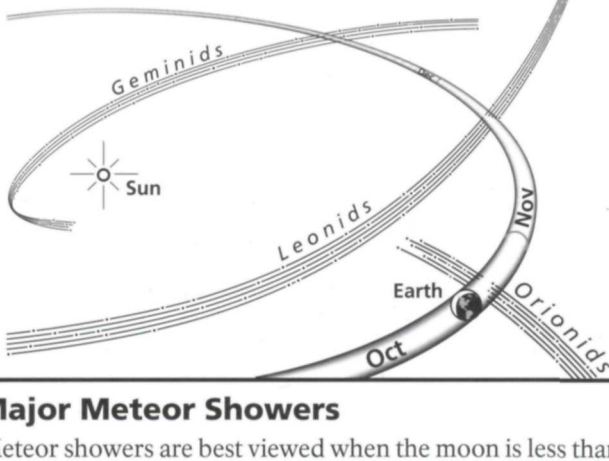
National Park Service
U.S. Department of the Interior

Natural Resource Stewardship & Science
Natural Sounds & Night Skies Division

Meteors

We spend most of our nights indoors, but a few nights a year nature puts on a special show, making efforts to seek out dark national parks at these times especially rewarding. Bring your family and friends along to discover meteors.

Shooting stars, or meteors, are not stars at all. They are tiny particles usually no larger than a grain of sand streaking through our atmosphere. Because these particles are present throughout our solar system, meteors can be seen any night of the year. Sometimes our planet passes through a comet's orbital path, where bits of the comet have been left behind, creating a meteor shower (see diagram). Those particles that collide with Earth's atmosphere become heated due to friction, creating a brilliant display.



Major Meteor Showers

Meteor showers are best viewed when the moon is less than half full, indicated by the 'best years' column. The 'date of max' indicates the average date of the morning (before dawn) when the most meteors will be seen; but viewing is generally good within three days of the maximum.

Shower	Date of Max.	#/hour	Best Years
Quandrantid	Jan 3	40-80	2014, 16
Lyrid	Apr 22	10-20	2012, 15
Eta Aquarid	May 6	10-40	2013, 14, 16
Perseid	Aug 13	40-100	2012, 13, 15
Orionid	Oct 22	15-50	2012, 14
Leonid	Nov 18	5-60	2012, 14, 15
Geminid	Dec 14	40-80	2012, 15

Experiencing Meteor Showers

Darkness is delicate, easily ruined by stray light. The best show is located away from lit areas, where faint meteors can still be seen. Travel to a national park, rural area, state park, or wilderness area for the darkest skies.

When should I look?

Meteor showers are most dramatic between midnight and dawn. This is when your location on Earth is facing the particle field and the most meteors can be seen.

Where should I look?

Simply look up, taking in as much sky as possible. However, you will notice that meteors will appear to streak from a certain spot in the sky called the *radiant*. The shower is named for the constellation that the radiant is located. For example, the Orionid shower radiates from the constellation Orion.

What will I see?

At first you may notice a quick flash out of the corner of your eye. As you become a better observer you may perceive colors (due to metals present in the meteor), *trains* (faint streaks that persist after the meteor has passed), or the different speeds of meteors (the Leonids are known for their speedy nature). You may be lucky to see a meteor end as a burst of light, known as a *bolide*. Most meteors burn up silently, but very rarely a meteor will fall to the ground as a meteorite, creating a sonic boom. Under dark skies you may see one meteor per minute during some showers.

What will I need?

All you need to enjoy the show are your unaided eyes. However, to make yourself comfortable consider bringing a reclining chair, warm clothing, blankets, and hot drinks to make the night more pleasant. Companions can catch things you might otherwise miss and share in the excitement.

Anything else?

While the sky is putting on a show, the night may entice you with other happenings. Use a star chart to familiarize yourself with the constellations or listen closely for the sounds of nocturnal wildlife. Sharing the night with loved ones is a great way to explore the cosmos from the comfort of our own planet!

For more information visit:
http://www.nature.nps.gov/sound_night

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