

# Chemistry 20

Springbank Community High School

Semester 1, 2020-21

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Chemistry 20 is comprised of four units as well as portions of review, which are as follows:

- Diversity of Matter & Chemical Bonding
- Forms of Matter: Gases
- Matter as Solutions, Acids and Bases
- Quantitative Relationships in Chemical Change

## **Course Evaluation**

Course Outcomes	70%
Final Exam	25%
Lab Practical	5%

## **Course Outcomes (70%)**

UNIT	TOPIC	UNIT OVERVIEW
0	Science 10 Review	Practice the skills and review the knowledge obtained in the Science 10 curriculum. This is essential in the preparation for Chemistry 20.
1	The Diversity of Matter and Chemical Bonding	<p><b>Overview:</b> Concepts, models and theories are often used in interpreting and explaining observations and in predicting future observations. The major focus of this unit is to relate theories about bonding to the properties of matter and to develop explanations and descriptions of structure and bonding through scientific models. Students learn about the diversity of matter through the investigation of ionic compounds and molecular substances.</p> <p><b>Focusing Questions:</b> Why do some substances dissolve easily, whereas others do not? Why do different substances have different melting and boiling points and enthalpies of fusion and vaporization? How can models increase understanding of bonding?</p>
2	Forms of Matter: Gases	<p><b>Overview:</b> Students expand their knowledge of the nature of matter through the investigation of the properties and behaviour of gases.</p> <p><b>Focusing Questions:</b> How do familiar observations of gases relate to specific scientific models describing the behaviour of gases? What is the relationship among the pressure, temperature, volume and amount of a gas? How is the behaviour of gases used in various technologies?</p>

3	<b>Matter as Solutions, Acids and Bases</b>	<p><b>Overview:</b> Students gain insight into the nature of matter through an investigation of change in the context of solutions, acids and bases.</p> <p><b>Focusing Questions:</b> How is matter as solutions, acids and bases differentiated on the basis of theories, properties and scientific evidence? Why is an understanding of acid-base and solution chemistry important in our daily lives and in the environment?</p>
4	<b>Quantitative Relationships in Chemical Changes</b>	<p><b>Overview:</b> Students focus on chemical change and the quantitative relationships contained in balanced chemical equations. They are required to use stoichiometric principles and mathematical manipulation to predict quantities of substances consumed or produced in chemical reaction systems.</p> <p><b>Focusing Questions:</b> How do scientists, engineers and technologists use mathematics to analyze chemical change? How are balanced chemical equations used to predict yields in chemical reactions?</p>
"5"	<b>Review</b>	

### **Lab & Final Exam (5% & 25%)**

The lab exam is traditionally held during the first 3 days of exam break. Your exam is by appointment only, and will be scheduled in the final weeks of class. Should you fail to sign up for an appointment, or miss your appointment, an automatic zero will be entered. The lab exam includes identifying two unknown solutions, and one titration while maintaining a safe and organized working environment. It is evaluated on a five point scale for each component and weighted to a final mark out of 100. All information regarding the lab final can be found with the final exam material on our course website, including the requirements, schedule and assessment criteria.

The final exam consists of multiple choice and numerical response that correspond to a strong majority of the outcomes assessed in Chemistry 20. The exam is entered as a traditional grade from the total you obtain on the exam. It is highly recommended that you utilize previous assessments and the materials provided online to study for the exam. Begin your preparations well in advance of the scheduled exam date to allow yourself time to remember material, as well as access additional support from your classroom teacher leading up to the exam.

### **Materials Required**

Scientific calculator, textbook (Inquiry into Chemistry), notebook, pens/paper, highlighter, Laptop

### Expectations

- Students and parents are to monitor progress on PowerSchool consistently throughout the semester. It is the responsibility of the student to follow up with the teacher regarding any concerns, and if the matter is not resolved, then parents are invited to schedule a meeting to discuss the concern further.
- Technological devices are valuable learning tools and are to be used for learning purposes only. The use of technology for inappropriate purposes (social media, games, videos, etc.) will not be tolerated. **Students are reminded that taking photographs/videos in a classroom is strictly prohibited. Cellphones are to be placed in the bottom of your bag during class unless specifically asked to utilize them for learning purposes**
- No distracting food (noisy or smelly), and drinks only in spill proof containers in the chemistry classroom. Absolutely no food or drinks during labs, even water bottles.
- Assignments, labs and projects are due at the beginning of class.
- In the case of absence:
  - For planned absences, please email me the details of your absence and we will discuss the material that will be covered during that time and the resources available to you outside of class
  - For unplanned absences: check the course calendar online and/or communicate with a reliable classmate throughout your absence to find out what was missed. Upon return, speak with a teacher to create timelines to submit work/complete an assessment that was missed.

**THE BEST WAY TO STUDY CHEMISTRY IS BY WORKING THROUGH PRACTICE PROBLEMS! DO NOT SIMPLY READ THE TEXTBOOK TO PREPARE FOR QUIZZES, TESTS AND THE FINAL EXAM!**

### *Something to Ponder....*

#### Self-Responsibility

- 1) I am responsible for my choices and actions
- 2) I am responsible for the way I prioritize my time
- 3) I am responsible for the level of consciousness I bring to my work
- 4) I am responsible for the care or lack of care with which I treat my body
- 5) I am responsible for being in the relationships I choose to enter or remain in
- 6) I am responsible for the way I treat other people
- 7) I am responsible for the meaning I give or fail to give to my existence
- 8) I am responsible for my happiness
- 9) I am responsible for my life – physically, emotionally, intellectually, and spiritually
- 10) I am responsible for my own education.

**Let's have a great semester!!!**

# Remember to **RISE**

## **R**esponsibility

- At all times, you are responsible for your own effort and attitude and how you interact with others. Always treat classmates, staff, and our learning space with respect.

## **I**ntegrity

- Be someone who is worthy of trust and admiration.
- Work submitted as your own must be created entirely by you.
- Credit others where credit is due: this includes citing information used in your work and also crediting and thanking those who help you on your way.

## **S**trength

- One of the best ways to learn is to fail. Embrace this, learn, and try again.
- This building is full of caring people. Seek help and support when you need it – from friends, teachers, and counsellors.
- Understand that we all experience stress and problems. How we deal with them and overcome them demonstrates strength in our character.

## **E**xcellence

- Excellence can never be achieved without a foundation of responsibility, integrity, and strength.
- Excellence is PERSONAL excellence. Your personal excellence may look very different than another person's. Set realistic goals and strive to meet them.