YOU CAN LOOK FOR METEORITES ON THE GROUND

If you're interested in looking for meteorites, consider beginning locally; around your backyard, schoolyard, and empty lots in the neighborhood (always ask permission before going onto other people's property). If you can get to fields, woods, beaches, or other places not under water, look there also. No matter where you search, it's helpful to remember that you might see 'unusual' meteorites, but others may resemble Earth rocks because meteorites are found in various sizes, shapes, and appearances. The main classifications are 1. STONE, 2. STONY-IRON, 3. IRON, based upon composition: 1. mostly stone, 2. partly stone and partly iron, 3. mostly all iron. Meteorites that are mostly made of stone often go unnoticed on the ground, more so than those that are stone and iron, or all iron, because over time stone meteorites get weathered and mixed in among ordinary Earth stones. If you travel on vacation, there are many different kinds of terrain around the United States and throughout the world to search for rocks from space. Meteorites have been recovered on all seven of Earth's continents. {Can you name all the continents?}

Although it is rare for falling meteorites to actually hit anything other than the ground or water, the STONE meteorite pictured above crashed through the roof of a house in New Zealand, bounced on a couch, ricocheted off the ceiling, and ended up on the floor under the family's computer. {Where in the world is New Zealand located?} This STONE from space can first be identified visually by a fusion crust on its outside (darker than its interior which is visible where it was chipped when it hit the building). The fusion crust formed when the stone's surface melted (and even created flow lines visible along the bottom) during hypersonic meteor flight down through the Earth's atmosphere. In addition to a fusion crust, most meteorites will attract a small magnet hanging on a string (because even stone meteorites usually contain at least some iron in the form of metal flakes), so this is one of the tests you can perform right where you find a rock that you think *might* be a meteorite. For scientific authentication and classification, you can have your find examined by specialists at a laboratory such as New England Meteoritical Services in Massachusetts, or planetary geology professors at a school like Brown University in Rhode Island.

Scientists have discovered that one of the best places to look for meteorites is on the ice and snow of Antarctica. (We should never go onto ice anywhere, unless it has been determined by authorities to be safe.) The dark STONE meteorite in the left photograph is easy to see against the white ground; effects of weather are also noticeable in this picture when we look closely. If we wanted to try recruiting some of the locals *(on the right)* to help search for Antarctic meteorites, we'd have to figure out how to tell them apart, maybe by writing numbers on them (the locals, not the meteorites). {Where is Antarctica on an Earth globe?}

Deserts are also good places to look for meteorites because space rocks on Earth often have a darker appearance than the lighter-colored dry dirt and desert rocks, but we'd need a four-wheel drive vehicle so the tires won't sink down into soft sand.

Imilac STONY-IRON meteorites,

Atacama Desert, Chile: the driest desert on Earth

{Can you point out the country of Chile on a map or globe?}

IRON meteorites may be the easiest to recognize because they can look like metal that melted in flight (or got twisted from tumbling in the air). Sometimes meteorites have dents in their surfaces called regmaglypts (resembling 'thumbprints') or they may even have holes through them. For comparison, see the *Identifying a "Meteor Crater" Meteorite* pictures on the *SpaceRocksWithDrLen.com* website since whole specimens can vary depending on whether a meteoritic mass was broken up during its blazing plunge through Earth's atmosphere or violently fragmented into pieces when it impacted the ground. If the resulting pieces are subsequently out in the weather for thousands of years, their appearance can be affected.

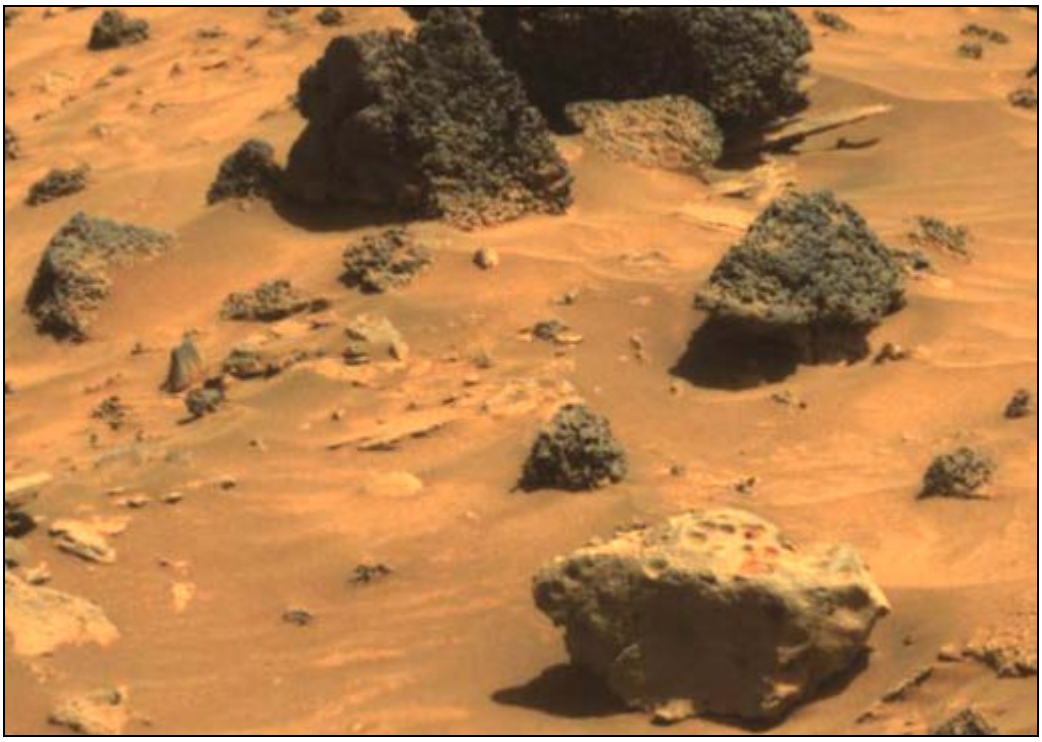
Sikhote-Alin IRON meteorite, Siberia, Russia

{Why do history books record this meteorite as falling in the Soviet Union?}

Campo del Cielo IRON meteorite, Argentina

{Is Argentina near any other country you've already located?}

METEORITES ALSO CAN LAND ON SOME OTHER PLANETS, BUT NOT ALL OTHER PLANETS IN OUR SOLAR SYSTEM; WHY?



The NASA rover *Spirit* photographed an IRON meteorite while driving across a rusty desert on the planet Mars (that metal meteorite is noticeable in the foreground of this picture because it's shinier and a lighter color than most of those Martian surface rocks).

{Some meteorites that land on Earth are pieces of Mars, but where do meteorites that land on Mars come from?}

NASA's rover *Opportunity* found another lighter-colored, melted shiny IRON meteorite on the opposite side of Mars

{Can you observe any effects of Martian weather in these photographs?}