**Unit 2 Practice - Worksheet 1 Name \_\_\_\_\_\_\_\_\_\_\_\_\_ P. \_\_\_\_\_**

**Elements, Compounds, and Mixtures**

|  |  |  |
| --- | --- | --- |
| **Element** | **Compound** | **Mixture** |
| 1.2.3. | 1.2.3. | 1.2.3. |
| **3 Examples:**  | **3 Examples:** | **3 Examples:** |

**Classification of Matter Flow Chart**





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**Unit 2 Worksheet 2 – Element, Compound, and Mixture Name \_\_\_\_\_\_\_\_\_\_\_\_**

1. Identify the separation techniques pictured below. Which technique would be useful to separate a mixture of sand and salt? Of salt and water?



2. Explain why the technique at left would not be effective in separating a mixture of salt and sugar.

3. Draw particle representations for the following:

|  |  |
| --- | --- |
| **A mixture of iron and sulfur** | **A compound of iron and sulfur** |
|  |  |

4. Explain why a magnet can separate iron atoms from the mixture but not from the compound.

**Identifying Elements, Compounds, and Mixtures**

5. A mixture (**is/ is not**) a chemical combining of substances.

6. In a compound the (**atoms/ molecules**) are (**chemically/ physically**) combined so that the elements that make up the compound (**retain/ lose**) their identities and (**do/ do not**) take on a new set of properties.

7. **True or False:** A mixture is always made up of a combination of elements.

8. In a mixture, the substances (**lose/ retain**) their identities.

9. In a mixture the substances involved (**can/ cannot**) be separated by a simple physical process.

10. In a compound the elements involved (**can/ cannot**) be separated by a simple physical process because the elements are (**physically combined/ chemically bonded**).

11. **True or False:** An element can be broken down into a simpler substance.

12. The smallest identifiable unit of an element is a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_.

13. Consider the four containers below.



 a. Which of these are mixtures? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pure substances? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b. Which contain only compounds?**\_\_\_\_\_\_\_\_\_\_\_\_\_\_** only elements **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

14. Consider the four containers below.



 a. Which of these are mixtures? **\_\_\_\_\_\_\_\_\_\_\_\_\_** pure substances? **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 b. Which contain only compounds? **\_\_\_\_\_\_\_\_\_\_\_\_\_\_** only elements **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

15. Consider the four containers below.



 a. Which of these are mixtures? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pure substances? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b. Which contain only compounds? **\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  only elements **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

16. Which of the containers in #15 contain a gas? **\_\_\_\_\_\_\_\_\_\_\_** a liquid **\_\_\_\_\_\_\_\_\_\_** a solid \_\_\_\_\_\_\_\_\_