Chapter 1 Section Review Answer Key

(Note: Solutions to Problems 8 - 12 in Section Review 2 can be found in the Book Answer Key)

Assignments:

- Section Review questions 1-14 on page 9
- Section Review questions 1-14 on page 19
- Section Review questions 1-14 on page 28

Section Review 1 Assignment

1. Student answers vary - must give examples.
2. Student answers vary - must give examples.
3. milk = liquid; helium = gas; granite = solid; oxygen = gas; steel = solid; gasoline = liquid
4. In a solid, the particles are confined in a rigid structure and vibrate in place. In a liquid, the particles are close together and must slide past one another. In a gas, the particles move randomly and freely.
5. A physical change is reversible, while a chemical change is not.
6. Student answers may vary but must give examples of physical changes (see page 7 of the textbook for other examples.)
7. Student answers may vary but must give examples of chemical changes (see page 8 of the textbook for other examples.)
8. limestone (reactant) lime (product) carbon dioxide (product)
9. sodium salicylate (product) carbon dioxide (reactant) sodium phenoxide (reactant)
10. evolution of a gas, formation of a precipitate, release or absorption of energy, color change
11. In a solid, the particles are confined in a rigid structure while particles in liquids and gases do not.
12. Physical
13. no change in mass - an example would be ice melting to water
14.
    a. Beaker A and B both have gas formation and the change in water level
    b. Answers will vary, but must be supported.

Section Review 2 Assignment

1. mass and volume
2. mass is the quantity of matter, while weight is the force of gravity acting on mass
3. mass per volume
4. meter
5. Physical properties can be determined without changing the nature of the substance, while chemical properties can only be identified by trying to cause a chemical change. Student examples will vary.
6. Density can be measured without causing a change in the nature of teh substance.

7. 1.00 in/2.54 cm
8. See second page of the textbook answer key.
9. See second page of the textbook answer key.
10. See second page of the textbook answer key.
11. See second page of the textbook answer key.
12. See second page of the textbook answer key.
13. Both grams and kilograms may be used to measure mass and cm3 and liters may be used to measure volume.
14. That it was almost completely efficient.

Section Review 3 Assignment

1. elements and compounds
2. A compound is a pure substance composed of more than one kind of element.
3. An element is made up of only one type of atom, while a compound has more than one type of atom.
4. Molecules are made up of atoms.
5. Two
6. Mixtures can vary in composition and properties
7. a. compound; b. element; c. compound; d. homogeneous mixture; e. compound; f. heterogeneous mixture
8. In homogeneous mixtures there is uniformity throughout, while heterogeneous mixtures are not evenly mixed.
9. Mono means one - a compound requires at least two.
10. Answers will vary - must include an explanation.
11. Answers will vary - must include an explanation.
12. Weighing it and use the mass measurement to determine the density.
13. Answers will vary - must include an explanation.
14. C + O_2 (homogeneous mixture); CO (compound); CO_2 (compound); Co (element)