**Penny Lab Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Background Information:**

Electroplating is the process of placing one metal over another and is usually done to protect the metal it is covering. You are going to be doing a simplified form of electroplating in this lab using simple materials that can be found in any home.

**Materials:**

50 mL of white vinegar 2 plastic or paper cups Clock/timer
5 mL of Salt Plastic spoon or wooden stir stick
2 metal paper clips 5 pennies Short piece of String

**Procedures:**

**Part 1**

1. Pour 50 mL of white vinegar and 5 mL of table salt into one of the cups and stir until all salt dissolved.
2. Place the pennies into vinegar/salt solution for five minutes.
3. While the pennies are sitting in the vinegar/salt solution, tie the piece of string to the paper clips
4. Label the empty cup with your group members’ names or a team name.
5. After the pennies have set in the solution for 5 minutes pour the liquid (no pennies) into a second cup.
6. Lay the pennies out on a paper towel to dry off.
7. Place the paper clips in the solution and leave the string hanging over the side of the cup. Make sure the paper clip is completely submerged into the solution.
8. Place this cup in the designated spot in the classroom to sit overnight.
9. Rinse off your pennies, the first cup you used, and the spoon. Wipe down your lab table. Return supplies to the designated area.

**Observations Part 1 (Take notes, these will go in your results section of your lab report)**

* 1. What did the pennies look like after drying off on the paper towel (before rinsing them off)?
	2. Did you notice anything happening to the paper clips right away once you placed them in the

solution?

**Part 2 – Day 2 Procedure**

1. Bring your cup back to your lab table.
2. Remove the paper clips from the water and begin making observations.
3. Once your observations are complete, throw away the paper clip and rinse out and return the cup. Wash your hands.

**Observations Part 2 (This will also go in your results section of your lab report)**

1. Describe what the paper clips looked like after sitting overnight in the vinegar/salt solution.

**Conclusion (answer in your lab report)**

1. Was your hypothesis correct? Explain why or why not.
2. In this reaction, the copper is coming off of the penny and is bonding with the paperclip. What type of reaction is this similar too?

1. Was there anything that went wrong during your experiment? And is there anything that could be done to improve the lab (like use more paper clips, pennies, or something like that?).