

LESSON

2

DEMO

A Penny for Your Thoughts

Introduction to Chemistry

Name _____

Date _____ Period _____



Purpose

To observe a chemical transformation firsthand.

Materials and Safety

1. What equipment is used in the demonstration?

2. In the table, briefly describe your observations of each chemical used in the demonstration. The first one has been done for you.

Chemical	Observation
penny	shiny, reddish-brown, cylinder-shaped solid
zinc	
3 M sodium hydroxide	
water	

3. Safety is extremely important in the chemistry lab. In the space below, write three important safety considerations for this demonstration.

1.	
2.	
3.	

Procedure and Observations

In the table, record your observations for each step of the procedure. Step 1 has been completed for you.

Procedure	Observations
1. Place the beaker with zinc and sodium hydroxide on a hot plate and set the hot plate to 190. If the liquid begins to boil, turn down the hot plate a little.	Zinc covers the bottom of the beaker. The sodium hydroxide is a clear colorless liquid that fills the beaker about halfway. During heating, there is a slightly putrid odor and bubbles form.
2. Use tongs to place the penny in the heated beaker. After a few minutes, remove the penny with tongs.	
3. Put the hot penny in the beaker of cold water to cool and rinse it. Remove the other beaker from the hot plate and turn it up to 300.	
4. Use tongs to place the penny on the hot plate. When the penny has changed color, use the tongs to place it in the beaker of cold water to cool again.	

Analysis

Working with the students at your table, spend a few minutes discussing descriptions of what you observed during the experiment. Then answer the questions individually.

- Describe what happened to the penny during the experiment.
- What do you think turned the penny silver?
- What do you think turned the penny gold?
- Making Sense** Do you think you made real gold? Why or why not? How could you find out?