Some of the samples used in Mineralogy Lab are museum specimens. Please do not destroy or heist them. You can do just about anything you want to the grungy ones, but be nice to the pretty specimens as they are irreplaceable.

Ore Minerals

A. ORE MINERALS

First, fill in the table below:

mineral	**ore of what metal?**	**formula**	**what mineral group does it belong to? (e.g., oxide, silicate, hydroxides, sulfide, et.**
copper			
graphite			
sulfur			
sphalerite			
chalcopyrite			
pyrite			
bornite			
galena			
pyrrhotite			
molybdenite			
cinnabar			
covellite			
chalcocite			
arsenopyrite			
stibnite			
opriment			
realgar			
rutile			
hematite			

B. Boxes of Rockses

There are several trays containing all of the ore minerals. Examine the different minerals and varieties and record their **physical properties, chemical composition, habit, occurrence, economic value and use** in your lab notebook and answer the following questions.

1. Why do many ore minerals display brilliant colors? Why do many others have a metallic luster? (Put on your thinking caps!)

2. How does the density of most of these minerals compare to the minerals we've looked at in previous labs? Why are they different? Explain

3. In general, are these minerals transparent, translucent, or opaque? Why? Explain.

4. Most of these minerals are very uncommon except when found in ore deposits. Why do you suppose that is? Explain.

5. What properties are most useful in identifying the ore minerals?

C. Famous Digs

For each of the following famous ore deposits answer these questions:
1. Where is it?
2. What is mined there? (That is, what makes money? Diamonds, gold, platinum, copper, or ???)
3. What minerals contain the element/gem of value?
4. What kind of ore deposit is it? (e.g., hydrothermal, placer, cumulate, etc.)

<u>Bushveldt Complex</u>

Stillwater Complex

Kimberly Mine

Sutters Mill

Kidd Creek

Morenci Mine

Sudbury