

## Lesson 8: Why is the Statue of Liberty Green?

### Activity 8.2

#### Purpose

In this activity we will construct a molecular model of the reaction we witnessed between the penny and the vinegar.

#### Instructions

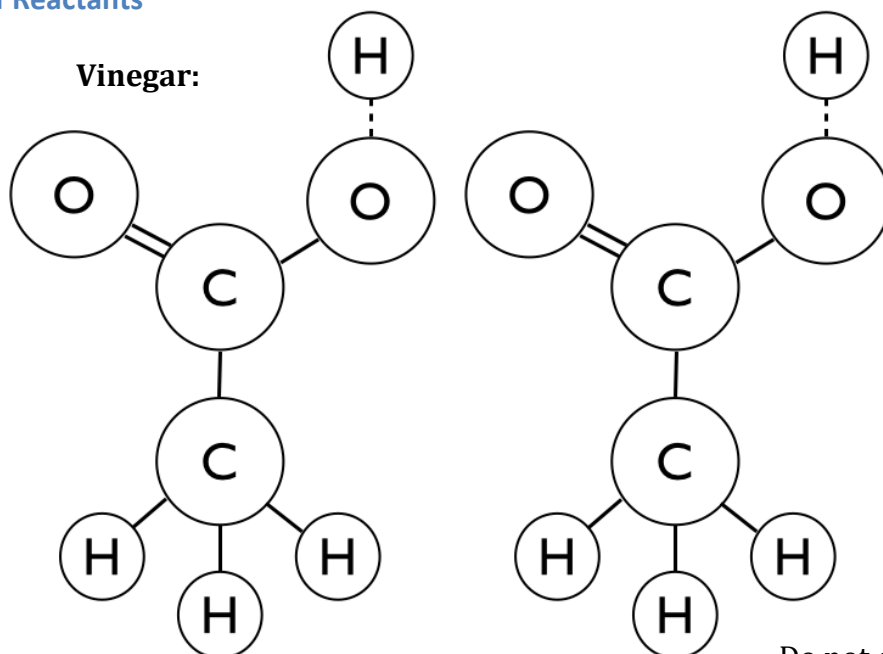
1. Locate the page labeled “Parts for Constructing the Products”
2. Cut out each **molecule** from the page.
3. Cut off only the Hydrogen atoms that are connected to the vinegar molecule by a dotted line. Glue the remaining portion of the molecule to the page where it is labeled “Model of Products”.
4. Cut out Copper atoms and join them to this part of the vinegar molecule where the hydrogen atom used to be. Label this new molecule copper acetate. ( $\text{CuCH}_3\text{COO}$ )
5. Join the two hydrogen atoms into one molecule of hydrogen gas. Label this molecule hydrogen gas. ( $\text{H}_2$ )
6. Compare the model you started with to the model you created. These two models form the **model equation**.
7. Use the model equation to help you construct a **word equation**.
8. Use the word equation, model equation and the following formulas to create a **chemical equation**.

- |                  |                           |
|------------------|---------------------------|
| • Copper         | $\text{Cu}$               |
| • Acetic Acid    | $\text{CH}_3\text{COOH}$  |
| • Copper Acetate | $\text{CuCH}_3\text{COO}$ |
| • Hydrogen       | $\text{H}_2$              |

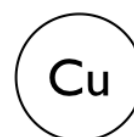
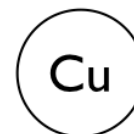
#### Your Progress:

- Mastery
- Proficient
- Developing
- Beginning

### Model of Reactants



**Copper:**



Do not cut the atoms out from this page.

### Model of Products

### Word Equation

\_\_\_\_\_ + \_\_\_\_\_ → \_\_\_\_\_ + \_\_\_\_\_  
(Reactants) (Products)

### Chemical Equation

\_\_\_\_\_ + \_\_\_\_\_ → \_\_\_\_\_ + \_\_\_\_\_  
(Reactants) (Products)

## Parts for Constructing the Products

Cut apart these pieces according to the instructions and glue them back down on the previous page where it says "Model of Products."

