

## Chemistry Worksheet: Matter #1

1. A mixture (**is/is not**) a chemical combining of substances.
2. 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.
3. The smallest identifiable unit of a compound is a(n) \_\_\_\_\_, which is made up of \_\_\_\_\_ which are chemically bonded.
4. True or False: A mixture is always made up of a combination of elements.
5. In a mixture, the substances (**lose/retain**) their identities.
6. In a mixture the substances involved (**can/cannot**) be separated by a simple physical process.  
In a compound the elements involved (**can/cannot**) be separated by a simple physical process because the elements are (**physically combined/chemically bonded**).
7. True or False: An element can be broken down into a simpler substance.
8. The smallest identifiable unit of an element is a(n) \_\_\_\_\_.
9. From the following list of substances, circle the ones that are elements:

silver	carbon dioxide	wood alcohol	chromium
water	hydrogen	carbon	nitrogen
oxygen	gold	sugar	salt
air	sulfur	magnesium	nickel
10. Explain how to separate the sugar and water in a solution of sugar and water.
11. How would you separate a mixture of alcohol and water?
12. How would you separate sand and water?

13. Classify the following as pure substances or as mixtures:

air	gasoline	grain alcohol
water	sugar	gold
mercury	oxygen	salt water

14. Classify the following as heterogeneous or as homogeneous:

sand & salt mixture	hydrogen	iron
salt water	unfiltered air	iron with rust
pure water	an apple	nitric acid
tossed salad	granite	wood

15. Classify the following as an element, a compound, a solution, or a heterogeneous mixture:

aluminum	raisin bread
carbon dioxide	water
sugar and water	sulfur
sulfuric acid	mercury
an orange	water & instant coffee
a pencil	carbon particles & sugar
nitrogen	air
gasoline	grain alcohol