

Supplement to Lab 1 Handout

Reading through the lab handout, I realized that some aspects were unclear. Hopefully this will clear them up.

What to do, specifically

Before you arrive in lab

1. Read those parts of the text that are relevant to the portion of the lab on which you will become an “expert” (i.e., A, B, C, or D).
2. Individually (i.e., not as part of your group), come in outside of class and study the labeled reference samples for your section of the lab, and on scratch paper write answers for the questions with arrows in your section of the lab for all the unknown samples (they have labels without mineral names, such as “A3” or “C6”).

During the lab session

3. Meet with your “expert group” and:
 - a. Discuss any questions that came up in your individual study.
 - b. Come to consensus on the answers to the arrowed questions.
 - c. Discuss teaching methods for the next part of the lab.
4. Divide into lab teams numbered 1-6. Dave will tell you how.
5. Rotate as lab teams through the four stations A-D as follows:

Rotation:	A	B	C	D
I.	1	2,3	4	5,6
II.	3,4	5	1,6	2
III.	6	1,4	2,5	3
IV.	2,5	6	3	1,4

6. At each station:
 - a. The expert demonstrates the principles on the reference samples.
 - b. The other members of the team examine the reference samples and perform the relevant tests/observations on them.
 - c. The team confirms the expert consensus on the unknowns.

After the lab session

7. Follow the instructions for part E of the lab individually.

What to turn in

Each lab team will turn in a single report for parts A-D. Be sure all four names are on it. Each individual will turn in a page for part E.

Note that, as stated in the lab handout, there will be a quiz on these topics, and each lab team will get a single quiz score (by averaging the four individual scores).

Notes for specific stations/topics

Part A.

1. Unknowns A1-A6 are for the luster & streak question.
2. Unknowns A6-A11 are for the reflectance question.

Part B.

1. Obsidian is not a true mineral, but it shows conchoidal fracture nicely.
2. We don't have good examples of many fracture types; conchoidal is the most common. Metals show hackly fracture. Splintery/fibrous fracture is not really fracture; rather it is disaggregation of many intergrown crystals, such as asbestiform or acicular minerals (see Klein, p.22).
3. Unknowns B1-B9 are for the “quality of cleavage/fracture” question.
4. Unknowns B10-B23 are for the “number/angle of cleavage directions” question.

Part C.

1. No big scratches on the unknowns – make tiny scratches! If possible, try to scratch the known with the unknown rather than gouging the unknown with the known.
2. No carving the talc/gypsum samples!

Part D.

1. Sample D8 is not for the “heft” question; it is for the specific gravity demonstration.