**Composition of Matter:**

1. What is matter?
2. What are the two categories of matter?

Substances can be divided into to categories. Elements and Compounds.

1. Element:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Atom: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Compound: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Molecule: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Atoms are the smallest forms of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Molecules are the smallest forms of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. *The same* atoms combine to form \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. *Different* atoms combine to form \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. Elements combine to form \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. What is the difference between a molecule and a compound then?
11. How do you write an element symbol? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. How do you write a compound symbol? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. When I write out H2O (water), what does the 2 tell us? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. Compounds have unique properties, and chemical formulas represent compounds.
    1. The following chemical formula represents the compound for carbon dioxide:
    2. The following chemical formula represents the compound for methane gas (the stuff I lit on fire last week):
15. Can a physical process separate an element or a compound?

Mixtures: We have two types of mixtures:

1. What is the difference between a pure substance and a mixture?
2. Mixture \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Can mixtures be separated physically?
4. **Heterogeneous mixture***:*substances \_\_\_\_\_\_\_\_\_\_ mixed uniformly and are \_\_\_\_\_\_\_\_\_\_ distributed.
   1. Give me 2 examples of a heterogeneous mixture:
5. **Homogeneous mixture***:* substances are \_\_\_\_\_\_\_ distributed, and the mixture is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
   1. Give me 2 examples of a homogeneous mixture:

Recap:

1. How do you separate a mixture?
2. Can all mixtures be separated this way?
3. How do you separate a compound?
4. Can all compounds be separated this way?