

Extra Credit Answers (Emily Gooley GEOL 113 001)

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Inbox

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1. What is the best way to tell the difference between quartz and calcite? Explain

The best way to tell the difference between quartz and calcite is by how they are classified. For example, quartz is a silicate mineral which is composed of pure silicon dioxide. Calcite, however, is a carbonate mineral which contain carbonate ions combined with other elements. Since carbonate minerals react with acid you could put acid on calcite to show it is a carbonate mineral. This would be the way to tell the difference between quartz and calcite

2. What is the best way to tell the difference between quartz and feldspar? explain

The best way to tell the difference between quartz and feldspar is what they are composed of. Both quartz and feldspar are silicate minerals, but, quartz are composed of pure silicon dioxide while feldspar is composed of silicon-oxygen and combined with other elements.

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 by hardness, cleavage and color. Biotite is a black mica that splits easily along one excellent cleavage into thin sheets. Muscovite is a white mica that splits down one excellent cleavage into thin flexible transparent sheets.

4. Describe mineral cleavage.

Mineral cleavage is defined as the tendency for some minerals to break along a flat, parallel surfaces. These surfaces are known as cleavage planes which are surfaces of weak chemical bonding between repeating, parallel layers of atoms in crystal.

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

Color is not an ideal property to use for identifying silicate minerals because minerals can be made up of many different colors and have similar varieties of minerals. Therefore, minerals cannot be identified solely on color. Other properties of minerals must be observed in order to identify these minerals.

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

Olivine

Pyroxene

Amphibole

Biotite

Plagioclase

Orthoclase

Muscovite

Quartz