Re: Extra Credit Opportunity for Physical Geology Lab - Minerals

Argabright, Tatiana Estelle <argabrightt2@mailbox.winthrop.edu>

Sat 9/3/2016 2:00 PM

To:Quarles, William A. <quarlesw@winthrop.edu>;

1. The best way to tell the difference between quartz and calcite is to apply a drop of dilute HCl to each specimen. The Calcite will "fizz" because the chemical makeup of Calcite contains Carbonate, which reacts with the acid. Quartz will not react with the acid.

2. The best way to tell the difference between quartz and feldspar is to look at the fracture and cleavage of the two specimens. Quartz will break into conchoidal fractures, and lacks cleavage. Feldspar contains two cleavage directions.

3. The best way to tell the difference between muscovite and biotite is actually color. Biotite tends to be distinctly darker than muscovite.

4. Cleavage describes how certain minerals will break along specific planes. This is caused by weak chemical bonds within the layers of the crystal. These weak bonds cause the mineral to break along distinctive layers.

5. Color is not an ideal property to identify silicate minerals because these minerals are abundant in a variety of colors, each simply a variation of quartz

6. Olivine, pyroxene, amphibole, biotite, plagioclase, orhoclase, muscovite, quartz.

- Tatiana Estelle Argabright

On Sat, Sep 3, 2016 at 9:01 AM, Quarles, William A. <quarlesw@winthrop.edu> wrote:

> For up to 2 points (20% of 10 points, so it is not insignificant), reply to this email (be sure you reply only to me) with **your** answers to the following questions, **before** 5:30 P.M., Wednesday, September 7 (next lab, but for both Monday and Wednesday labs).
>
> Do your own work on this, that is, do not just cut and paste from an internet/digital source or from the digital version of the manual. Do not share or discuss with others, or blind copy your email to others. This is for you to learn and benefit from, not to help someone else's grades. We can do that during lab.
>
> For full credit, your answers must be in the form of a complete sentence with correct grammar, spelling, and punctuation, except for #6 which you can just list.
>
> I will email my answers to the group sometime between 5:31 and 6:00 P.M. on the due date, or present them during lab.
>
> Al Quarles
>
> 1. What is the best way to tell the difference between quartz and calcite? explain
> 2. What is the best way to tell the difference between quartz and feldspar? explain
> 3. What is the best way to tell the difference between muscovite and biotite? explain
> 4. Describe mineral cleavage.
> 5. Why is color not an ideal property to use for identifying silicate minerals?
> 6. Name the eight major igneous rock-forming silicate minerals (hint, see the Bowen's Reaction Series).