**Test Date:** Friday 12/9/16

**Point Value:** 100 points (assessments)

**Resources:** Periodic table (w/ charges, groups, valence electrons, and covalent bonding prefixes)

**Physical Science Study Guide**

**Chapter 4 Test: The Structure of Matter**

* **4.1: Compounds and Molecules**
	+ **Vocabulary**
		- Chemical bond
		- Chemical structure
		- Bond length
		- Bond angle
	+ **Objectives**
		- Distinguish between compounds and mixtures
		- Relate the chemical formula of a compound to the relative numbers of atoms or ions present in the compound
		- Use models to visualize a compound’s chemical structure
		- Describe how the chemical structure of a compound affects its properties
* **4.2: Ionic and Covalent Properties**
	+ **Vocabulary**
		- Ionic bond
		- Metallic bond
		- Covalent bond
	+ **Objectives**
		- Explain why atoms sometimes join to form bonds
		- Explain why some atoms transfer their valence electrons to form ionic bonds, while other atoms share valence electrons to form covalent bonds
		- Differentiate between ionic, covalent, and metallic bond in terms of composition and what is happening with valence electrons
		- Compare the properties of substances with different types of bonds properties including relative melting point, ability to conduct electricity as a solid , and ability to conduct electricity when dissolved in water
* **4.3: Compound Names and Formulas**
	+ **Vocabulary**
		- Ion
		- Covalent compound
		- Ionic compound
	+ **Objectives**
		- Distinguish between ionic and covalent compounds when given the name or formula of a compound
		- Name and write formulas for monoatomic ions
		- Name and write formulas for simple binary ionic compounds
		- Name and write formulas for binary covalent compounds
* **4.4: Organic and Biochemical Compounds**
	+ **Vocabulary**
		- Monomer
		- Polymer
	+ **Objectives**
		- Relate the chemical structure of a polymer (ex: cross-linked chains of monomers) to its properties (ex: elasticity)
		- List 3 examples of synthetic polymers
		- List 3 examples of naturally occurring polymers