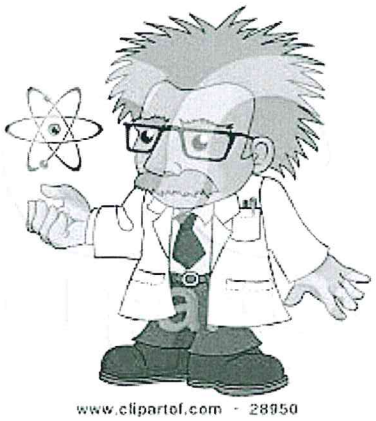
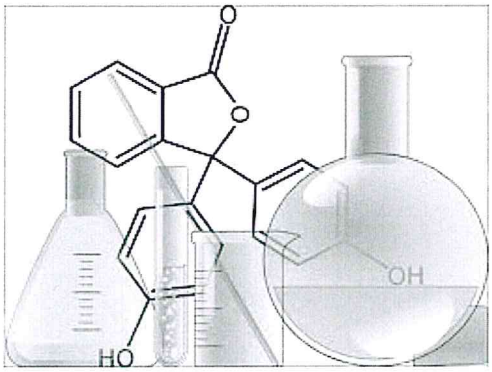
SCIENCE 10F COURSE OUTLINE

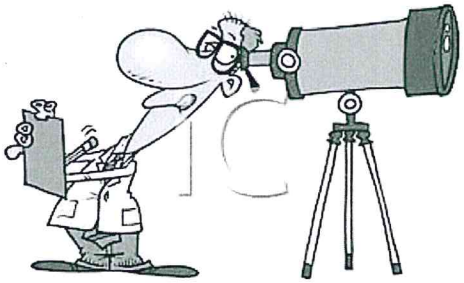
Mr. Trotter
Chemistry Lab

Welcome to Science 10F. This year in Science we will be studying four major topics:

- Chemistry : atomic structure, elements and the Periodic Table, chemical families, chemical compounds, and chemical changes.
- Physics: static electricity and current electricity.
- Biology: cell division, reproduction, growth and development, and genetics.
- Astronomy: composition of stars, life cycle of stars, origin of the Universe.







1. Assessment:

- Your mark will be based on coursework and a final exam at the end of the semester.

- Academic grades will be based on curricular learning outcomes and individual performance, not group performance.
- Grades will be expressed as percentages.
- The June exam will only include material from all three terms.
- Coursework will include tests, assignments, research projects, labs, and quizzes.
- The box below summarizes how things will be weighted.

Coursework: **80% of grade**

Exam: **20% of grade**

Coursework assessment categories: For Coursework assessment the following categories and weighting will be used:

1. Knowledge and Understanding	**65%**
2. Scientific Skills and Inquiry	**25%**
3. Science, Technology, Society, and the Environment	**10%**

Knowledge and Understanding:

- Student demonstrates knowledge of **Chemistry** including models of atomic structure, the organization of the Periodic table, and is able to differentiate between chemical and physical changes.
- **Physics**: Student can differentiate between different models of electricity, understand the interactions between electrically-charged materials at the atomic level, and solve electric circuit problems involving current, potential difference, resistance, and voltage.
- **Astronomy:** Student can compare and contrast historical perspectives on the relationship between the Earth and space, differentiate between the major components of the universe including planets, nebulae, stars, galaxies and black holes. Student can demonstrates knowledge of the Big Bang Theory and the supporting evidence for this theory.
- **Biology:** Student can illustrate the process of mitosis and demonstrate the importance of cell division to the processes of growth, aging, cancer, and

reproduction. Student can describe the process of meiosis, compare and contrast sexual and asexual reproduction, outline the growth and development of an embryo. Student has an understanding of Mendellian genetics, including dominant and recessive genes, Punnet squares, sex-linked traits, and the role of mutations in changing genes.

Assessment will be based on tests/quizzes, assignments and research projects.

Scientific Skills and Inquiry

- Makes predictions/hypotheses about a scientific problem.
- Able to use equipment to make accurate measurements.
- Makes relevant observations, collects data and information, measures, and makes calculations based on measurements.
- Analyzes and interprets data to draw conclusions that explain the data.
- Identifies possible sources of error and suggests ways to make the experiment better.

Assessment will be based on lab experiments and activities.

Science, Technology, Society, and the Environment

- Student can describe scientific and technological developments, past and present, and understand their impact on society and the environment.
- Identify factors that affect health, and explain relationships between lifestyle choices and human health.

Assessment will be based on tests/quizzes, assignments, and research projects.

2. Class Rules

1. Come to class on time. If you are late, knock once and wait at the door. Be prepared to apologize.

2. Pay attention: This means to listen quietly when the teacher is instructing class.

3. Do all of your work.

4. Work quietly when you are working on assignments.

5. If you need to leave class, ask for permission.

6. No food or drink is allowed in the Science lab. Water is OK.

7. Use appropriate language.

8. Do not take out electronic devices during lessons. They will be confiscated if you do. You may listen to music when you are working as long as it doesn't become a distraction.

9. Bring all of your materials every class. This includes: Science binder, textbook, pen, pencil, ruler, and calculator.