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Physical Science 20 Course Outline

Cindy Cantelon – Watrous Winston School

Course Description

- This course combines chemistry and physics in an integrated manner to investigate concepts related to heating and cooling, the foundations of chemistry, including the mole and quantitative analysis of molecules and chemical reactions, and the characteristics and properties of waves. An overarching theme is the study of the enterprise of public and private science as it occurs in agriculture, industry, and universities to help students better understand various physical science related career paths. Student inquiry will guide independent investigations of physical science phenomena.
 - Students are expected to have completed Science 10 or Science 11.
 - *(From the SK Physical Science 20 curriculum.)*
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Mark Summary

Welcome/Review

Assignments//

Unit Total 2%

Foundations of Chemistry

Assignments 9% // Exam 18% //

Unit Total 27%

Heat:

Assignments 6% // Exam 12% //

Unit Total 18%

Properties of Waves

Assignments, etc. 9% // Exam 18% //

Unit Total 27%

Student-Directed Study

Unit Total 3%

Career Exploration:

Unit Total 3%

Final Exam: Worth 20% of final grade.

Keep in Touch

- Please don't hesitate to contact with me with any questions or concerns throughout the year!
 - Email: cindy.cantelon@horizonsd.ca • Call: School (306)946 -3309 Cell (306) 540 4448
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Other information

- There is no specified textbook for this course. Notes, readings, etc. will be assigned and posted when they are required.
- Evaluation and/or assessment for each assignment will be explained within the assignment. These assignments will include quizzes, tests, practice questions, online activities, etc.

Course Overview

Unit 0 – Review

- Significant figures, measurement, conversions, etc.
- Periodic table and its properties
- Ionic and covalent compounds
- Chemical equations and balancing equations

Unit 1 – Foundations of Chemistry

- Predicting products of chemical reactions
- Complete combustion compared/contrasted to incomplete combustion.
- Impact of chemical reactions on society and the environment
- Avogadro's number
- Molar mass
- Conversions between molar mass, mole, concentration, volume, etc.
- Yield calculations and calculations to predict outcomes of reactions
- Limiting and excess reagents

Unit 2 – Heat

- Heat vs. temperature
- Specific heat capacity
- State changes
- Endothermic vs. Exothermic reactions

Unit 3 – Waves

- Properties of waves
- Types of waves
- Law of Reflection, types of reflection, mirrors
- Refraction and Snell's Law