

We frequently receive inquiries from people requesting identification of rocks, minerals, and fossils. Following are some resources you can use to determine what you have found. Please try for yourself before sending an inquiry to us. Many rocks, minerals, and fossils that you would commonly find in Missouri are simple to identify. If you wish to request assistance in identifying a specimen please carefully follow the instructions below AFTER you work through the self-identification resources.

Meteorites

One of the most common questions we get is from people asking us to confirm that they have found a meteorite. The answer to this question is almost certainly, “NO!”. Meteorites are extremely rare. On top of that, Missouri’s humid climate, dense vegetation, and strong seasonality all work against the preservation of meteorites. As this [map](#) shows, only 23 meteorites have been found in Missouri since 1807. To put this in context:

- 465 Missourians have won [jackpots](#) of \$1 million dollars or more since 1986. Thus, 20 times as many people have won \$1 million dollars in the Missouri Lottery as have found meteorites in Missouri.
- 470 people are struck by [lightning](#) in the United States each year (about 47 of them die). Missouri includes about 1.94% of the land area of the total United States. Thus, proportionally about 9 Missourians per year are struck by lightning (i.e., 470 people multiplied by 1.94% = 9.3). In the 210 years since we have been keeping track of meteorite finds that means 1,953 Missourians have been struck by lightning and about 195 of those people died. About 8 times as many Missourians have been struck by lightning and died as have found meteorites.

You are more likely to win it big in the Missouri Lottery or to be killed by a lightning strike than to find a meteorite. This is why we can almost conclusively state that you did not find a meteorite!

If you are a hopeless optimist and you really think you have found a meteorite please visit Dr. Randy L. Korotev’s “[Meteorite or Meteorwrong](#)” web page at Washington University in St. Louis. Begin with his “[Self-Test Check-List](#)” and then take a look at his “[Meteorite Realities](#)” list. If you continue to be certain that your specimen is a meteorite then follow the instructions on his [Meteorite Testing](#) page.

Rocks, Minerals, and Fossils

If you have found an interesting rock, mineral, or fossil and you would like some help identifying it, we encourage you to browse the [Rocks](#), [Fossils](#), and [Minerals](#) pages at [Geology.com](#). Also, the [Missouri Geological Survey](#) has a handy publication called “[Missouri Rocks and Minerals](#)” that includes pictures and descriptions of most of the common rocks and minerals found within the state. They also have this wonderful [web page](#) with more pictures and descriptions and maps of where each is typically found.

Some pointers: Most of Missouri is underlain by [sedimentary rocks](#). Unless you found your specimen in the [St. Francois Mountains](#) of southeastern Missouri (the red Precambrian [igneous](#) rocks on this [map](#)) your rock is probably sedimentary. The exception would be glacial erratics which occur in northern Missouri where ancient glaciers deposited some igneous and metamorphic rocks eroded from the far northern U.S. and Canada. The most common sedimentary rocks in Missouri are [limestone](#), its cousin [dolostone](#) (aka dolomite), and [sandstone](#). [Chert](#) is a common mineral associated with limestones and dolostones. Chert, of which flint is one type, is composed of the mineral quartz and is too hard to be

scratched by a steel nail and will scratch glass. [Quartz](#) also occurs commonly throughout the state in association with limestone, sandstone, and other rocks. [Calcite](#) is another common mineral that often occurs as crystals within limestone. Whereas quartz is too hard to be scratched by a steel nail, calcite is easily scratched by steel.

If you are unable to identify a rock, mineral, or fossil, we may be able to help you. The easiest method is to provide the following information in an email to ggp@missouristate.edu:

- 2-3 well-lit, sharply focused photographs showing the specimen from various angles
- Include something in your photo that provides scale, such as a coin, a ruler, etc.
- If the specimen has fresh, unweathered faces, be sure to include that portion of the specimen in your photo.
- Tell us where you found the specimen. Be as precise as possible. For example, "On an outcrop next to U.S. 65 two miles south of the Evans Road exit between Springfield and Ozark".
- Tell us when you found the specimen.

Our geology faculty are able to identify about 95% of the specimens we receive by simply looking at photos. If you send us dark, unfocused photos or fail to include some context about where and when the specimen was found we will be unable to reply to your request. Please give us a few weeks to reply (sometimes the right professor is out of town!).

We will not accept dropped off specimens for identification unless we are unable to identify the specimen through email. We are happy to accept valuable or rare specimens if you are willing to donate them to our teaching and research collections. Please submit photos first to determine if we have a need for the possible donations.