People don't usually look at rocks closely. So when they find a stone that intrigues them, they don't know what to do, except to ask someone like me for a quick answer. After many years of doing so, I hope to help teach you some of the things that geologists and rockhounds do. This is what you need to know *before* you can identify rocks and give each one its proper name.

[**Where Are You?**](http://geology.about.com/od/regional_geology/)

The first thing I ask a questioner is, "Where are you?" That always narrows things down. Even if you aren't familiar with your [state geologic map](http://geology.about.com/od/stategeologicmaps/), you already know more about your region than you suspect. There are simple clues all around. Does your area contain coal mines? Volcanoes? Granite quarries? Fossil beds? Caverns? Does it have place names like Granite Falls or Garnet Hill? Those things don't absolutely determine what rocks you might find nearby, but they are strong hints.

This step is something you can always keep in mind, whether you're looking at street signs, stories in the newspaper or the features in a nearby park. And a look at your state's geologic map is intriguing no matter how little or how much you know.

### [Make Sure Your Rock Is Genuine](http://geology.about.com/od/rocks/ig/artificialrocks/)

Make sure you have real rocks that belong where you found them. Pieces of [brick, concrete, slag](http://geology.about.com/od/rocks/ig/artificialrocks/) and metal are commonly misidentified as natural stones. Landscaping rocks, [road metal](http://geology.about.com/library/bl/images/blroadmetal.htm) and fill material may come from far away. Many old seaport cities contain stones brought as ballast in foreign ships. Make sure your rocks are associated with a real outcrop of bedrock.

There is an exception: many northern localities have lots of strange rocks brought south with the Ice Age glaciers. Many of the [state geologic maps](http://geology.about.com/od/stategeologicmaps/) show surface features related to the ice ages.

Now you will start to make observations.

### [Find a Fresh Surface](http://geology.about.com/od/rockcollecting/bb/bybmagnifiers.htm)

Rocks get dirty and decay: wind and water make every kind of rock slowly break down, the process called weathering. You want to observe both fresh and weathered surfaces, but the fresh surface is most important. Find fresh rocks in beaches, roadcuts, quarries and streambeds. Otherwise, break open a stone. (Don't do this in a public park.) Now take out your [magnifier](http://geology.about.com/od/rockcollecting/bb/bybmagnifiers.htm).

Find good light and examine the rock's fresh color. Overall, is it dark or light? What colors are the different minerals in it, if those are visible? What proportions are the different ingredients? Wet the rock and look again.

The way the rock weathers may be useful information—does it crumble? Does it bleach or darken, stain or change color? Does it dissolve?

### [Observe the Rock's Texture](http://geology.about.com/od/more_igrocks/ig/igroxtextures/)

Observe the rock's texture, close up. What kind of particles is it made of, and how do they fit together? What's between the particles? This is usually where you may first decide if your rock is igneous, sedimentary or metamorphic. The choice may not be clear. Observations you make after this should help confirm or contradict your choice.

[Igneous rocks](http://geology.about.com/od/rocks/ig/igrockindex/) cooled from a fluid state and their grains fit tightly. [Igneous textures](http://geology.about.com/od/more_igrocks/ig/igroxtextures/) usually look like something you might bake in the oven.

[Sedimentary rocks](http://geology.about.com/od/rocks/ig/sedrockindex/) consist of sand, gravel or mud turned to stone. Generally they look like the sand and mud they once were.

[Metamorphic rocks](http://geology.about.com/od/rocks/ig/metrockindex/) are rocks of the first two types that were changed by heating and stretching. They tend to be colored and striped.

### [Observe the Rock's Structure](http://geology.about.com/library/bl/images/blimageindex.htm)

Observe the rock's structure, at arm's length. Does it have layers, and what size and shape are they? Do the layers have ripples or waves or folds? Is the rock bubbly? Is it lumpy? Is it cracked, and are the cracks healed? Is it neatly organized, or is it jumbled? Does it split easily? Does it look like one kind of material has invaded another?

Some kinds of structural features, like concretions, folds, ripples and slickensides, appear in this [gallery of geologic features and processes](http://geology.about.com/library/bl/images/blimageindex.htm).

### [Try Some Hardness Tests](http://geology.about.com/library/bl/blmohsscale.htm)

The last important observations you need require a piece of good steel (like a screwdriver or pocket knife) and a coin. See if the steel scratches the rock, then see if the rock scratches the steel. Do the same using the coin. If the rock is softer than both, try to scratch it with your fingernail. This is a quick and simple version of the 10-point [Mohs scale of mineral hardness](http://geology.about.com/library/bl/blmohsscale.htm): steel is usually hardness 5-1/2, coins are hardness 3, and fingernails are hardness 2.

Be careful: a soft, crumbly rock made of hard minerals may be confusing. If you can, test the hardness of the different minerals in the rock.

Now you have enough observations to make good use of the [quick rock identification tables](http://geology.about.com/od/rocks/a/Rock-Tables.htm). Be ready to repeat an earlier step.

### [Observe the Outcrop](http://geology.about.com/od/activitiesbasics/a/whererocksmins.htm)

Try to find a larger outcrop, a place where clean, intact bedrock is exposed. Is it the same rock as the one in your hand? Are the loose rocks on the ground the same as what's in the outcrop?

Does the outcrop have more than one kind of rock? What is it like where the different rock types meet each other? Examine those contacts closely. How does this outcrop compare to other outcrops in the area?

The answers to these questions may not help in deciding on the right name for the rock, but they point to what the rock *means*. That's where rock identification ends and geology begins.

### [Getting Better](http://geology.about.com/od/mineral_ident/)

The best way to take things further is to start [learning the most common minerals](http://geology.about.com/od/mineral_ident/) in your area. Learning quartz, for instance, takes only a minute once you have a sample.

[A good 10X magnifier](http://geology.about.com/library/products/aabyb-magnifiers.htm) is worth buying for close inspection of rocks. It's worth buying just to have around the house. Next, buy a [rock hammer](http://geology.about.com/od/rockcollecting/ig/Rock-Hammers/) for efficient breaking of rocks. Get some safety goggles at the same time, although ordinary glasses also offer protection from flying splinters.

Once you've gone that far, go ahead and buy a book on identifying rocks and minerals, one you can carry around. Visit your nearest rock shop and buy a [streak plate](http://geology.about.com/od/mineral_ident/ig/streak/)—they're very cheap and can help you identify certain minerals.

At that point, call yourself a rockhound. It feels good.