

PEACE RIVER SCHOOL DIVISION

VIRTUAL EDUCATION PROGRAM

"Learning Together - Success for All"



CHEMISTRY 20

Course Outline

2021-2022 | Semester 1

Teacher: Mr. S. Butte

I. Course Overview

Chemistry 20 is an exciting five-credit course that explores and extends many of the fundamental Chemistry concepts that were introduced in Science 10. All of the knowledge and skills obtained in this course will be required for later success in Chemistry 30. In the first unit, students revisit the diversity of matter and extend their knowledge of ionic and molecular bonding through modeling. The second and third units address the properties and behaviours of gases and solutions with an emphasis on quantitative descriptions. Measurement in the laboratory environment and solution preparation will also be emphasized. The final unit involves the prediction of products from balanced chemical reactions and stoichiometric quantitative analysis.

II. Key Messages/Expectations

Virtual Education is an exciting opportunity for PRSD students. Regular attendance and productive engagement in course material is an expectation and requirement for success in this course, both during synchronous and asynchronous instruction and learning activities.

Course content is organized into both teacher-directed and student-directed learning activities. Successful students will employ effective time management strategies to complete all activities on time.

Students are expected to demonstrate appropriate online and in-person behaviour in accordance with PRSD Board Policies and Administrative Procedures. By default, teachers will require students to have their cameras on during class time and require students to respond to questions or participate in discussions with their microphone. There will be times when teachers may allow students to turn their cameras off.

III. Scope and Sequence

Unit A: The Diversity of Matter and Chemical Bonding

1. describe the role of modelling, evidence and theory in explaining and understanding the structure, chemical bonding and properties of ionic compounds
2. describe the role of modelling, evidence and theory in explaining and understanding the structure, chemical bonding and properties of molecular substances

20% of time
September
Text. Ch. 3

Unit B: Forms of Matter: Gases

1. explain molecular behaviour, using models of the gaseous state of matter

20% of time
October
Text. Ch. 4

Unit C: Matter as Solutions, Acids, and Bases

1. investigate solutions, describing their physical and chemical properties
2. describe acidic and basic solutions qualitatively and quantitatively

30% of time
November
Text. Ch. 5-6

Unit D: Quantitative Relationships in Chemical Change

1. explain how balanced chemical equations indicate the quantitative relationships between reactants and products involved in chemical changes
2. use stoichiometry in quantitative analysis

30% of time
Dec.-Jan.
Text. Ch. 7-8

(Alberta Education Program of Studies)

IV. Instruction and Assessment

A variety of instructional and formative and summative assessment strategies will be used throughout this course, including through the use of both technology and traditional pencil-and-paper. Summative assessments will be used to determine course grades which can be accessed through PowerSchool.

The course will be evaluated over the term as follows:

Total Unit Weight	Gradebook Category	Gradebook Weighting
Unit A 15%	Unit A Assignments	6%
	Unit A Quizzes	3%
	Unit A Exam	6%
Unit B 15%	Unit B Assignments	6%
	Unit B Quizzes	3%
	Unit B Exam	6%
Unit C 20%	Unit C Assignments	8%
	Unit C Quizzes	4%
	Unit C Exam	8%
Unit D 20%	Unit D Assignments	8%
	Unit D Quizzes	4%
	Unit D Exam	8%
Final Exam	Final Exam	30%

V. Resources

The required textbook for Chemistry 20 is *Nelson Chemistry 20-30*. A digital version of the textbook may be available. A student-owned scientific or graphing calculator is also required.

Students require access to reliable high speed internet that supports Google Meets. Students require a compatible device, usually a Chromebook, with a working webcam to access and participate in the course. Students require a working headset that includes a microphone and headphones.