

2014 ALL-SUMMER METEORITES SCAVENGER HUNT

If you'd like to continue with Space Rocks, the summer is a convenient time to look for meteorites on the ground while school's out. Consider beginning locally: around your yard, schoolyard, and empty lots in the neighborhood (but always be polite and ask permission before going onto other people's property). If you can get to fields, woods, beaches, or other places not in the water, look there also.

The first test you can perform on any rock you suspect 'might' be a meteorite is to **dangle a small bar magnet on a string near the rock** (like the one that you were given May 29, 2014 during the Space Rocks workshop in the Barrington Public Library Teen Room). Any meteorite will gently pull a weak magnet since all meteorites contain at least 'some' iron.

No matter where you search, it's helpful to remember that you might see 'unusual-looking' meteorites, but other meteorites may resemble common Earth rocks because meteorites are found in various sizes, shapes, and appearances. The three main classifications are 1. STONE, 2. STONY-IRON, 3. IRON, based upon composition: 1. mostly stone, 2. partly stone /partly iron, 3. mostly all iron. Meteorites that are mostly stone often go unnoticed, more so than those that are mostly iron, because over time stone meteorites get weathered and can get mixed in among ordinary Earth stones lying around. If you get to go to summer camp or travel on vacation, there are many different kinds of terrain around Rhode Island, the United States and throughout the world to search for space rocks, just bring your small magnet with you. Meteorites have been found on all seven of Earth's continents.

HOW MANY METEORS IN THE NIGHT SKY CAN YOU COUNT WHEN YOU WATCH THE ANNUAL PERSEIDS METEOR SHOWER IN AUGUST 2014



You might see several Perseids meteor streaks at the same time or you might see only one at-a-time.

The Perseids annual Meteor Shower occurs when Earth in its orbit crosses through an orbiting "debris stream" of grit (and even some tiny rocks) left behind after the "periodic" (every 133 years) Comet Swift-Tuttle circled through our solar system in 1992, around the Sun and then travelled back to the Kuiper Belt (billions of miles out in space) all while its nucleus of carbon dioxide ice was sublimating ('melting' directly from a solid to a gas).

The maximum Perseid activity in 2014 is expected during the night of August 12, 2014 (look toward the northeast). The shower is from mid-July each year, with peak visibility being between August 9 and 14, depending on clear weather. During the peak, the rate of meteors reaches 60 or more per hour. As with all meteor showers, the rate tends to be greatest in the pre-dawn hours. The visible quick streak (less than a second) made by a meteoroid that enters Earth's atmosphere is called a meteor, or colloquially a shooting star or falling star. A meteor "shower" is a celestial event in which small meteors are observed radiating from one point in the night sky at extremely high speeds on parallel trajectories usually miles up in Earth's atmosphere (seen against the background of visible stars trillions of miles away in space). Most shower meteors are actually smaller than a grain of sand, so almost all of them disintegrate and never drop a meteorite. Shower meteors usually look like momentary streaks of light (Perseids meteors are travelling at about 133,000 miles per hour). You can see the streaks of light better from an area on the ground where there aren't a lot of lights (after you let your eyes adjust to the dark). If there are street lights or a full moon, position yourself so that a building or tree blocks that light from your field of view. Make sure you don't go wandering at night without permission and watch out for skunks that come around to see what you're doing in the dark (Dr. Len discovered one when he noticed that he and a skunk were sitting side-by-side in his backyard at 2 A.M.).

If you wish, you can report your meteorite finds, meteors observed in the sky, or any questions you might have by clicking the e-mail link at the bottom of the page on: **SpaceRocksWithDrLen.com** You could also share your experiences with the librarian when you visit the Barrington Library Teen Room again during the summer or perhaps tell your school teacher and fellow students when you get back to class in September.