

SCIENCE 10 - COURSE OUTLINE

2011-2012



TEACHER: Ms. Josie Rehmann (Contact at jrehmann@ecsr.d.ca or 780-962-1585.)

TEXT: Addison Wesley SCIENCE 10



USEFUL WEBSITES:

Companion Website for this text

http://wps.pearsoned.ca/wps/media/access/Pearson_Default/5111/5233925/login_science10.html

User ID: stascience10student

Password: ilovescience10

Want more detailed information about the Science 10 Program? See the Alberta Education document at

<http://education.alberta.ca/media/654833/science10.pdf>

Questions on significant digits? See

<http://education.alberta.ca/admin/testing/diplomaexams/exambulletins/guidelines.aspx>

EVALUATION:

Homework	5%
Assignments, Labs, and Quizzes	30%
Unit Tests	35%
Final	30%

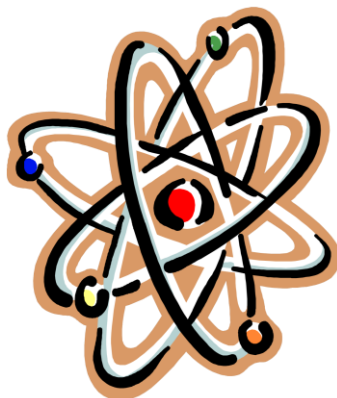
SEQUENCE OF TOPICS:

Unit 1—Energy & Matter in Chemical Change (Chemistry)

Students will:

- ✓ Describe the basic particles that make up the underlying structure of matter, and investigate related technologies
- ✓ Explain, using the periodic table, how elements combine to form compounds, and follow IUPAC guidelines for naming ionic compounds and simple molecular compounds
- ✓ Identify and classify chemical changes, and write word and balanced chemical equations for significant chemical reactions, as applications of Lavoisier's law of conservation of mass

Approx. 26 days



Unit 2—Energy Flow in Technological Systems (Physics)

Students will:

- ✓ Analyze and illustrate how technologies based on thermodynamic principles were developed before the laws of thermodynamics were formulated
- ✓ Explain and apply concepts used in theoretical and practical measures of energy in mechanical systems
- ✓ Apply the principles of energy conservation and thermodynamics to investigate, describe and predict efficiency of energy transformation in technological systems

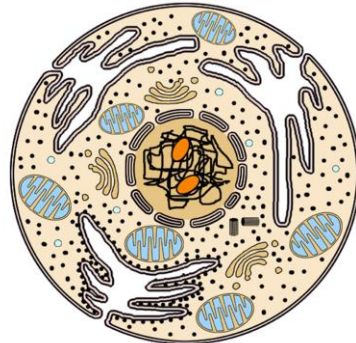
Approx. 23 days

Unit 3—Cycling of Matter in Living Systems (Biology)

Students will:

- ✓ Explain the relationship between developments in imaging technology and the current understanding of the cell
- ✓ Describe the function of cell organelles and structures in a cell, in terms of life processes, and use models to explain these processes and their applications
- ✓ Analyze plants as an example of a multicellular organism with specialized structures at the cellular, tissue and system levels

Approx. 20 days



Animal (Eukaryotic) Cell



Unit 4—Energy Flow in Global Systems (Weather)

Students will:

- ✓ Describe how the relationships among input solar energy, output terrestrial energy and energy flow within the biosphere affect the lives of humans and other species
- ✓ Analyze the relationships among net solar energy, global energy transfer processes—primarily radiation, convection and hydrologic cycle—and climate
- ✓ Relate climate to the characteristics of the world's major biomes, and compare biomes in different regions of the world
- ✓ Investigate and interpret the role of environmental factors on global energy transfer and climate change

Approx. 13 days

If you are having difficulties with the course material, please arrange a time (in the morning before classes start, at lunch time, or after school) for extra help as soon as possible!!!

CLASSROOM EXPECTATIONS

1. Be prepared for class. Bring your textbook and all required supplies (calculator, notepaper, pen, pencil, etc.) At the bell, you should be seated and ready for class to begin.
2. Do your assignments. They are your opportunity to succeed. Mastery of concepts and skills requires practice. Learn from your mistakes. It is **essential** that you do adequate preparation for lab work.
3. Respect your own and others' life space.

If you drop this class, return your textbook to the library immediately.

If you miss a class, you can contact me or another student to get your homework and handouts. You are responsible for **all** material covered in the course. If you have missed a lab, expect to do it at lunch time or after school when you return to school.

If you miss a quiz or test, you will be writing it (at lunch time or after school) on the **first** day that you are back at school. **This is to ensure that other students get feedback about their exam results as soon as possible.** Arrange a time with me as soon as you get back to school.

Tests and assignments missed due to an unexcused absence will be awarded a 0.

Late assignments are accepted until the time when they are returned to the rest of the class. Percentage penalties will be assigned if they are passed in late. (10% per day)

The important thing in science is not so much to obtain new facts as to discover new ways of thinking about them. ~Sir William Henry Bragg, Nobel Prize for Physics, 1915