Librarians’ Guide to Meteor Showers
Leonids Meteor Shower - November 17/18, 2015

What is a meteor shower?

A meteor shower is a predictable celestial event in which a relatively large number of meteors streak across the sky on a given night or series of nights. Meteor showers appear to originate from one point (called the radiant) in the night sky, often a constellation. Meteor showers get their name from the constellation from which they appear to originate. Meteor showers are caused by debris called meteoroids entering Earth’s atmosphere at extremely high speeds. This debris usually comes from comets that intersect Earth’s orbit. As Earth orbits the Sun, it collides with the debris left by passing comets and the result are meteors streaking through Earth’s atmosphere. Most meteors are smaller than a grain of sand, so almost all of them disintegrate before having a chance to hit the ground.

In 2015, the annual Leonid meteor shower will peak the night of November 17/18. The Leonids are so named because they appear to originate from the constellation of Leo (the lion). The debris responsible for the Leonids comes from the comet Tempel-Tuttle. It is possible to view about 20 meteors in one hour at the peak of the Leonids meteor shower.

Upcoming Events

Find information and resources about upcoming celestial events and NASA mission milestones to share with your child at http://www.lpi.usra.edu/education/look_up.
Meteor Showers/Comets in Your Library!

Use the resources below to create a program for your patrons to explore meteor showers. Create a meteor shower program that fits your library’s schedule and needs. Consider fitting meteor showers into your ongoing programming – lectures for inquisitive adults, family programs, and children’s programming. Perhaps design a week-long investigation into meteor showers with hands-on activities, demonstrations, and video clips, presentations by scientists from local colleges or universities, and a culminating meteor shower viewing event. Alternatively, pick one activity from the list below for your young patrons to celebrate the meteor shower and then encourage them to follow the news and explore more on their own!

Selected Books
David Levy’s Guide to Observing Meteor Showers
For adult readers, this book is a step-by-step guide to observing meteors and meteor showers. Any necessary science is explained simply and in clearly understandable terms. This is a perfect introduction to observing meteors, and is ideal for both seasoned and budding astronomers.

Meteor Showers (True Books: Space)
For ages 7 and up, this book presents an introduction to meteor showers, describing what causes them, what happens when they enter Earth’s gravity, and what can be learned about the universe from the study of meteorites.

National Geographic Readers: Meteors
Melissa Stewart, National Geographic, 2015, ISBN 978-1426319433
Blast off on a trip to discover the fascinating world of meteors. In this image-packed book, kids will learn all about these objects hurtling through space—and into our atmosphere. This Level 3 reader is written in an easy-to-grasp style to encourage the scientists and explorers of tomorrow! For ages 6-9.

http://www.lpi.usra.edu/education/look_up
Websites

November 17/18, 2015 Leonids Meteor Shower
http://www.timeanddate.com/astronomy/meteor-shower/leonids.html

What is a Meteor Shower?
http://spaceplace.nasa.gov/meteor-shower/en/

Meteor Shower Calendar from the American Meteor Society
http://www.amsmeteors.org/meteor-showers/meteor-shower-calendar/

Information on Comet 55P/Tempel-Tuttle
Debris left in Earth’s orbit by Comet 55P/Tempel-Tuttle is responsible for the Leonid meteor shower.

The Dust Trail of Comet 209P/LINEAR
https://svs.gsfc.nasa.gov/cgi-bin/details.cgi?aid=4159
This NASA animation shows how Earth can pass through debris left behind by comets.

Explore meteor showers/comets in your camp with hands-on activities!

Comet on a Stick
http://epoxi.umd.edu/4education/mod_cometstick/Modeling_Comets_EG.pdf
Grade Level(s): Upper Elementary School, Middle School, High School: Grades 9 & 10

In this activity, learners replicate the scientific processes of observing, forming an explanation, revising and communicating about a model of a comet.

This and other NASA educational activities, can be found at http://nasawavelength.org.

Meteor Shower/Night Sky Viewing Event

Consider holding a meteor shower viewing event at your library! All you need to view a meteor shower is a comfy chair or a blanket! You can also ask your local astronomical society to bring their telescopes for viewing other astronomical objects. Use the links below to locate a local astronomy club and/or speaker.

Night Sky Network
The Night Sky Network is a nationwide coalition of amateur astronomy clubs bringing the science, technology, and inspiration of NASA’s missions to the general public.

NASA/JPL Solar System Ambassadors
http://www2.jpl.nasa.gov/ambassador/directory.htm
Solar System Ambassadors is a nationwide program consisting of volunteers who communicate the excitement of NASA/JPL’s space exploration missions and information about recent discoveries to people in their local communities.

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