

Re: Extra Credit Opportunity for Physical Geology Lab - Minerals

Plaxco, Callie Elizabeth <plaxcoc2@mailbox.winthrop.edu>

Wed 9/7/2016 3:40 PM

Inbox

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

1. What is the best way to tell the difference between quartz and calcite? explain **Quartz and calcite vary in different ways. The best way to tell the difference between the two is through their cleavage. The cleavage of a mineral, is when the mineral breaks along a certain edge. Quartz does not have a cleavage, and calcite does. Calcite has three rhombohedral cleavages.**

2. What is the best way to tell the difference between quartz and feldspar? Explain **The best difference between quartz and feldspar is that feldspar is translucent to opaque black, meanwhile quartz is transparent, or slightly translucent.**

3. What is the best way to tell the difference between muscovite and biotite? explain

The best way to tell the difference between muscovite and biotite is the color variation. Biotite is black, or green-black, while muscovite is colorless, yellow, brown, or a red-brown.

4. Describe mineral cleavage.

Mineral cleavage happens when in the mineral there is a surface of weak chemical bonding. This causes there to be a break in the minerals surface. The break is along a flat, parallel surface of the mineral.

5. Why is color not an ideal property to use for identifying silicate minerals?

Although mineral color can be one of the most distinguishing properties, it doesn't work for all minerals. Silicate minerals can vary in color.

6. Name the eight major igneous rock-forming silicate minerals (hint, see the Bowen's Reaction Series).

1. Olivine

2. Pyroxene

3. Amphibole

4. Biotite

5. K-Feldspar

6. Muscovite

7. Quartz

8. Plagioclase

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

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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).