**Ch. 1 Review Assignment – Key**

#4a-c, 5a-c, 7, 9, 10, 11, 17, 19, 21ab, 24, 25, 29

**4**. a. physical

b. organic

c. biochemical

**5**. a. applied research

b. basic research

c. technological development

**7**. The proportions of elements in a pure compound are fixed.

9. Extensive properties depend on the amount of matter that is present. Intensive properties do not.

**11**. A physical change does not involve a change in a substance’s identify; a chemical change converts one substance into other substances.

**17**. Metals (at the left and center of table) are good conductors. Nonmetals (at right of table) tend to be poor conductors. Metalloids (between metals and nonmetals) are intermediate in properties and are semiconductors. Noble gases (at extreme right) are generally unreative.

**19**. a. potassium, metal

b. silver, metal

c. silicon, metalloid

d. sodium, metal

e. mercury, metal

f. helium, noble gas

**21**. a. 14, 2

b. 18, 3

**24**. a. physical, because the wood remains wood

b. chemical, because the milk changes composition, as signified by the change in flavor

c. physical, because the butter remains butter

**25**. Example…a molecule is the smallest unit of a substance that keeps all the physical and chemical properties of that substance. An element is composed of molecules that can be single atoms or can be more than one of the some kind of atom. A compound is composed of two or more elements, so a molecules of a compound is made up of two or more different kinds of atoms.

**29**. a. Breaking an egg is a physical change because the chemical nature of the egg has not been affected.

b. Cooking an egg is a chemical change because the chemical properties of the egg are changed by the transfer of energy as heat.