

Name: _____

Period: _____

Endothermic or Exothermic?

Purpose: To study the production of heat energy during a chemical reaction.

Materials: No. 0000 steel wool
sodium chloride
3% hydrogen peroxide
activated carbon, finely ground
water
measuring spoons
small ziplock bags

Procedure:

1. Place a 2" square or round cotton pad on the work place
2. Flatten a piece of steel wool about the same size as the cotton pad and place it on top of the cotton pad.
3. Add one teaspoon of salt (NaCl) to the steel wool pad, then add a quarter teaspoon of finely ground activated carbon onto the steel wool.
4. Place the other cotton pad on top. Squeeze the layers together to make a "sandwich."
5. Place the "sandwich" of cotton pad, steel wool, and carbon plus salt into a small plastic bag.
6. Add about two teaspoons of room temperature water to the pads.
7. Knead the "sandwich" through the bag, gently so the ingredients are not lost but come into contact well.
8. After about two minutes open the bag, add one teaspoon of 3% hydrogen peroxide.
9. Knead the "sandwich" through the bag, gently.
10. Dispose of bag and contents in the garbage can. Be sure the bag is still closed.

Questions:

1. Did the temperature change? How could you tell?

2. If the temperature changed, how (did it go up or down)?

3. How did the appearance of the material change?

4. Was the reaction endothermic or exothermic?
