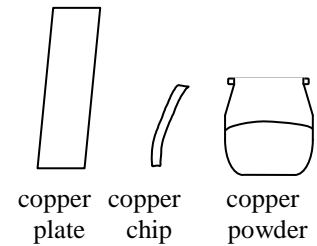


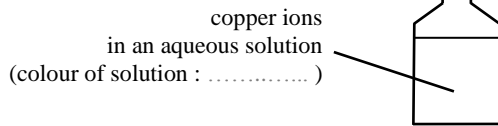
LAB WORK 2 CONSERVATION OF CHEMICAL ELEMENT COPPER

1. Presentation of copper metal and solution containing copper ions

Copper metal: copper is a reddish metal. It is malleable, ductile, and an extremely good conductor of both heat and electricity. It is softer than iron but harder than zinc and can be polished to a bright finish. In moist air it slowly forms a greenish surface film called patina; this coating protects the metal from further attack. Typical of this is the colour of the Copper Statue of Liberty in New York. In the chemistry lab, copper is available in many forms including plates, chips and powder.



Solution containing copper ions:



2. From copper metal to _____.

Under the fume hood!

CAUTION: do not breathe the gas which is released.

at the end, the teacher adds distilled water

Observations:

concentrated nitric acid

3. From copper ions to _____.

concentrated sodium hydroxide solution
(enough to neutralize the acidity)

blue solution obtained previously

NOTE: Concentrated acids or bases are highly **corrosive** and can cause severe burns to exposed skin, eyes, and lungs.

Observations:

4. From copper hydroxide to _____.

CAUTION: hot liquid may be ejected
(wear safety goggles)

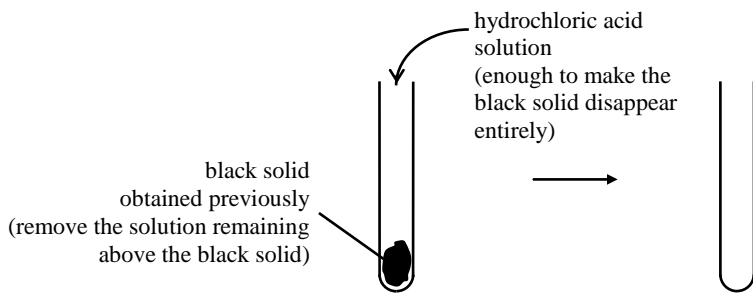
do not point the opening of the test tube toward a person

Observations:

precipitate obtained previously

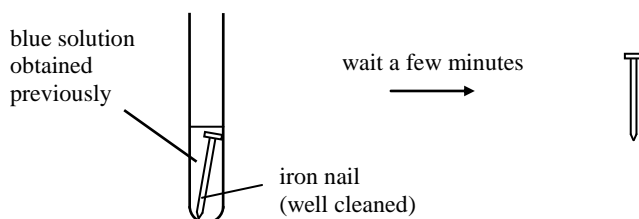
Remove most of the solution around the precipitate and heat until the solid has become entirely black.

5. From copper oxide to _____ .



Observations:

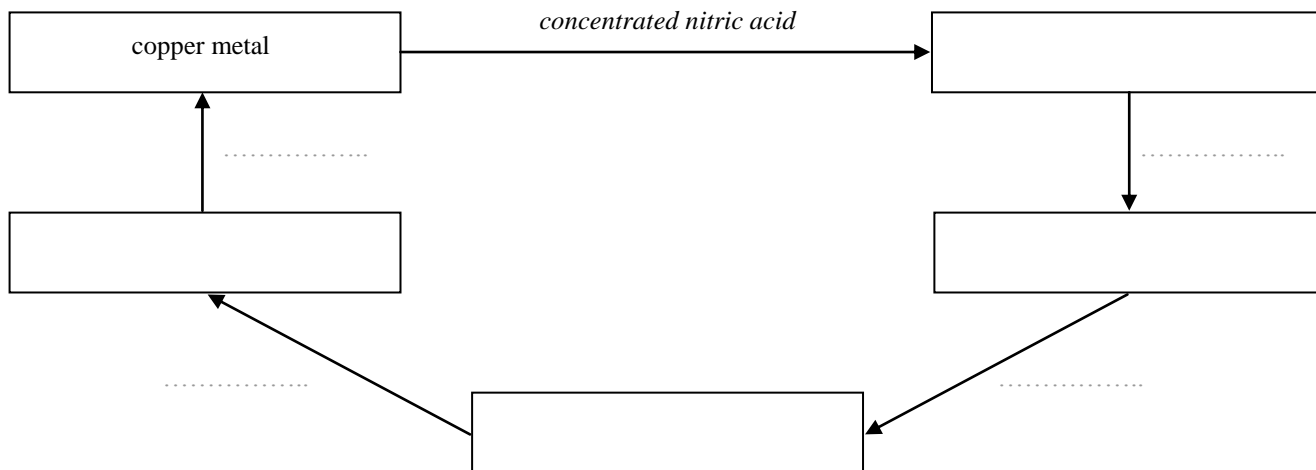
6. From copper ions to _____ .



Observations:

7. Conclusion

Copper cycle: (complete the diagram after each experiment)



Starting from copper metal, a sequence of chemical have been carried out, leading to again.

Therefore, the “copper” had not disappeared: during the different chemical transformations, there has been of the **chemical element**

It appeared under different forms, combined or not to other chemical elements:

name	chemical formula	appearance
copper metal		
copper ion		
copper hydroxide		
copper oxide		

CHEMICAL ELEMENTS ARE **DURING CHEMICAL**