

Name Key

1. Describe what information is gained from each type of geochemical test.

Fusibility – Measures the minerals melting point.

Flame test – Different minerals will emit unique or characteristic color when heated in a propane torch.

Thermoluminescence - The mineral fluorite will glow with gentle heating

Decrepitation – The violent noisy breaking up a mineral indicates that water is part of the chemical composition of the mineral.

2. Besides the tests listed in question #1 (above) list 3 other types of geochemical tests.

Pyroelectricity

Odor

Magnetism

Bead test

Reaction on charcoal.

3. Describe how conduct a flame test.

1. The unknown mineral is ground into a fine powder using a mortar and pestle or other means. Grind the mineral into a fine powder.
2. Obtain or make a tiny loop in a nichrome or platinum wire (available commercially). Clean the wire by dipping it in dilute HCl and then heating the wet loop in the propane flame. Repeat until the flame color is consistently the same color, ie, there is no change.
3. After cooling the wire loop, dip it in the HCl again, and then immediately dip the wet loop into the powdered mineral, allowing a small amount of sample to stick to it.
4. Insert the loop into the oxidizing flame of the propane torch.
5. Observe the color.