Name _____ Date _____ Class _____

SECTION 2.2 MIXTURES

1. How might you separate a mixture of water and salt?
2. What is a homogeneous mixture?
3. Which of the following mixtures are homogeneous? Which are heterogeneous?
   a. gasoline b. chunky peanut butter c. oil and vinegar salad dressing
4. Which of the following are substances? Which are mixtures?
   a. ethanol b. motor oil c. vinegar d. neon

SECTION 2.3 ELEMENTS AND COMPOUNDS

1. What elements make up ammonia, chemical formula NH_3?
2. Name the elements represented by the following chemical symbols.
   a. Pb b. K c. Au d. Fe
3. Classify the following as elements, compounds, or mixtures.
   a. table salt b. water c. iron d. stainless steel
4. Write the chemical symbol for each of the following elements.
   a. tin b. sodium c. silver d. carbon
5. A liquid is allowed to evaporate and leaves no residue. Can you determine whether it was an element, a compound, or a mixture?
6. Which of the following is not an element?
   a. copper b. sulfur c. sucrose d. helium

SECTION 2.4 CHEMICAL REACTIONS

1. Which one of the following is a chemical change?
   a. Gasoline boils.
   b. Oxygen is added to gasoline.
   c. Gasoline burns.
   d. Gasoline is poured into a tank.
2. Classify each of the following changes as physical or chemical.
   a. A puddle is dried by the sun.
   b. A dark cloth is faded by sunlight.
   c. Bread is toasted.
   d. Soap is mixed with water.
3. Carbon dioxide plus water yields carbonic acid.
   a. Name the product(s) of this reaction.
   b. Name the reactant(s) of this reaction.
4. If 44 grams of carbon dioxide react completely with 18 grams of water, what is the mass of carbonic acid formed?
5. In an engine, octane combines with oxygen to form carbon dioxide and water. If 22.8 grams of octane combine completely with 80 grams of oxygen to form 70.4 grams of carbon dioxide, what mass of water is formed?
6. What is the name of the chemical law on which problems 4 and 5 are based?

© Pearson Education, Inc., publishing as Pearson Prentice Hall. All rights reserved.