



Meteorite or meteorwrong?

Every so often meteorite hunters and specialists will be fooled by terrestrial objects masquerading as meteorites. These pseudometeorites are humorously called meteorwrongs and can be natural or manmade. They are anything that people may, at first glance, think is a meteorite, so it's no surprise that there are a lot more of them than there are actual meteorite finds.

There are a lot of reasons that someone may want an object to be a meteorite: scientists can use the meteorites to learn more about how the universe was made, and collectors can sell these rare finds to fetch a hefty price, but mostly, people like meteorites because they come from outer space and space is cool!

So how can you tell if the rock you found is truly a meteorite or just a meteorwrong? Sometimes it requires a skilled planetary geologist to crack the code, but there are a few major clues to help you narrow down the possibilities on your own.

Firstly, look for a smooth black/brown fusion crust. Most meteorites have one, even if only partially, because they're caused by the rock passing through the Earth's atmosphere at high speeds.

Second, most meteorites are highly magnetic and dull in color. If you've found a rock with a lot of crystals on it, especially if they're brightly colored, chances are that you've found a meteorwrong.

Third, meteorites are very dense so they'll be quite heavy for their size. They'll also be flecked with small pieces of metal. Meteorwrongs, on the other hand, may have gas bubbles, air pockets, and large pieces of sediment that usually appear in layers.

Last, your biggest clue will be to look at the surrounding rocks and other geologic material. If there are rocks around that look more or less identical, what you've got is a meteorwrong. If it's a meteorite, these visitors from space will be unique and stand out from the terrestrial rocks around them!

These specimens are a result of a meteor impact



Tektite
Glass formed from Earth borne terrestrial debris ejected from meteorite impacts, tektite are gravel-sized and are usually black, green, brown, or gray. While at first glance, tektites seem similar to volcanic glass, they differ in a few key ways, but the most telling is a lack of water in tektites. Terrestrial volcanic glass, when brought to its melting point, will become foamy due to the amount of water found within it, whereas tektites have virtually no water and may produce only a few bubbles when heated to the point of melting. Most tektites are found in four different strewn fields: Australasian, Central European, Ivory Coast, and North American strewn fields.



Moldavite
A type of tektite, moldavite is a type of projectile rock that came from a meteorite that probably struck somewhere in southern Germany over 15 million years ago. Moldavite is mostly found in South Bohemia in the Czech Republic, but few specimens have also come from the Lusatian area, West Bohemia, and Northern Austria. Moldavite comes in forest green, olive green, or greenish blue and features interesting wrinkles on its surface similar to those found on some meteorites' fusion crusts. There are three different grades of moldavite, the most common being darker, saturated with green, and more pitted and wrinkled. The highest grade, commonly referred to as "museum grade" will be more translucent and feature a distinct fern-like pattern.



Libyan Desert Glass
This type of glass remains something of a mystery, with scientists stumped on where exactly it comes from, but recent research has made probable the theory of meteoritic impact. It's been suggested that this glass could have formed due to the radiative melting of sand from the large aerial bursts brought on by meteorites. This glass is found in the desert areas of eastern Libya (where it gets its name), parts of the eastern Sahara desert, and in parts of western Egypt.

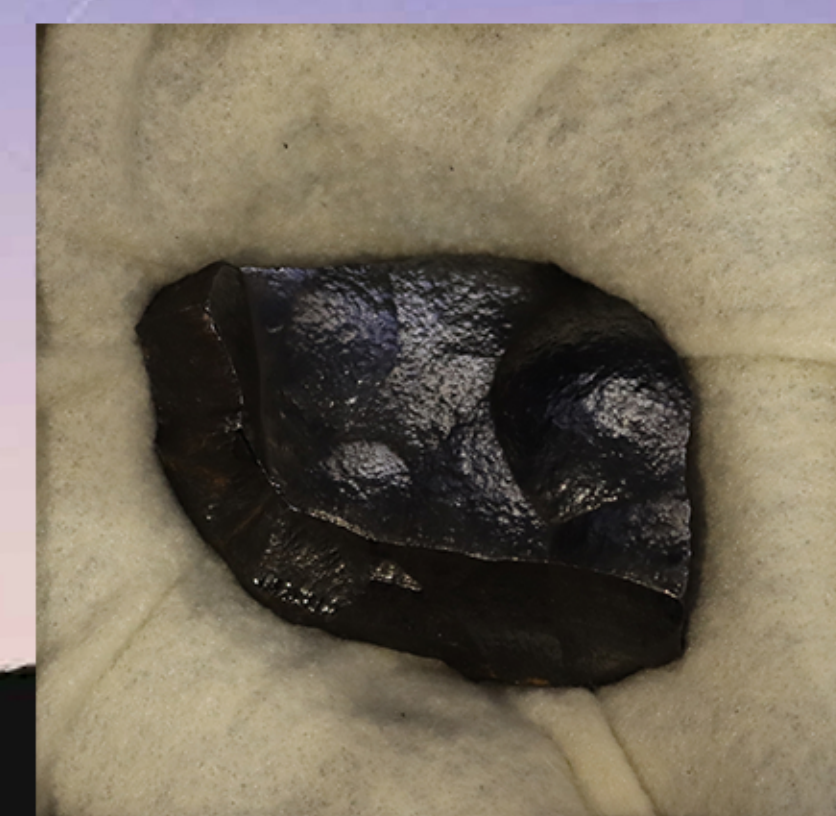


Bediasite
Another type of tektite, bediasite is a Texas native. It is found only in nine counties in the eastern part of Texas. This makes them citizens of the North American strewn field, which originates from the Chesapeake Bay impact crater 34 million years ago. Bediasites are usually a dark black and have pitting and wrinkles that are common amongst meteorites.

To avoid mistaking them for meteorites, here's a list of common meteorwrongs:



SLAG
In the process of refining metal from raw ore, there are some left over byproducts. These glass-like byproducts are called slag. Slag is usually a mix of various metal oxides and silicon dioxide, but it can include other metals as well.



HEMATITE
Another iron oxide just like magnetite, hematite is also magnetic but at a much weaker level. It won't be attracted by a regular magnet, but it is electrically conductive. It is widely found in many rocks and soil, and can range in color from black to steel or silver-gray, brown to reddish-brown, or a variety of red colors.



GARNET
As a type of mineral used in gemstones, garnets can be very pretty. Most commonly, these gemstones come in shades of red, but there are different sub-types of garnets and these can range from purple, to orange, to yellow, and even green. Like magnetite and hematite, garnet is also magnetic but requires a neodymium magnet (the strongest type of magnet that is available commercially) in order to have a response.



MAGNETITE
As suggested in its name, magnetite is ferromagnetic (a type of strong magnetism that is used most commonly in household magnets). If you're looking for it, magnetite is black or very dark brown with a metallic luster.



BASALT
Basalt is formed when lava flowing above the Earth's surface cools. It is an extremely hard and durable rock and makes up 90% of volcanic rock. Usually, basalt comes in shades of black or gray, but depending on what elements make it up, it may come in a lighter color.



THUNDEREGG
Definitely the meteorwrong with the coolest name, thundereggs are rough spheres formed of layers of volcanic ash. While they may look dull and ordinary on the outside, cutting one open and polishing it will probably reveal fun patterns and colors. Typically, thundereggs are about the size of baseballs, but they can range from little more than a centimeter to more than a meter across. The largest is a 1.75 ton specimen residing in the Rice Northwest Museum of Rocks and Minerals in Oregon, where thundereggs are the state rock.