**Gold Penny Lab**

**NAME\_\_\_\_\_\_\_\_\_\_\_\_**

**LAB STATION\_\_\_\_\_\_**

**Objective:** 1.  Turn a penny to silver.

                   2.  Turn a penny to gold.

**Equipment:** 1. Evaporating dish 1. Bunsen burner 1. Beaker 1.  Pair of tongs

1. Glass stirring rod

**Materials:** Pennies (Cu), 3M Sodium Hydroxide (NaOH), and Zinc (Zn)

**Safety:** 1.  Wear safety goggles.

             2.  Sodium hydroxide is extremely corrosive. Wash off immediately.

             3.  Use caution with Bunsen burners and hot plates.

**Procedure:**

1)      Clean penny with steel wool if needed.

2)      Mix 0.5 g of zinc and 25 ml sodium hydroxide in a clean evaporating dish.

3)      Gently heat evaporating dish on a hot plate.

4)      DO NOT BOIL.

5)      Immerse a penny in your heated mixture until it is coated in “silver.”

6)      Use tongs to remove the penny and dip into a beaker of water.

7)      Examine your penny. If you have a good coating of “silver”, **Show your coin to the teacher. Tape your SILVER Penny at the top of this paper.**

**GET A NEW PENNY**

Immerse a penny in your heated mixture until it is coated in “silver.”

6)      Use tongs to remove the penny and dip into a beaker of water.

7)      Examine your penny. If you have a good coating of “silver”

8)      Holding silver penny on the edges with tongs, place over the tip of the blue flame in the Bunsen burner.  When the color changes from silver to gold quickly plunge into your beaker with water.

9)  **Show your”GOLD” coin to the teacher.** TAPE it to the top of this paper.

10)  Feel free to experiment and make more coins if you have time. Use caution.

11)  **Wipe up your area.**  Leave chemicals out and hot plates on for the next class.

**Questions:**

1)      What is the element that gives the penny its silver color?

2)      What is the temperature that will melt zinc?

3)   What is an alloy?

4)   What is the alloy called which is a combination of zinc and copper?

5)    What is the alloy called which is a combination of copper and tin?

6)    Why do we make alloys?