



Name _____

Date _____ Class _____

1. Copper Sulfate contains three elements. Its formula is CuSO_4 . The suffix *-ate* tells us that it contains Oxygen (O). What are the other two elements and their atomic symbols?

_____ and _____

2. The roofing nail is made of metal that has the chemical symbol Zn. What is this metal?

3. Record the colors of the chemicals here:

CuSO_4 : _____ Zn: _____

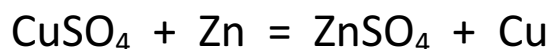
4. Dissolve 1 teaspoon of copper sulfate powder into 150mL of water in a beaker. Drop in the nail. Make observations of the nail and the solution after 1 minute, 15 minutes, and 24 hours.

a. One minute: _____

b. 15 minutes: _____

c. 24 hours: _____

5. This is called a **replacement lab**. The Copper sulfate is now Zinc sulfate. Zinc sulfate is green. The Zinc in the nail has replaced the copper. The brownish material in the beaker is not rust; it is pure copper. The zinc and the copper have traded places. Here is the formula for this reaction:



Copper sulfate + Zinc = Zinc sulfate + copper

blue gray green brown