

Name _____ Date _____

Elements, Mixtures, and Compounds

Purpose: To observe physical and chemical properties of elements, mixtures, and compounds

Procedure:

1. Measure 3 grams of sulfur on the weighing dish. (**Remember the dish has weight**)
2. Using a hand lens, observe the color of the sulfur and size and shape of the particles. Record this data on the chart.
3. Place the magnet underneath the dish. Observe to see if the magnet has any effect (**DO NOT STICK MAGNET DIRECTLY INTO SULFUR.**)
4. Measure 5 grams of iron powder on the weighing dish.
5. Repeat step 2 (**hands lens**) for the iron and record.
6. Repeat step 3 (magnet) for the iron and record. (**DO NOT STICK MAGNET DIRECTLY INTO IRON.**)
7. Mix iron and sulfur together in a weighing dish.
8. Observe with a hands lens and record.
9. Place a magnet beneath the dish and record observations. (**DO NOT STICK THE MAGNET DIRECTLY INTO THE MIXTURE!**)
10. Place the iron/sulfur mixture, carefully, into a test tube.
11. Use a test tube clamp to hold the mixture over a flame for 5 minutes. (**CAUTION: POINT THE MOUTH OF THE TUBE AWAY FROM PEOPLE!**)
12. Place the test tube into a beaker of water. (**Use caution, the test tube WILL Break!**)
13. Examine the substance formed in the tube as in steps 2 and 3 and record.

Physical Properties	Sulfur	Iron	Before Heating	After Heating
Color				
Shape of Particles				
Size of Particles				
Effect of Magnet				

Questions for Analysis

**ANSWER EACH QUESTION IN A COMPLETE SENTENCE. DOES EACH ONE OF YOUR ANSWERS QUALIFY?
PROOF YOUR WORK BEFORE YOU TURN IT IN.**

1. Compare the properties of sulfur to the properties of sulfur in the unheated mixture and the heated compound. (Compare column #1 with column #3 and #4.)
2. Compare the properties of iron to the properties of iron in the unheated mixture and the heated compound. (Compare column #2 with column #3 and column #4.)
3. What kind of mixture was the substance before heating?
4. What kind of substance was the combination after heating? Be specific in explaining.
5. Write the symbols and charges for the ions. Then write the formula and name of compound.
6. What is a chemical reaction? What caused the chemical reaction to occur?