New Westminster Schools

New Westminster Online Learning School

Chemistry 12:

Course Description

Chemistry 12 begins with reactions, reversible reactions, and the concept of dynamic equilibrium. This understanding (Units 1&2) forms the framework for the study of three branches of chemistry: Solution Chemistry, the Chemistry of Acids, Bases, and Salts, and finally Electrochemistry. Chemistry 11 is a prerequisite for this course.

Course Expectations

Students are expected to complete Unit 1 within 2 weeks of enrolling, to log in and make progress each week, to finish the course within a 4–5-month period of time and to communicate with their teacher when they have questions or if they need additional time. They are expected to submit their own work, to cite sources when using the work of others and to follow the instructions for the use of assistive technologies for each assessment.

Enduring Understanding/Big Ideas

Students will focus on the following:

- Reactants must collide to react, and the reaction rate is dependent on the surrounding conditions.
- Dynamic equilibrium can be shifted by changes to the surrounding conditions.
- Saturated solutions are systems in equilibrium.
- Acid or base strength depends on the degree of ion dissociation.
- Oxidation and reduction are complementary processes that involve the gain or loss of electrons.

Specific Learning Outcomes

Curriculum details can be found at:
https://curriculum.gov.bc.ca/curriculum/science/12/chemistry

Course Content

Unit 1	Reaction Kinetics
Unit 2	Equilibrium
Unit 3	Solution Chemistry

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Unit 4	Acids, Bases, and Salts
Unit 5	Electrochemistry

Student Learning Activities and Strategies

All materials, lessons, and assessments are online and use a combination of text, short videos, interactive animations, links to websites, and practice questions and exercises to help students understand the concepts. Now, while all the materials are online, it will still be important for students to keep an organized binder with notes taken from text and video lessons, handouts they might want to print, as well as their work for questions and exercises.

Assessment

Student understanding is assessed through assignments, quizzes, conversations with the teacher and unit tests. Quizzes provide a way to check understanding and get feedback and help from the teacher. Most assessments are completed from home, but **students are required to write two tests at a supervised location**.

Evaluation

The final mark is determined by the progress made in understanding key concepts and ideas, and on the skills as demonstrated on research and investigation assignments (~40%) and on unit tests (~60%) throughout the course.

Resources

All materials are online, which means access to reliable high-speed internet is essential, and that students use a laptop, desktop, or Chromebook. No textbook or workbook is required.

A scientific (not graphing) calculator is required.