Impact Craters

Impact cratering is a process found everywhere in the solar system except on the giant gaseous outer planets. Earth has been heavily impacted but erosion has removed most of the craters.

Perhaps the finest surviving impact crater on Earth is the Barringer Meteor Crater near Winslow, Arizona. It is 0.75 miles across and 650 feet deep. It was formed about 25,000 years ago when a 150 foot diameter nickel/iron meteorite struck the desert at a speed of 25,000 miles per hour.

An examination of actual craters on the Moon will reveal that just about all craters have deep central depressions, raised rims, and a blanket of ejected material surrounding them. Try to observe the Moon directly during daylight. Check your newspaper for the phases of the Moon (or our web-site, www.avastronomyclub.org) and observe it in the afternoon during "first quarter" and in the morning during "third quarter." The Moon will be separated from the Sun by 90 degrees to the east (left) at first quarter and 90 degrees to the west (right) during third quarter. The large dark regions are the remains of very great impacts and many retain their circular boundaries. Binoculars on a tripod provide a spectacular view.

ANTELOPE VALLEY
ASTRONOMY CLUB, INC.

A 501 (c)(3) Non-Profit Organization

On the web at:
www.avastronomyclub.org

Tel: (661) 724-1623
Or (661) 822-4580

ANTELOPE VALLEY ASTRONOMY CLUB, INC.

EXPERIMENT

You can create simulated craters with a box, lined with a trash bag, with sides at least 4 inches high (the lid to photo-copier paper boxes is perfect); flour (3 to 4 inches deep with at least an inch of clearance to the box rim), some dry, powdered tempra paint (red or blue), and some marbles.

Place the flour in the box and smooth and pack it lightly (experiment with different firmnesses). Place a dusting of the paint powder over the flour (colored water in a spray bottle works, but not as well). Use the marbles to bombard the surface (one at a time). Look for classical cratering features: basin, raised rim, ejecta blanket (material excavated from the crater and dumped around it, visible as white flour on the colored powder), and rays (material shot out at high velocity forming lines pointing directly away from the impact site).

Vocabulary:

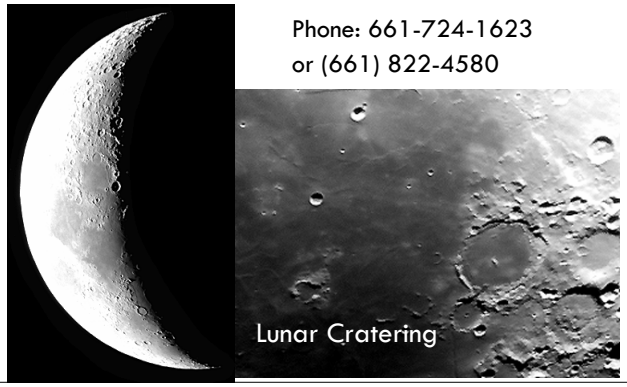
Central Peak - A mountain found in the center of large craters. It is formed by a "rebound" of the rock at the impact site (the marble will be sitting there in this activity).
Crater - A (usually) circular depression in a surface caused by an impact.
Ejecta - Material tossed out of the crater.
Ejecta Blanket - Ejecta tossed out at low speed. The material lies like a blanket around the crater.
Floor - The interior of the crater. It is flat in large craters (the marble will be there in this activity).
Rays - Ejecta tossed out of the crater at high speed. The material forms long lines pointing directly away from the crater.
Rim - The raised edge of the crater. It is formed by the outwards and upwards compression of the crater walls, not ejecta.

Contact Information:

Antelope Valley
Astronomy Club, Inc.

P.O. Box 8545
Lancaster, CA 93539

Phone: 661-724-1623
or (661) 822-4580



We're on the web! http://www.avastronomyclub.org

You Are Invited to Join the Antelope Valley Astronomy Club!

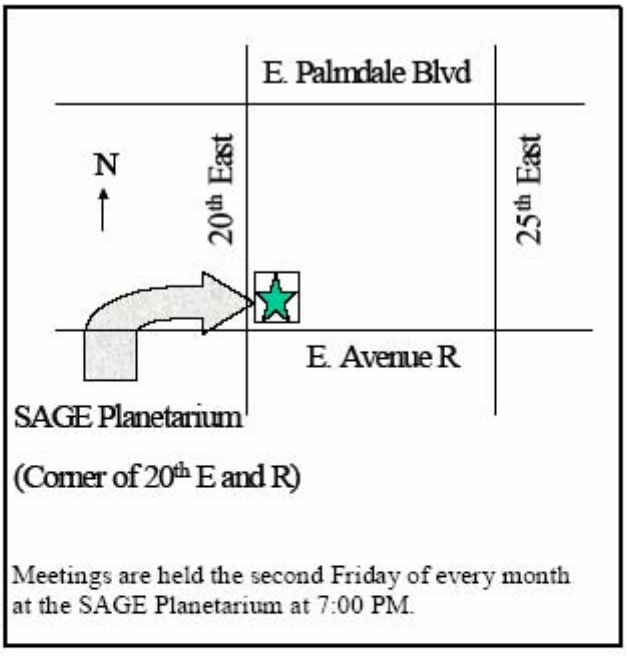
ANTELOPE VALLEY ASTRONOMY CLUB, INC.

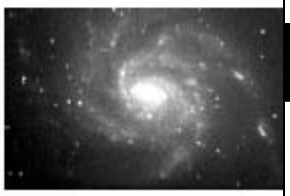
A 501 (c)(3) Non-Profit Organization

Monthly Meetings and Activities

The AVAC holds monthly meetings the second Friday of every month at the SAGE Planetarium, 38060 20th Street East,(located on the northeast corner of East Avenue R and 20thEast) at 7:00 PM. The meetings include guest speakers and monthly programs about the fascinating night sky, while giving members and guests a chance to get together to talk about the stars or other topics of interest. We hold monthly public star parties and frequent 'deep sky' observing sessions as weather permits. We offer our members resources to help you learn more about astronomy including classes, telescopes and books.

Directions to the Meeting





Galaxy M101, Viewed Through A 10" Telescope

AVAC Membership Application

AVAC Offers A Variety Of Membership Options:

☐ Family Membership — Cost (See Below)

☐ Individual Membership

☐ Junior Membership (13 and younger) — Total_____

Dues are prorated each month. See table below

Example: A Family Membership paid in June is $17.50

Membership Dues

Month	Family	Individual	Junior
JAN	$ 30.00	$ 25.00	$ 15.00
FEB	$ 27.50	$ 22.92	$ 13.75
MAR	$ 25.00	$ 20.83	$ 12.50
APR	$ 22.50	$ 18.75	$ 11.25
MAY	$ 20.00	$ 16.67	$ 10.00
JUN	$ 17.50	$ 14.58	$ 8.75
JUL	$ 15.00	$ 12.50	$ 7.50
AUG	$ 12.50	$ 10.42	$ 6.25
SEP	$ 10.00	$ 8.33	$ 5.00
OCT	$ 7.50	$ 6.25	$ 3.75
NOV	$ 5.00	$ 4.17	$ 2.50
DEC	$ 2.50	$ 2.08	$ 1.25

Checks should be made out to 'AVAC'
You may mail them to the Club PO Box or bring checks or cash to the meeting. **Do not mail cash**.
You may also pay via PayPal on our website.

Name(s)

Address

Phone

e-mail

ANTELOPE VALLEY ASTRONOMY CLUB, INC.

P.O. BOX 8545
Lancaster, CA 93539

Phone: 661-724-1623 or 661-822-4580
Email: info@avastronomyclub.org