



McCreary School
Grade 11 Chemistry 0122 30S 003
1.0 Credit
Semester 1 – 2020/2021
Ms. S. Aune

COURSE OUTLINE

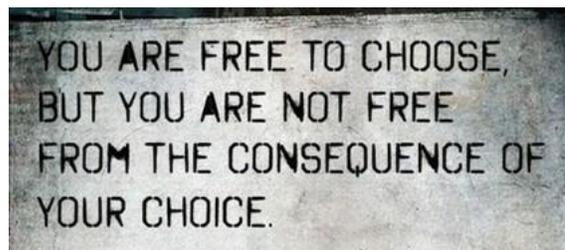
<p>Unit 1: Review and Refresh</p> <ul style="list-style-type: none">▪ Drawing atoms▪ Ion formation▪ Bonding▪ Chemical formulas▪ The Periodic Table <p>*September 8-9, 2020</p>
<p>Unit 2: Properties of Matter</p> <ul style="list-style-type: none">▪ Chemical and physical properties▪ States of matter▪ Changes of state▪ Kinetic Molecular Model <p>*September 10-25, 2020 TEST September 25</p>
<p>Unit 3: Gases and the Atmosphere</p> <ul style="list-style-type: none">▪ Boyle's Law▪ Charles' Law▪ Gay-Lussac's Law▪ Ideal Gas Law▪ Combined Gas Law <p>*September 28-October 9, 2020 TEST October 9</p>
<p>Unit 4: Chemical Reactions</p> <ul style="list-style-type: none">▪ Reaction types▪ Balance equations▪ Mole calculations▪ Stoichiometry <p>*October 13-November 6, 2020 TEST November 6</p>
<p>Unit 5: Solutions</p> <ul style="list-style-type: none">▪ Types of solutions▪ Factors affecting solubility▪ Concentration and precipitation <p>*November 9-25, 2020 TEST November 25</p>
<p>Unit 6: Organic Chemistry</p> <ul style="list-style-type: none">▪ Aliphatic hydrocarbons▪ Aromatic hydrocarbons▪ Alcohols, acids and esters <p>*November 26-January 14, 2020 TEST January 14</p>

PURPOSE

Chemistry 30S is the first science course fully dedicated to the interactions between matter and energy. This course covers the properties of matter, gases and the atmosphere, chemical reactions, solutions and organic chemistry.

EXPECTATIONS

1. Your behaviour in class must not prevent the teacher from giving the lesson OR interfere with anyone else's opportunity to learn.
2. Arrive to class on time and prepared to work.
3. Follow all safety rules of a science lab.
4. Use class time wisely and complete/hand in all homework and assignments on time.
5. If you're struggling talk to Ms. Aune ASAP.



REQUIRED SUPPLIES

Students are expected to bring the following supplies to EVERY class: a 3 ring binder with loose leaf, a scientific calculator, pens, pencils, erasers, and highlighters.

EXTRA HELP

Extra help is available if you need it. I am usually available at lunch, and before or after school.

CONTACT INFORMATION

Teacher: Ms. Aune
Email: saune@trsd.ca
School Phone #: 835-2083

ONCE YOU HAVE READ THROUGH THIS COURSE OUTLINE WITH YOUR CHILD PLEASE SIGN AND RETURN IT TO THE SCHOOL.

Course Outcomes:

Physical Properties of Matter (MB Curriculum)

- C11-1-01 Describe the properties of gases, liquids, solids, and plasma. Include: density, compressibility, diffusion
- C11-1-02 Use the Kinetic Molecular Theory to explain properties of gases.
- C11-1-03 Explain the properties of liquids and solids using the Kinetic Molecular Theory.
- C11-1-04 Explain the process of melting, solidification, sublimation, and deposition in terms of the Kinetic Molecular Theory.
- C11-1-05 Use the Kinetic Molecular Theory to explain the processes of evaporation and condensation.
- C11-1-06 Operationally define vapour pressure in terms of observable and measurable properties.
- C11-1-07 Operationally define normal boiling point temperature in terms of vapour pressure.
- C11-1-08 Interpolate and extrapolate the vapour pressure and boiling temperature of various substances from pressure versus temperature graphs.

Gases and the Atmosphere (MB Curriculum)

- C11-2-01 Identify the abundances of the naturally occurring gases in the atmosphere and examine how these abundances have changed over geologic time.
- C11-2-02 Research Canadian and global initiatives to improve air quality.
- C11-2-03 Examine the historical development of the measurement of pressure.
- C11-2-04 Describe the various units used to measure pressure.
- C11-2-05 Experiment to develop the relationship between the pressure and volume of a gas using visual, numeric, and graphical representations.
- C11-2-06 Experiment to develop the relationship between the volume and temperature of a gas using visual, numeric, and graphical representations.
- C11-2-07 Experiment to develop the relationship between the pressure and temperature of a gas using visual, numeric, and graphical representations.
- C11-2-08 Solve quantitative problems involving the relationships among the pressure, temperature, and volume of a gas using dimensional analysis.
- C11-2-09 Identify various industrial, environmental, and recreational applications of gases.

Chemical Reactions (MB Curriculum)

- C11-3-01 Determine average atomic mass using isotopes and their relative abundance.
- C11-3-02 Research the importance and applications of isotopes.
- C11-3-03 Write formulas and names for polyatomic compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature.
- C11-3-04 Calculate the mass of compounds in atomic mass units.
- C11-3-05 Write and classify balanced chemical equations from written descriptions of reactions.
- C11-3-06 Predict the products of chemical reactions, given the reactants and type of reaction.
- C11-3-07 Describe the concept of the mole and its importance to measurement in chemistry.
- C11-3-08 Calculate the molar mass of various substances.
- C11-3-09 Calculate the volume of a given mass of a gaseous substance from its density at a given temperature and pressure.
- C11-3-10 Solve problems requiring interconversions between moles, mass, volume, and number of particles.
- C11-3-11 Determine empirical and molecular formulas from percent composition or mass data.
- C11-3-12 Interpret a balanced equation in terms of moles, mass, and volumes of gases.
- C11-3-13 Solve stoichiometric problems involving moles, mass, and volume, given the reactants and products in a balanced chemical reaction.
- C11-3-14 Identify the limiting reactant and calculate the mass of a product, given the reaction equation and reactant data.
- C11-3-15 Perform a lab involving mass-mass or mass-volume relations, identifying the limiting reactant and calculating the mole ratio.
- C11-3-16 Discuss the importance of stoichiometry in industry and describe specific applications.

Course Outcomes (continued)

Solutions (MB Curriculum)

- C11-4-01 Describe and give examples of various types of solutions.
- C11-4-02 Describe the structure of water in terms of electronegativity and the polarity of its chemical bonds.
- C11-4-03 Explain the solution process of simple ionic and covalent compounds, using visual, particulate representations and chemical equations.
- C11-4-04 Explain heat of solution with reference to specific applications.
- C11-4-05 Perform a lab to illustrate the formation of solutions in terms of the polar and non-polar nature of substances.
- C11-4-07 Differentiate among saturated, unsaturated, and supersaturated solutions.
- C11-4-08 Use a graph of solubility data to solve problems.
- C11-4-09 Explain how a change in temperature affects the solubility of gases.
- C11-4-10 Explain how a change in pressure affects the solubility of gases.
- C11-4-11 Perform a lab to demonstrate freezing-point depression and boiling point elevation.
- C11-4-12 Explain freezing-point depression and boiling-point elevation at the molecular level.
- C11-4-13 Differentiate among, and give examples of, the use of various representations of concentration.
- C11-4-14 Solve problems involving calculation for concentration, moles, mass, and volume.
- C11-4-15 Prepare a solution, given the amount of solute (in grams) and the volume of solution (in millilitres), and determine the concentration in moles/litre.
- C11-4-16 Solve problems involving the dilution of solutions.
- C11-4-17 Perform a dilution from a solution of known concentration.
- C11-4-18 Describe examples of situations where solutions of known concentration are important.
- C11-4-19 Describe the process of treating a water supply, identifying the allowable concentrations of metallic and organic species in water suitable for consumption.

Organic Chemistry (MB Curriculum)

- C11-5-01 Compare and contrast inorganic and organic chemistry.
- C11-5-02 Identify the origins and major sources of hydrocarbons and other organic compounds.
- C11-5-03 Describe the structural characteristics of carbon.
- C11-5-04 Compare and contrast the molecular structures of alkanes, alkenes, and alkynes.
- C11-5-05 Name, draw, and construct structural models of the first 10 alkanes.
- C11-5-06 Name, draw, and construct structural models of branched alkanes.
- C11-5-07 Name, draw, and construct structural models of isomers for alkanes up to six-carbon atoms.
- C11-5-08 Outline the transformation of alkanes to alkenes and vice versa.
- C11-5-09 Name, draw, and construct molecular models of alkenes and branched alkenes.
- C11-5-10 Differentiate between saturated and unsaturated hydrocarbons.
- C11-5-11 Outline the transformation of alkenes to alkynes and vice versa.
- C11-5-12 Name, draw, and construct structural models of alkynes and branched alkynes.
- C11-5-13 Compare and contrast the structure of aromatic and aliphatic hydrocarbons.
- C11-5-14 Describe uses of aromatic hydrocarbons.
- C11-5-15 Write condensed structural formulas for and name common alcohols.
- C11-5-16 Describe uses of methyl, ethyl, and isopropyl alcohols.
- C11-5-17 Write condensed structural formulas for and name organic acids.
- C11-5-18 Describe uses or functions of common organic acids.
- C11-5-19 Perform a lab involving the formation of esters, and examine the process of esterification.
- C11-5-20 Write condensed structural formulas for and name esters.
- C11-5-21 Describe uses of common esters.
- C11-5-22 Describe the process of polymerization and identify important natural and synthetic polymers.
- C11-5-23 Describe how the products of organic chemistry have influenced quality of life.
- C11-5-24 Use the decision-making process to investigate an issue related to organic chemistry.

Academic Assessment:

In this course you will be assessed in a variety of ways, including: homework checks, assignments, labs (subject to change) and tests. All students will be required to write the final exam at the end of January.

Course work will be divided into two categories called Major and Minor.

Course Work	70%
Final Exam	30%

Major (50%): lab reports, quizzes and tests

Minor (20%): homework checks, assignments, and unit reviews

You won't have homework every night, but when it is assigned it is expected to be completed on time. Homework checks will be done periodically at the start of a class to assess whether or not the student has completed each of the questions in the assignment. To get full marks, all questions must be *attempted* with appropriate work shown. There will be 5 unit tests throughout the course with several quizzes throughout to allow students to demonstrate their knowledge on specific course outcomes.

Assessments will be marked with a percentage, which will sometimes be determined by rubrics and checklists that the students will be given with their assessment. Following a **test**, students will have one week to correct any mistakes on the test and resubmit the test. Students are able to earn back *half* of the corrected marks on that test. Late assessments and academic dishonesty will be dealt with according to the policy outlined in the school handbook.

Attendance Policy (as per McCreary School Handbook):

Students are to report to their classroom by 8:50 am and 1:00 pm. Daily class attendance is kept. Parents are asked to call the school by 9:00 am if your child will be absent. If a student is absent and we have not heard from home, the school will call to confirm child's whereabouts. Chronic absenteeism will be referred to the school division truancy officer.

- If you are absent, YOU are responsible for finding out what you missed and making up all missed work.
- If you have an excused absence for the day of a test please make arrangements to write it the day you return to school.
- If you *skip* a test or quiz you will receive a zero.

Cell phones and Technology:

Due to the pandemic situation, students will not have access to lockers at this time. Thus, students are to have their personal devices off during class time (unless directly specified by teacher) and will have access to a laptop for classwork. In situations where students are quietly working AFTER all instruction/lessons have been completed, students may be given the option to listen to music with their own earphones. This privilege will be revoked immediately if there is any distraction to classmates or inappropriate usage (ie texting, social media).

Behavior Assessment:

Student behaviour will be evaluated on an ongoing basis using the criteria listed below.

PERSONAL MANAGEMENT SKILLS
Organizes material
Uses class time productively
Works independently
Completes all work on time
Persists when faced with challenges
Seeks help when needed
Demonstrates a strong work ethic
Shows patience
Demonstrates on-task behaviour
Sets personal management goals
ACTIVE PARTICIPATION IN LEARNING
Shows interest; asks questions
Takes initiative
Self-assesses work quality based on criteria
Uses feedback to improve learning
Uses criteria to provide feedback
Uses a variety of media for communication
Investigates questions, hypothesizes, analyzes
SOCIAL RESPONSIBILITY
Works and interacts well with others
Is welcoming and positive
Shares resources and equipment with others
Respects school values
Respects and follows classroom routines
Takes an equitable share in group work
Is courteous
Respects the need for safety
Sets personal management goals

Late Assignment Policy – Grades 7-12

McCreary School's policy for late assignments was developed in accordance with the Provincial Assessment Policy.

The guidelines for late assignments are as follows:

1. Teachers will set and communicate reasonable timelines for assignments.
2. Teachers will share timelines and reminders with students through various formats (ex. course outline, email, post in classroom, etc.).
3. Teachers will assist students to meet timelines – monitor progress, check-ins.
4. Students who struggle will require additional support from the teacher.
5. Extensions will be granted at the teacher's discretion, for valid and legitimate reasons only (ex. illness).
6. Teachers will communicate with parents or set up parent/teacher/student conferences to discuss late assignments.
7. Teachers will make an arrangement with student to complete work.
8. Teachers will create alternative assignments for diverse learning needs.

Where the above guidelines have been followed and assignments are not handed in by the given due date, a deduction in marks will apply.

Upon teacher discretion a maximum of 5% may be deducted for every day the assignment is not turned in. If the assignment is not turned in after two weeks or at the start of a new unit, the assignment will receive a mark of zero.