



Loyola

HIGH SCHOOL

Secondary 1 Science & Technology Cycle 1 (Year 1) Course Outline

Teacher: Dr Newton

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Requirements:

- Eureka A (student textbook)
- One three ring binder (small to medium sized 1.5" or 2").
- Lined loose leaf paper (at least 25 sheets), 4-5 dividers are also recommended.
- A well-stocked pencil case including: ruler, pencils, pens, eraser, highlighters etc. MAKE SURE you have a pencil sharpener that is a container type that will hold the pencil shavings. A 0.5 mm (or 0.7 mm or any other dimension) lead propelling pencil is recommended instead of pencils.
- Chromebook – which should always be charged with no apps running during class.
- A pair of headphones – small ear-bud type are recommended.

The above equipment is required for **every** lesson. Failure to bring an item will result in JUG. Students are required to check their Loyola email **every day** for updates and/or information. They should also check the Sec 1 Science Moodle page often.

Course Information:

Secondary One Science & Technology provides students the opportunity to construct a hypothesis, test its prediction by experimentation and identify the different variables. It also teaches students to recognize that scientific inquiry involves more than a series of sequential steps.

Evaluation of Learning / Competencies: The pass mark is 60% for the entire year .

Section	Competency	Examples of work that will contribute to the overall grade for each term	Weighting
Practical	Seeks answers and solutions to scientific or technological problems. Communicates in the languages used in science and technology	Labs, Lab reports, Lab Blogs, Activities, Presentations etc	40%
Theory	Makes the most of his knowledge of science and technology. Communicates in the languages used in science and technology	Tests, Quizzes, Science Journals, Assignment sheets, June exam etc	60%

Several labs are conducted every term and are graded and weighted according to complexity. The theory mark is generally comprised of the following components, shown with their approximate weightings: Tests (40%), Quizzes (15%), Science Journals (15%), Assignment sheets (15%), ePortfolio (13%) and Participation / Department / Holistic Growth (2%).

For the Term 1 and Term 3 reports, each student will also have comments regarding at least two of the following four cross-curricular competencies:

Exercises critical judgment
Communicates effectively

Organizes his work
Works in a team

Examinations

There is one formal examination period at the end of the year (June) and can include material covered during the entire academic year.

Course	December Exam	June Exam
Sec. 1 Science & Technology	None	30% of Term 3 Theory

Report Cards: There are four (4) reporting periods as per the following schedule:

Report	Date Sent (on or before)	Value
Preliminary	October 15	None – only a written communication with parents at the start of the year
Term 1	November 20	20%
Term 2	March 15	20%
Term 3	July 10	60%

CHROMEBOOK

The Chromebook is to be used as a tool to aid learning and to search for information. It is not to be used to play games. We have observed low attention spans, poor academic performance and reduced capacity to think in students who play too much on their electronic devices (laptops, iPads, cell phones, or any other type of gaming device).

Miscellaneous Information:

Students are expected to be familiar with the Moodle page for this course and to check it daily. Programmable calculators are not permitted at any time.

Course Content:

Various components of the following three modules will be utilized throughout the year. Typical topics are shown in the table above.

- Term 1 – Module 1: Scientific Method, Astronomical Phenomena
- Term 2 – Module 2: General Characteristics of the Earth
- Term 3 – Module 3: Geological Phenomena, Life Forms, Life Sustaining Processes

Topics: Science & Technology: Secondary 1 (Cycle One Year One)

Term 1	Term 2	Term 3
Scientific Method <ul style="list-style-type: none">• Introduction to the scientific method• Laboratory report writing (introduce Scientific Laboratory Report Guidelines document)• Laboratory safety	General Characteristics of the Earth <ul style="list-style-type: none">• Internal structure of the Earth• Lithosphere• Types of soil• Types of rock (basic minerals)• Relief• Hydrosphere• Water (distribution)• Atmosphere• Atmospheric layers	Geological and Geophysical Phenomena <ul style="list-style-type: none">• Tectonic plate• Earthquake• Volcano• Orogenesis• Erosion• Natural energy sources• Winds• Water cycle• Renewable and non-renewable energy source
Astronomical Phenomenon <ul style="list-style-type: none">• Universal gravitation• Solar system• Light (properties)• Cycles of day and night• Phases of the moon• Eclipses• Seasons• Comets• Aurora Borealis (Northern lights)• Meteoroid Impact	The Earth <ul style="list-style-type: none">• Geological time scale• Major stages in the history of life on Earth• Extinctions• Fossils• Stratigraphic layers	Diversity of Life Forms <ul style="list-style-type: none">• Habitat• Ecological niche• Species• Population• Physical and behavioral adaptation• Evolution• Taxonomy• Genes and chromosomes
Space <ul style="list-style-type: none">• Scale of the Universe• Astronomical unit• Light year• Location of the Earth in the Universe• Conditions conducive to the development of life		Life-Sustaining Processes <ul style="list-style-type: none">• Characteristics of living things• Plant and animal cells• Photosynthesis and respiration• Cellular components visible under a microscope• Inputs and outputs (energy, nutrients, waste)

General

Homework is usually assigned every few lessons. It will be collected and marked and will contribute to the overall grade for the year. Failure to complete assigned homework will result in loss of marks and/or disciplinary action. **Homework submitted late will not be accepted and will result in a grade of 0%. Homework submitted without a name will automatically result in a grade of 0%.** After every class students are expected to review their notes to ensure understanding and improve their retention of the information taught. **Short quizzes are often given without warning.** Students are expected to develop a clear and succinct writing style, ideally with no spelling or grammatical errors.

During Secondary 1 students are expected to learn more about themselves and their learning styles. They are expected to develop good work and study habits and organizational skills. Extra help in the form of tutorials and meetings is offered as required, by appointment (newtonn@loyola.ca) and are usually held at lunch or after school. Please note that extra help is **never** given the day before a test or exam. I will always give you at least 5 or 6 days notice before a test so there is plenty of time to see me for extra help. Also, this avoids students getting stressed and panicking the day before a test. Note that cramming the night before a test will generally not be a very effective study method in Sec 1.

Note that if a student misses a class for whatever reason, it is THEIR responsibility to make-up the missed work. If a student misses a lab then they have 24 hours to contact Mr Dagher (daghere@loyola.ca) to arrange a time to conduct the lab. They must also notify Dr Newton at least 48 hours in advance if they have prior knowledge of an upcoming absence (for sports or any other activity).

This document is important. Do not lose it.

It can also serve as a basis for your study guide for the entire year.