

A **geologist** is a scientist who studies rocks and minerals. Geologists identify minerals by studying their characteristics. A **characteristic** is a special part of a mineral that is always the same.



The mineral gold has several characteristics. It is always gold-yellow in colour, has a metallic lustre, leaves a gold-yellow streak, and has a hardness rating of about 2.5.

The colour of a mineral is easy to see. But colour is not the best way to identify a mineral. Many minerals are found in more than one colour. For example, quartz can be clear, white, pink, yellow, brown, black, or purple. Another problem is that some minerals have similar colours. For example, amethyst and fluorite are both partly purple.



Geologists do tests to identify unknown minerals. One is called the lustre test. **Lustre** is the way that the surface of a mineral reflects light. Many minerals have a shiny lustre that looks like glass (“glassy”). Others have a shiny lustre that looks like metal (“metallic”). Some minerals look dull. Lustre is not the best test to identify a mineral. You might look at one mineral and think it’s pearly. But your friend might look at the same mineral and say it looks silky!

Lustre	Mineral examples
glassy	quartz, halite, calcite, sodalite
dull	bauxite, hematite, graphite
metallic	copper, galena, pyrite, nickel-iron
greasy	sulfur
pearly	talc, muscovite
silky	gypsum, actinolite

The **streak** test is another way to identify minerals. When you rub a mineral across a porcelain tile, tiny pieces of the mineral are rubbed off. This powder is left on the tile. You see it as a colour. Sometimes the powder is not the same colour as the mineral. Each mineral always leaves its characteristic colour streak.

Geologists also identify minerals by finding out how hard they are. The **scale of hardness** puts minerals in order from 1 to 10. Minerals with a hardness of 1 are the softest. Minerals with a hardness of 10 are the hardest. Harder minerals (those with a higher number) can scratch all the minerals with lower numbers. Diamond is the hardest mineral in the world.