontario Schools. 2010**. The Learning Skills are: Responsibility, Organization, Independent Work, Collaboration, Initiative, and Self-Regulation. The Learning Skills are evaluated using four-point scale: E for Excellent, G for Good, S for Satisfactory, and N for Needs Improvement

Obtaining Extra Help:

Students are expected and encouraged to seek extra help from the teacher when needed. The teacher will inform the students of his/her availability and the students are expected to make use of the hours allocated for extra help. Class remedial sessions will also be conducted throughout the term and will be scheduled based on student/teacher consensus.

Late Assignment Submission Policy

*“Students are responsible not only for their behaviour in the classroom and the school but also for providing evidence of their achievement of the overall expectations within the time frame specified by the teacher, and in a form approved by the teacher.” **Growing Success, page 43**. If a student has not already procured an extension from a teacher and does not meet assignment deadlines, he/she has up until the time the marked assignments are returned to submit the work for a full mark. Any work submitted after this will be marked and given a mark up to 50.*

Achievement Policy

For Grades 9 to 12, a final grade (percentage mark) is recorded for every course. The final grade will be determined as follows:

- Seventy per cent of the grade will be based on evaluation conducted throughout the course. This portion of the grade should reflect the student’s most consistent level of achievement throughout the course, although special consideration should be given to more recent evidence of achievement.
- Thirty per cent of the grade will be based on a final evaluation administered at or towards the end of the course. This evaluation will be based on evidence from one or a combination of the following: an examination, a performance, an essay, and/or another method of evaluation suitable to the course content. The final evaluation allows the student an opportunity to demonstrate comprehensive achievement of the overall expectations for the course. **Growing Success. Assessment, Evaluation and Reporting in Ontario Schools. 2010**

Homework is an essential part of each department's curricula and students are responsible for all work assigned in each class. On-going assessment will occur to allow all students the opportunity to be successful. Students will be evaluated in all four categories of the achievement chart.

Overall Assessment Breakdown

Term Work (70%)	Category Weight
Labs & Assignments (30%)	Knowledge & Understanding (40%)
Quizzes (12%)	Communication (20%)
Tests (28%)	Application (20%)
	Thinking/Inquiry (20%)
Cumulative Evaluation (30%)	
Final Exam (30%)	

Resources

McGraw –Hill Ryerson ONScience 9 Textbook (replacement cost is \$135)

Plagiarism

Students are expected to think independently and work honestly. All students must avoid presenting the work or ideas of others as their own. It is in the best interest of each student to build habits which contribute to genuine academic, personal, and social growth, and which attest to sound character. Plagiarism is an academic dishonesty which cannot be tolerated at IFS. The first offence will result in a mark of zero and all previous work may be put to scrutiny. Subsequent offence may result in removal from school. (IFS Student Planner, page 31)

Contact

Students can contact me through email or the contact section located on the course webpage.
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