Name: Answer Key Hour: ____

Chapter 3 Review Questions

(Honors Chemistry)

Chemical & Physical Properties

1. How is physical change different from chemical change?
   Physical: Change in state or appearance
   Chemical: Change in composition
2. Compare physical properties and chemical properties. Physical: color, texture, state
   Chemical: ability to react
3. Give examples of physical properties.
   Color, texture, melting point
4. Give examples of chemical properties.
   Burning, rusting, Bubbling, rotting
5. When can filtration be used to separate a mixture?
   undissolved materials
6. When can distillation be used to separate a mixture?
   Dissolved materials
7. Compare extensive and intensive properties. Ex: size or mass of like substances
   In: composition of different substances
8. Compare the products and reactants in a chemical equation
   Reactant → Products
9. What is the difference between vapor and gas?
   Vapor is a gas that was produced when a liquid is heated
10. Compare pure and impure substance. Pure: Same through out
    Impure: Combining pure substances
11. Classify each of the following as a chemical or physical change:
    a. Grape juice turns into wine Chemical
    b. Wood burns to ashes Chemical
    c. Water begins to boil and release water vapor physical
    d. A broken leg mends itself Chemical
    e. Grass grows Chemical
    f. An infant gains 10 pounds Chemical
    g. Melting of butter physical
    h. Smashing rock salt with a hammer physical
    i. Dissolving of salt in water physical
    j. Rusting of iron Chemical
    k. Evaporating water physical

Elements, Compounds, & Mixtures

Classify the following as an element, compound, heterogeneous mixture, or homogeneous mixture:

a. Milk *(87% water, 4% fat, 5% sugars, 4% calcium, protein and other minerals)*
Heterogeneous mixture

b. Steel *(Hint: is there an element called steel)*
Homo mixture

c. Salt Water *(Salt dissolved in water)*
Homo mixture

d. Distilled Water (H_2O) Compound

e. Sodium element

f. Blood *(White blood cells, Red blood cells, water, Platelets)*
Homo mixture

g. Sulfur element

h. Beach sand *(Hint: is beach sand uniform?)*
Heterogeneous mix

i. Sugar ($C_{12}H_{22}O_{11}$) Compound

j. Sulfur mixed with iron (Fe + S) Hetero mix

k. Air ($N_2 + O_2 + Ar + H_2 + CO_2$) Homo mix

l. Juice *(water, sugar, minerals, flavoring)* Homo mix

m. Oil and Water Hetero mix

n. Sand and Salt (Sand + NaCl) Hetero mix

o. Carbon Dioxide (CO_2) Compound

p. Gold element

q. Ammonia (NH_3) compound