

## Science 9 Course Outline

Ms. Hutchings

As stated in the Alberta program of studies for science, the following goals have been established to ensure the success of a Canadian science education:

- Encourage the development of a critical sense of wonder and curiosity about scientific and technological endeavours.
- Improve the quality of their own lives and others by acquiring new knowledge and solving problems by using science and technology.
- Prepare students to critically address science-related societal, economic, ethical and environmental issues.
- Provide a foundation in science that will enhance their lives so that is encourages occupations in the science-related field or within hobbies and personal interests and abilities.
- Enable students, of varying aptitudes and interests, to develop knowledge of the wide spectrum of careers related to science, technology and the environment.

The four foundations of the program provide the general directions for the program and identify major components of its structure. These foundations will support the development of science literacy by providing the opportunity to apply critical aspects of science.

**Foundation 1 - Science, Technology and Society (STS)** — *Students will* develop an understanding of the nature of science and technology, the relationships between science and technology, and the social and environmental contexts of science and technology.

**Foundation 2 — Knowledge**—*Students will construct* knowledge and understanding of concepts in life science, and physical science and Earth and space science and apply these understandings to interpret, integrate, and extend their knowledge.

**Foundation 3 — Skills** — *Students will* develop the skills required for scientific and technological inquiry, for solving problems, for communicating scientific ideas and results, for working collaboratively and for making informed decisions.

**Foundation 4 — Attitudes** — *Students will be encouraged* to develop attitudes that support responsible acquisition and application of scientific and technological knowledge to the mutual benefit of self, society, and the environment.

## Course Content

This course will place an emphasis on developing science inquiry skills and all units will be presented with a STS (science, technology, society) focus.

The textbook for the course is Science Focus 9 (2002, Lindenberg, D. et al ;McGraw-Hill Ryerson).

Proposed Course **Time Line** (dates are approximate)

### **Unit One: Biological Diversity**

**September - October 17**

Habitat and Lifestyle Biological  
diversity and survival Reproduction and  
Genetics (intro) Biological Selection

### **Unit Two: Matter and Chemical Change**

**October 19 - December 8**

Atom characteristics Periodic  
Table of the Elements Elements  
and Compounds Chemical Changes  
Chemical Reactions Reaction Rates

### **Unit Three: Environmental Chemistry**

**December 10 - February 15**

Acids and Bases and Their Effects Pollutant  
Effects of Commercial Products Water Quality  
Monitoring for Pollutant Effect  
Managing the Environment

### **Unit Four: Space Exploration**

**February 17 - April 20th**

Sky Features and Co-ordinates  
Telescopes  
Spectroscopes  
Electromagnetic Waves in Space  
The Solar System  
People In Space

## Unit Five: Electrical Principles and Technologies

April 21 - June 8th

Electric Charges  
Generators and Motors  
Electric Circuits  
Resistance  
Electricity Production and the Environment  
Electricity in the Home  
Portable Power

**This schedule will hopefully allow for a year-end review from June 9 - June 17<sup>th</sup>.**

### Student Evaluation

Term marks in the course will be based on the following format:

Assignments & Labs	40%
Quizzes	30%
Unit Exams	30%

The student's final mark will be a representation of their three term marks plus the Provincial Achievement Exam as their final exam.

Term 1	23%
Term 2	<b>24%</b>
Term 3	23%
Final Exam	30%

**This course places an importance on laboratory hands-on work. Inadequate preparation, unsafe laboratory practices, or irresponsible behaviour may exclude a student from these activities.** All students *are* expected to demonstrate an ability to conduct themselves in a safe and prepared manner.

**Students may be required to write pre-labs before scheduled lab activities.** This *ensures* that they have read the lab so that they *are* prepared to do the lab in the limited time we have to complete and clean up. If pre-labs aren't written, that student will sit out the lab to write it, and then will be responsible for getting results from other students so that he/she *can* complete the expected lab write-up on time. The teacher will not set up the lab for a student to do at another time unless the student misses a laboratory for legitimate reasons (medical appointments, illness, etc.) and wishes to do it during a noon hour. Please ask should this occur.

### Exam Writing Policies

Students will be given one week's notice for scheduled quizzes and two week's notice of unit exams. However, pop quizzes are sometimes given, so students should routinely be reviewing notes and completing all assignments. When students are absent for quizzes and unit exams they must provide the teacher with a note explaining the reason for the absence so that they *can* write it later.

### Homework Policies

- 1) Students should expect to have homework about twice a week. Most assignments are given during *class* so that students have the class to work on it. Therefore, there homework should generally only be for finishing what they did not get done during class time provided. They are given 2 days to write pre-labs and 2 - 3 days to complete the last three parts of the lab write-up after the lab has been done.
- 2) Late assignments (handed in after the start of class on the day it is due) will be deducted 10% a day for two days, after which time they receive a zero. Parents will be notified if this is becoming a problem. Occasionally an assignment will not be allowed to be late. This is generally for ones that are worked on significantly in class and the students will be told that it is to be in class the next day for marking and lateness will not be acceptable.
- 3) **Homework assignments are posted on the school's web page (date assigned & when due).**
- 4) Any student who is to be away due to a pre-planned *expended* absence is responsible for finding out from the teacher what assignments will be missed and what work is to be done prior to them leaving so that he/she is kept up to pace with the rest of the class upon their return to the classroom.
- 5) Students involved in band and on school teams **must ensure their assignments are handed in before they leave** - they can either have a classmate bring it to class or hand it into the teacher or office.
- 6) Students are expected to have two homework buddies, so there is no excuse for not knowing what homework is due.

Individual *assistance* is available upon request. Arrangements can be made to meet during noon recess and/or after school. Students are responsible for finding their own way home with any after school assistance. Help is only a request away.

Please sign below to indicate you have read this outline and return it to me. The student should put this outline in his/her binder for safekeeping. If you have any questions regarding the course, please contact Ms. Hutchings at 459-3990.

Student signature \_\_\_\_\_

Parent/Guardian signature \_\_\_\_\_

I look forward to a partnership of work to ensure your child's

success. Thank you,

Corrine Hutchings