



Course Curriculum Outline

HS Science

Course Name: Introduction to Physics and Chemistry

Grade Level(s): 9

Course Description: Introduction to Physics and Chemistry is the study of matter and the changes matter undergoes. Chemistry and physics affect all aspects of life and most natural events because all living and nonliving things are made of matter. Instructional activities place a heavy emphasis on student autonomy, inquiry-based learning, and hands on experiences. Students should be expected to think critically, conduct laboratory investigations, and demonstrate their understanding through a variety of methods, including, but not limited to, quizzes, tests, research projects, models, and labs

Wisconsin State Standards

Next Generation Science Standards

Learning Priority (Essential Standard)	Major Topics or Essential Questions
Develop and use models to illustrate a scientific concept	Lab Safety & Equipment -Measurements -Dimensional Analysis/Scientific Notation -Metric and Temp Conversions -Graphing
Communicate scientific ideas accurately	Classification of Matter -Properties of Matter -States of Matter -Bohr Models
Plan and conduct investigations of scientific principles	Atomic Theory -Isotopes -Periodic Table -Atomic Calculations
Construct and revise explanations based on evidence to illustrate	Bonding -Ionic Bonds/Covalent Bonds -Writing Chemical Formulas/Naming Chemicals -Classifying Reactions -Balancing Reactions
Use mathematical and	Describing Motion/Distance & Displacement



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computational representations to support scientific explanations	-Speed & Velocity -D-v-T Graphs -Acceleration -Motion Calculations & Graphing
Evaluate and construct an argument based on evidence of past and current scientific practices	- Kinetic & Potential Energy -Energy Conversions -Laws of Energy -Thermal Energy -Work & Power
Analyze real world challenges and design solutions	- Electric Charge & Current -Circuits -Magnets -Behaviors of Waves -Electromagnetic Spectrum

Textbook/Other Resources Used:

Various On-line and Web-Based Sources

Laboratory Equipment

Model Building Materials

Textbook: Wysession, Frank and Yancopoulos. Physical Science. Massachusetts: Pearson 2011