

Chemical Change Lab -- CONCLUSION.

1. What part of the atom was most involved in the changes observed in the lab?
2. How was heat involved in this lab? Cite two specific instances from this experiment to support your answer.
3. Identify 2 elements used in this lab.
4. Identify 4 compounds used in this lab.
5. Give two examples of solutions that were in this lab.
6. What was the color of most of the solutions in the lab?
7. What ion(element) do you think was responsible for the color?
8. What color was the colloid that formed in the lab?
9. What color was the suspension that formed in the lab?
10. In this lab there were five chemical reactions. On the back side of this sheet, use the information in the procedure to write word equations for these five reactions. (See the back side)
11. In the last step of the experiment, where is the aluminum chloride? How could you recover it?

1. Have your instructor put a piece of copper_(s) into some concentrated nitric acid_(aq) in a 250 ml beaker. USE THE HOOD

- The products of this reaction are copper(II) nitrate_(aq), nitrogen dioxide_(g) and water_(l)

OBSERVATION: _____

The product that reacts in the next equation is copper (II) nitrate. The NO₂ was the brown gas that came out of your bottles, and the water just stays inactive in the bottle.

2. Place the 250 ml beaker into an ice bath in a 1 liter plastic beaker. While stirring, slowly add 6 M sodium hydroxide_(aq) to the copper (II) nitrate_(aq) solution until the pH is above 7. • The products of this reaction are copper(II) hydroxide_(s) and sodium nitrate_(aq).

OBSERVATION: _____

The product that reacts in the next reaction is copper (II) hydroxide.

3. Add 100 ml of water to your 250 ml beaker and heat the mixture in the water bath until a notable color change occurs.

- The product of this reaction is copper(II) oxide_(s) and water_(l). Sodium nitrate was not a part of this reaction.

OBSERVATION: _____

The product that reacts in the next reaction is copper (II) oxide

4. Remove the beaker from the hot water bath and decant the clear liquid. Add HCl_(aq) until the color has completely changed.

- The products of this reaction are copper(II) chloride_(aq) and water_(l).

OBSERVATION: _____

The product that reacts in the next reaction is copper (II) chloride

5. Place a role of Al_(s) foil into the beaker until the color changes again.

- The products of this reaction are aluminum chloride and copper. The Al reacts with the copper(II) chloride_(aq). One of the products is aluminum chloride. What is the other?

OBSERVATION: _____

Word Equations:

1. _____

2. _____

3. _____

4. _____

5. _____