

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 4. 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.	
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.

4. Describe what happened to the penny during the experiment.

5. What do you think turned the penny silver?

6. What do you think turned the penny gold?

7. **Making Sense** Do you think you made real gold? Why or why not? How could you find out?

LESSON
3
ACTIVITY

What's the Matter?

Defining Matter

Name _____

Date _____ Period _____

→ Go to Google Classroom + Go through LESSON 3 Notes w/ your partners

Purpose

To decide what is and what isn't matter and to define matter.

ACTIVITY → **Questions**

1. Discuss the items listed with your group. Decide which things in the list are matter. Use the table to divide the items into three categories.

batteries	heat	electricity	fear	dust
DNA	helium	bacteria	wind	atoms
sound	clouds	car exhaust	wisdom	fire

Matter	Unsure	Not matter

2. In your group, discuss the common properties, or characteristics, of the items in the matter category. Below, create a list of those properties that apply to *all* items that are matter.
3. In your group, examine your list of properties. Use them to write a definition of matter.
4. **Making Sense** Pick one of the items you consider to be "not matter." Explain why you believe that item is not matter by showing how it doesn't fit your definition of matter.
5. **If You Finish Early** Some of the items on the list, such as wind, can be categorized as the movement of matter. List some other things that describe the movement of matter.

Discussion Notes: In Your Notebook

Homework: Read pages 7-8 + answer questions 1+2
pages 9-12 answer questions 1-6