

Copper Lab

Purpose: The purpose of this lab is to investigate the chemical properties of copper, an element used in coins, art, wires and other industrial purposes.

Safety:

- Safety goggles must be worn at all times.
- Do not touch a hot crucible with your hand - use the tongs.
- A hot crucible is very fragile - handle with care!

Materials:

Crucible

Spatula

Tongs

1 g copper powder

Hot plate

Procedure:

- Find the mass of your clean, dry crucible
- Add 1 gram of powdered copper to the crucible and record the mass
- Record any observable properties of the copper powder
- Set the crucible on a hot plate with the lid slightly ajar
- Heat the crucible for two minutes
- Remove from heat and use your spatula to break up the solid to expose as much of the copper as possible
- Continue heating the crucible for the next 10 minutes
- Break up the solid every 2 minutes
- Turn off the hot plate and allow your crucible to cool down to room temperature
- Find the mass of the crucible and copper powder
- Discard your copper product in the containers provided by your teacher

Data:

	Observations	Mass of Crucible (g)	Mass of Crucible and Powder (g)	Mass of Powder (g)
Before Heating				
After Heating				

Analysis Questions:

1. Describe the changes you observed while heating the copper.
2. Did the copper atoms remain in the crucible? Explain.
3. Were the changes you observed chemical or physical changes? Explain.
4. How did the mass of the crucible contents change after you heated the copper?
5. Explain how this happened.