

# Concept Review

## Section: What Is Matter?

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

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

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 an element or a compound.

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

5. **Explain** why elements and compounds are pure substances.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

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