

Name: _____

GeoMeo: **Physical Properties of Minerals**

I. Luster

The terms *metallic* and *nonmetallic* broadly describe the basic types of luster, or the appearance of light reflected from a mineral. If the mineral appears to be made of metal or light reflected off gives an appearance of metal. If the mineral appears to be made of glass, wax or plastic it is considered to have a nonmetallic luster.

For each of the minerals listed below determine whether the luster is metallic or nonmetallic.

1. Galena _____
2. Biotite _____
3. Graphite _____
4. Hematite _____
5. Olivine _____
6. Halite _____
7. Pyrite _____
8. Quartz _____
9. Limonite _____
10. Magnetite _____

II. Streak

Streak is the color given when a mineral is rubbed on an unglazed porcelain plate called a streak plate. The streak of a mineral may be different from the color of the mineral. At times, you may think that a mineral is producing a white streak. Carefully inspect the streak plate. Is the mineral producing a white streak or is the mineral scratching the streak plate? The white powder may be coming from the porcelain plate. The streak of a mineral which can scratch a streak plate is said to be "none".

For each of the minerals listed below determine the color of the streak.

1. Graphite _____
2. Chalcopyrite _____
3. Limonite _____

4. Galena _____
5. Magnetite _____
6. Hematite _____
7. Pyrite _____
8. Sphalerite _____
9. Clear Quartz _____
10. Talc _____

III. Color

Color is one of the most obvious properties of a mineral. Color is the visual hue of a mineral. Some minerals are found in various hues, depending upon such things as variations in compositions and inclusions of impurities.

For each of the minerals listed below determine the color.

The mineral quartz may display a variety of colors. The following show color variations in crystals of the same mineral.

1. Colorless Quartz _____
2. Milky Quartz _____
3. Rose Quartz _____

Biotite and muscovite are very similar with color being their main difference.

4. Biotite _____
5. Muscovite _____

The mineral sulfur displays a bright yellow to a very pale yellow. Impurities within the mineral may cause sulfur to appear in a variety of colors.

6. Is the sample of sulfur provided pure? How do you know?

Pyrite is composed of iron and sulfur. Chalcopyrite is composed of copper, iron, and sulfur. Examine the color of pyrite and chalcopyrite.

7. Pyrite _____
8. Chalcopyrite _____

