

Science and Technology 306-08

Welcome to Science and Technology 306 (Cycle 2, Year 1) at Centennial Regional High School. Please read this course outline carefully. It will show you all the topics that will be covered this year, as well as other information that you will need to know in order to be successful in this course.

TOPICS IN SCIENCE 306

Material World	Earth and Space	Living World	Technological World
<p>Characteristic Physical Properties</p> <ul style="list-style-type: none"> Melting point Boiling point Density Solubility Characteristic properties <p>Properties of Solutions</p> <ul style="list-style-type: none"> Solute Solvent Concentration <p>Characteristic Chemical Properties</p> <ul style="list-style-type: none"> Reaction to indicators <p>Changes in Matter</p> <ul style="list-style-type: none"> Particle model <p>Physical Changes</p> <ul style="list-style-type: none"> Dissolution Dilution Phase changes <p>Chemical Changes</p> <ul style="list-style-type: none"> Chemical changes in the human body Decomposition and synthesis Oxidation Precipitation <p>Transformation of Energy</p> <ul style="list-style-type: none"> Forms of energy <p>Structure of Matter</p> <ul style="list-style-type: none"> Pure substances Homogeneous and heterogeneous mixtures <p>Fluids</p> <ul style="list-style-type: none"> Pressure Compressible and incompressible fluids Relationship between pressure and volume <p>Waves</p> <ul style="list-style-type: none"> Frequency Wavelength Amplitude Decibel scale Electromagnetic scale Deviation of light waves Focal point of a lens 	<p>Lithosphere</p> <ul style="list-style-type: none"> Stratigraphic layers Geological time scale Major stages in the history of life on Earth Extinctions Fossils <p>Space</p> <ul style="list-style-type: none"> Scale of the universe Conditions conducive to the development of life. 	<p>Tissues, Organs, and Systems</p> <ul style="list-style-type: none"> Tissues Organs Systems <p>Digestive System</p> <ul style="list-style-type: none"> Digestive tract Digestive glands Types of foods Energy value of different foods Transformation of food <p>Respiratory and Circulatory Systems</p> <ul style="list-style-type: none"> Respiratory system Functions of blood constituents Compatibility of blood types Circulatory system Lymphatic system <p>Excretory System</p> <ul style="list-style-type: none"> Urinary system Components of urine Maintaining a balanced metabolism <p>Nervous and Musculoskeletal Systems</p> <ul style="list-style-type: none"> Central nervous system Peripheral nervous system Sensory receptors Musculoskeletal system <p>Cell Division</p> <ul style="list-style-type: none"> DNA Mitosis Meiosis and sexual development Functions of cell division Genetic diversity <p>Reproductive System</p> <ul style="list-style-type: none"> Puberty (male and female) Hormone regulation in men Hormone regulation in women 	<p>Graphical Language</p> <ul style="list-style-type: none"> Standards and representations Geometric lines Basic lines Orthogonal projections Scales Forms of representation Cross-sectional views Dimensioning <p>Engineering</p> <ul style="list-style-type: none"> Typical mechanical links Typical functions Function, components, and use of motion transmission systems Function, components, and use of motion transformation systems <p>Mechanical Properties of Materials</p> <ul style="list-style-type: none"> Constraints Mechanical properties Types and properties <p>Biotechnology</p> <ul style="list-style-type: none"> Pasteurization Vaccinations Assisted reproduction Cell cultures Genetic transformations

COMPETENCIES AND ASSESSMENT

This course will be structured around the following two competencies

- 1. Competency 1:** Seeking answers or solutions to scientific and technological problems (40% weight).
 - The student will become familiar with strategies and acquire conceptual and technical knowledge that will enable him/her to define a problem, and justify their methodological choices and results.
- 2. Competency 2:** The student will make the most of their scientific and technical knowledge (60% weight).
 - The student applies their understanding of course material and proposes scientific explanations.

Students will be assessed according to these competencies with assignments, tests, quizzes, lab reports and projects that reflect the course material.

REQUIRED MATERIALS

Students are required to have the following materials with them at all times:

- Binder (at least 1.5")
- At least 3 dividers
- **Goggles** (available at the office)
- Pens (blue and/or black)
- Coloured pencils
- Your textbook and workbook
- Loose leaf
- Scientific calculator
- Your agenda

IMPORTANT: ***Goggles must be worn at all times during laboratory activities. Long hair must be tied back, and closed-toed shoes must be worn.***

CLASSROOM POLICIES

- Students must have a respectful demeanor at all times. This means you must show respect to the teacher and your fellow students.
- Students must arrive on time for class every day. The classroom door will be closed when the bell rings and no late student will be allowed in without a note from the office.
- Unless otherwise specified, cell phones are **not permitted** in class.
- If you are absent, it is your responsibility to make sure you catch up on everything you missed.
- If you miss a test or assignment, you must bring a note justifying your absence.
- Late assignments will result in a 10% deduction per day.
- Cheating and plagiarism are very serious academic offences. Any student who cheats on an assessment piece or copies another's work will receive an automatic grade of 0 and may be subject to further punishment.

TEACHER CONTACT INFORMATION

Teacher: R. Phillion
Room B102
rphillion@rsb.qc.ca

If you or your parents/guardians have any questions at any point, please do not hesitate to contact the teacher by email.