**Physical and Chemical Change Worksheet**

*True or False. If false, correct the underlined portion of the statement so that it is true.*

1. A physical change is a change of matter from one form to another without a change in chemical properties.

**TRUE**

2. A physical change is a change that occurs when a substance changes composition by forming one or more new substances.

**FALSE-CHEMICAL CHANGE**

3. Color change is evidence that a chemical change may have occurred.

**TRUE**

4. Fizzing or foaming is evidence that a chemical change may have occurred.

**TRUE**

5. Production of light is evidence that a physical change may have occurred.

**FALSE- CHEMICAL CHANGE**

6. Production of heat or light is evidence that a chemical change may have occurred.

**TRUE**

7. A change in odor is evidence that a physical change may have occurred.

**FALSE- CHEMICAL CHANGE**

8. Chemical changes can be reversed by physical changes**.**

**FALSE- CHEMICAL CHANGES CANNOT BE REVERSED**

**Identify each of the following as either a Physical change (P) or a chemical change (C).**

1. You **cut** your hair. **P**
2. Making a peanut, pretzel and cereal **mixture**. **P**
3. Baking soda **reacts** with vinegar and forms a gas. **C**
4. A piece of metal is **bent** in half. **P**
5. An aspirin is **crushed** into fine powder. **P**
6. Copper **turns green** when exposed to the environment. **C**
7. Two clear liquids are mixed and a yellow **color forms**. **C**
8. **Baking** cookies. **C**
9. Diamonds are used to **scratch** glass. **P**
10. A tree **burns** to form ashes. **C**
11. A piece of paper is **crumpled** up. **P**
12. Water **freezes** to form ice. **P**
13. Food **spoiling**. **C**
14. A candle **burning**. **C**
15. A candle **melting**. **P**

**A Thought Experiment**

A sealed flask of a clear, colorless liquid is left sitting on an interior sunny windowsill. After about an hour, there are droplets of a clear liquid on the glass above the solution, which has turned yellow. After two hours, the solution is dark brown with clear, colorless droplets of liquid on the glass. After sitting on the windowsill for a week, the walls of the flask have a silvery lining and both the solution and the droplets are clear and colorless.

6. Which of the following is not an indication that a chemical reaction has occurred?

**(a) formation of liquid droplets above the solution**

(b) the solution color changing from clear to yellow

(c) the solution color changing from brown to clear

(d) formation of a silvery metallic foil on the walls of the flask

7. The formation of the silvery lining is an example of which of the following indicators of chemical change?

(a) evolution of a gas

(b) distinct color change

**(c) precipitate formation**

(d) temperature change

1. *(Short answer)* There is only one reaction taking place in the flask. What is one possible reason for all of the color changes?

***The reaction is taking place over time (in stages) as the temperature changes due to location and duration****.*

1. *(Short answer)* An observant chemistry student is enjoying a glass of iced tea during lunch (not in the lab!), and she notices that the color of her drink changes as the ice in the glass melts. Is a chemical reaction occurring? Why or why not?

***No, a physical change is occurring as the tea is separating from the water. This is happening as the ice in the glass is melting. Change of state is a physical change.***