

Concept Review

2-1

Section: Classifying Matter

1. **Classify** the following as a homogeneous, *O*, or a heterogeneous, *E*, mixture.

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|-----------------------------------|--------------------------|
| _____ a. a pail of sand and water | _____ d. banana split |
| _____ b. air | _____ e. chocolate syrup |
| _____ c. human blood | _____ f. seawater |

2. **Compare and contrast** atoms and molecules.

3. **Explain** the difference between a pure substance and a homogeneous mixture.

4. **Classify** each of the following as *E*, an element, or *C*, a compound.

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|-------------------------------|------------------------------|
| _____ a. benzene, C_6H_6 | _____ d. titanium, Ti |
| _____ b. aluminum, Al | _____ e. acetylene, C_2H_2 |
| _____ c. aspirin, $C_9H_8O_4$ | _____ f. zinc, Zn |

5. **Explain** why elements and compounds are pure substances while a homogeneous mixture is not.

6. **Determine** which of the following are pure substances, *S*, and which are mixtures, *M*.

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|---------------------------------------|--------------------------|
| _____ a. salt water | _____ d. ammonia, NH_3 |
| _____ b. isopropyl alcohol, C_3H_8O | _____ e. an egg yolk |
| _____ c. mercury, Hg | _____ f. honey |

7. **Explain** why carbon and copper are classified as elements.

Assessment

Quiz

2-1

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In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.

- ____ 1. The smallest unit of an element that maintains the properties of that element is a(n)
 a. molecule. c. substance.
 b. atom. d. compound.

- ____ 2. Solids, liquids, and gases are three forms of matter that
 a. take up space. c. are made of atoms.
 b. have mass. d. All of the above

- ____ 3. How many atoms are in a single molecule of Fe_2O_3 ?
 a. 2 c. 5
 b. 3 d. 6

- ____ 4. Which of the following is *not* a pure substance?
 a. element c. compound
 b. molecule d. mixture

- ____ 5. Which of the following is an element?
 a. salt c. nylon
 b. iron d. sand

- ____ 6. A group of atoms that acts as a unit is called a(n)
 a. mixture. c. element.
 b. molecule. d. compound.

In the space provided, write the letter of the term or phrase that best matches each description.

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|---|----------------|
| ____ 7. H_2O | a. table sugar |
| ____ 8. Cu | b. water |
| ____ 9. $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ | c. rust |
| ____ 10. Fe_2O_3 | d. copper |