***Preparation of “Gold” Pennies***

**Procedure:** You will be working in groups, each group will use the same beaker containing the zinc and zinc chloride, but everyone can make their own pennies.

1. Place approximately 1 gram of granular zinc in a 150 mL beaker on a hot plate.
2. Add enough 1M zinc chloride solution to cover the zinc metal and heat to a gentle boil.
3. Add a penny and simmer until the penny becomes silvery. Stir it occasionally.
4. Use tongs to remove the penny from the beaker and rinse it with water (dropping it in a beaker of clean tap water works well).
5. Using a pair of forceps, GENTLY heat the penny on a hot plate until it turns gold. Flip the penny back and forth while heating. *You can ruin your penny by overheating it!*
6. Drop the penny in the beaker of rinse water. Remove the penny from the beaker and dry.

**Questions:**

1. What metal made the penny appear silvery?
2. What made the penny appear gold in color?
3. If the penny is heated too strongly it changes back to a copper color. Suggest a reason for this.