**Classifying Matter** (p. 45 – 50)

**I. What Is Matter?**

**1. Define the term matter.**

Matter –

**2. What is the study of chemistry?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3. What do chemists study?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4. List the three categories for classifying matter.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**II. Elements**

**1. Define the term element.**

Element –

**2. An \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the smallest unit of an element that keeps an element’s chemical**

**properties.**

**3. Each element is made up of one kind of atom.**

Circle One : True False

**4. How are elements represented on the periodic table of elements?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**5. On the periodic table (p. 148 - 149), identify elements that are gases at room temperature.**

a. carbon

b. oxygen

c. mercury

d. nitrogen

**6. Define the term molecule.**

Molecule –

**7. List four examples of elemental molecules.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**III. Compounds**

**1. Define the term compound.**

Compound –

**2. List four examples of compounds.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3. Elements combine in the same proportions to make a specific compound.**

Circle One : True False

**4. Explain how compounds have different properties than individual elements of compounds.**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**5. What does a chemical formula indicate?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**6. How many of each element is in the compound glucose (C6H12O6)?**

Carbon (C) = \_\_\_\_\_\_\_\_\_\_ Hydrogen (H) = \_\_\_\_\_\_\_\_\_\_ Oxygen (O) = \_\_\_\_\_\_\_\_\_\_

**IV. Pure Substances & Mixtures**

**1. Define the term pure substance.**

Pure Substance –

**2. Why is a mixture not considered a pure substance?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3. List an example of a pure substance and mixture.**

1. Pure Substance = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. Mixture = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4. Match the type of mixture with the correct definition.**

1. \_\_\_\_\_ - Heterogeneous A. Contains two or more substances blended evenly together

2. \_\_\_\_\_ - Homogeneous B. Different materials can be distinguished easily

**5. Give two examples of each type of mixture.**

Heterogeneous Mixture Homogeneous Mixture

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**6. Gases and liquids can combine into a mixture.**

Circle One : True False