Unit 1 Review

Areas on the Multiple Choice Portion of Test (*20 Questions, 40 Points*)

Development of the Atom

Matching and/or Multiple Choice Questions

Democritus – Atoms are Matter (*smallest thing in universe*)
Alchemists – One element to another (*salts to gold*)
Dalton – Four properties of matter
Greeks – States of Matter (*solids, liquids, gases*)
Thomson – Electrons / Plum Pudding Model
Rutherford – Protons and Nucleus / Gold Foil Experiment (*nucleus*)
Bohr – Circular Paths for electrons (*orbits, orbitals, energy levels*)
Chadwick – Neutrons in nucleus, Modern Atom (*electron clouds*)

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Unit 1 Review

Areas on the Multiple Choice Portion of Test (*20 Questions, 40 Points*)

Parts of the Atoms / Periodic Table

Matching and/or Multiple Choice Questions

Location, Roles, and Charges of Subatomic Particles (p^+, e^-, n^o)

 Protons (p^+) Identify the Atom as an Element (*Atomic Number*)
 Electrons (e^-) Communicate and Bond with other Atoms
 Neutrons (n^o) Stabilize Atom (*electron/proton shielding*)

Bohr's Model and Electron Cloud Model

 Orbits, Orbitals, Energy Levels, Electron Clouds

Inner vs Valence (*bonding*) electrons
Proton/Electron/Neutron Interactions (*Attract/Repel/Shield*)

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Unit 1 Review

Areas on the Multiple Choice Portion of Test (*20 Questions, 40 Points*)

Parts of the Atoms / Periodic Table

Matching and/or Multiple Choice Questions

Periodic Table Development

Döbereiner Triads – Groups of three similar elements / properties
Newlands Octaves – Groups of 8 elements with repeated properties
Mendeleev's Table – Periodic Table grouped by atomic mass
Modern Table – Periodic Table grouped by atomic number

Basic Structure (*groups, periods*)

Groups – Up and Down Columns
Periods – Left to Right Rows

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Unit 1 Review

Areas on the Multiple Choice Portion of Test (*20 Questions, 40 Points*)

Nuclear Atom

Matching and/or Multiple Choice Questions

Z-Ratio (n^o/p^+ *ratio*) and atomic stability

Small – 1.0 – 1.2   Medium 1.2 – 1.3   Large – 1.3 – 1.5

Reasons for Nuclear Decay (*alpha, beta -, and beta +*)

Alpha; Too Big, Beta (-); Too Many n^o, Beta (+); Too Few n^o

Nuclear Decay Chains (*End Result = Stabile Isotope*)

Half-Life and Nuclear Stability (*Half-Life = Time for 50% particles to decay*)

Shorter HL, Lower Stability, Longer HL, More Stability

Fission, Fusion, Nuclear Power and Nuclear Weapons

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