

STREAK

Streak means the color of a mineral in its powdered form. The name comes from the common method of observing it by scraping the mineral on a tile of white, unglazed porcelain to produce a narrow streak of powder. Streak is a valuable property because its color is usually the same even when larger samples of many minerals show a variety of colors. Streak is often better for mineral identification than color.

Streak of metallic minerals

Streak is valuable for identification of many metallic minerals, including native metals (such as gold), oxides and sulfide. Almost all of these minerals have metallic or submetallic luster and are opaque. Their streak is often quite different from their color in a hand sample, generally darker.

Examples:

Hematite: Hematite can occur as black crystals, steel gray in the form known as *specularite*, and as dull red earthy masses. Its streak, however, is always blood red. By this simple test hematite can be known apart from other black, metallic minerals of similar appearance.

Pyrite: Pyrite comes in a brassy yellow color, but has a black or greenish-black streak. It is sometimes called “fool’s gold” because people mistook specks in ores for real gold. But native gold has a gold streak.

Chalcopyrite and marcasite are closely related to pyrite. They have paler brassy colors than pyrite, but also show dark streaks.

Bornite: Bornite is bronze color when fresh, but quickly tarnishes to blue and purple shades, and eventually turns black. Its streak, however, is always grayish black.

Streak of nonmetallic minerals

In contrast, most minerals with nonmetallic lusters are transparent or translucent, and have a streak paler than their color in hand-samples. The color usually seen in many of these minerals is determined more by impurities, sometimes making color a misleading guide to their identity. Streak is always the same, and so a better aid..

Calcite: Calcite occurs in a wide range of colors, including white, yellow, orange, brown, pink, blue, lavender, gray, green, and black, but it always shows a white or nearly white streak.

Testing for streak

Streak plates are often used in labs and classes to identify the color. But minerals harder than a streak plate, such as quartz, cannot be tested in this way because they scratch the plate. So you can also obtain mineral powders scratching with a knife or pin, grinding in a mortar and pestle, or pounding with a hammer. The latter is the only convenient method for obtaining streaks from minerals harder than a streak plate. The powder should be poured onto a sheet of white paper to determine the color of the streak.

Adapted from: “Streak” by Earl R. Verbeck, Sterling Hill Mining Museum, Ogdensburg, NJ, USA