

Nature's Fireworks: Winter Meteor Showers

by Meagan Keefe, LLCC Naturalist

Who says the only time to sit out on a blanket on the lawn to watch the fireworks is July? Some of the best “fireworks” nature has to offer happen in November and December. The two upcoming meteor showers, Leonids on November 17-19 and the Geminids on December 12-14, are predicted to be fairly decent this year, providing we get clear skies.

Most clear nights will yield a handful of meteors or shooting stars that occur randomly across the sky. *Meteors* are the bright streak of light that we see when a *meteoroid*, a small chunk of space debris, passes through earth's atmosphere. A *meteorite* is a meteor that has survived intact all the way to the earth's surface. When many meteors are seen over several nights it is a meteor shower. Meteor showers occur when the earth passes through an area of cosmic dust, usually left behind by comets as they orbit the sun. What we see here on earth as streaks of light are actually minute particles of icy dust left behind on the comet's orbital loop. As a comet (basically a big dirty snowball cruising through space) approaches the sun, debris gets blown backwards by solar wind to form the tail of the comet, some gets left behind. Depending on where the earth runs into this dusty trail, the resulting meteor shower will often appear to originate from a particular constellation, known as the radiant.

In the case of these next two showers, the radiants are Leo the Lion for the Leonids and Gemini or the Twins for the Geminids. Both constellations are easy to find using the Big Dipper. To find Leo, who looks like a backwards question mark, follow a straight line through the two stars of the Dipper's bowl closest to the handle down (as in below the bowl) towards two bright stars that make up the lion's head. To find Gemini, follow a line diagonally from the Dipper's handle through the bowl and far beyond to two bright stars that are the heads of the twins. Both constellations will rise in the east northeast and track to the west. Leo will start rising around 11pm, with the best viewing after midnight. The Geminids will be visible from around 9 pm until the crescent moon begins to interfere around 1-2 am.

The best way to watch a meteor shower is not unlike watching the 4th of July fireworks – family and friends, a blanket or a few lawn chairs, some refreshments and this time, winter coats or perhaps sleeping bags. If you want a flashlight give it a red filter to help conserve your night vision. Binoculars, while great for viewing many celestial objects like the moon or planets, limit your field of view too much for a meteor shower. Head out to an open area away from lights, for both of these showers, head in a northeast direction away from towns or other light pollution.

Hopefully, predictions prove to be true for this year's showers (up to two meteors per minute). We are a little west of the jackpot, but keep your fingers crossed. So if we get a clear night and it's not thirty below, head outside to enjoy the show.