

UNIT 1: PROPERTIES OF MATTER

PART I: CHEMISTRY

4 weeks: August 24, 2009-September 25, 2009

Georgia Performance Standards:

- S8P1a: Distinguish between atoms and molecules.
S8P1b: Describe the difference between pure substances (elements and compounds) and mixtures.
S8P1f: Recognize that there are more than 100 elements and some have similar properties as shown on the Periodic Table of the Elements.
S8P1g: Identify and demonstrate the Law of Conservation of Matter.
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Essential Questions/Skills:

- Identify the parts of an atom.
 - Explain the meaning of atomic mass and atomic number.
 - Identify what makes an isotope.
 - Describe the relationship between elements and the Periodic Table.
 - Contrast metals, metalloids, and nonmetals.
 - Identify how electrons are arranged in an atom.
 - Compare the relative amount of energy of electrons in an atom.
 - Compare how the arrangement of electrons in an atom is related to its place in the Periodic Table.
 - Identify the characteristics of a compound.
 - Compare and contrast ionic and covalent bonds.
 - Distinguish between compounds and molecules.
 - Interpret chemical shorthand.
 - Determine whether a chemical reaction is occurring.
 - Determine how to read and understand a balanced chemical equation.
 - Examine some reactions that release energy and others that absorb energy.
 - Explain the Law of Conservation of Mass.
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Enduring Understandings:

- Matter can neither be created nor destroyed but can be changed from one form to another.
 - Compounds are made of two or more kinds of atoms held together chemically (bonded)
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Textbook:

Chapter 3: Section 1, Section 2	Atoms, Elements, & Periodic Table
Chapter 6: Section 1, Section 2	Atomic Structure & Chemical Bonds
Chapter 7: Section 1	Chemical Reactions

Websites:

Chem4Kids:

http://www.chem4kids.com/files/elem_intro.html

Jefferson Lab:

http://www.chem4kids.com/files/elem_intro.html

Atoms, Elements, and the Periodic Table:

<http://imnh.isu.edu/DIGITALATLAS/GEO/basics/chem.htm>

CHEMystery:

<http://library.thinkquest.org/3659/structures/>

Atomic Structure and Ionic Bonding:

http://www.wisc-online.com/objects/index_tj.asp?objID=GCH2204

Chem4Kids:

http://www.chem4kids.com/files/react_intro.html

NeoK12:

<http://www.neok12.com/Chemical-Reactions.htm>

Vocabulary:

Matter	Atom	Law of Conservation of Matter	Electron
Nucleus	Proton	Neutron	Element
Atomic Number	Isotope	Mass number	Atomic mass
Electron cloud	Energy level	Electron dot diagram	Chemical bond
Ion	Ionic bond	Compound	Metallic bond
Chemical formula	Covalent bond	Molecule	

Quiz:

Friday, September 4, 2009

Unit Test:

Friday, September 18, 2009
