

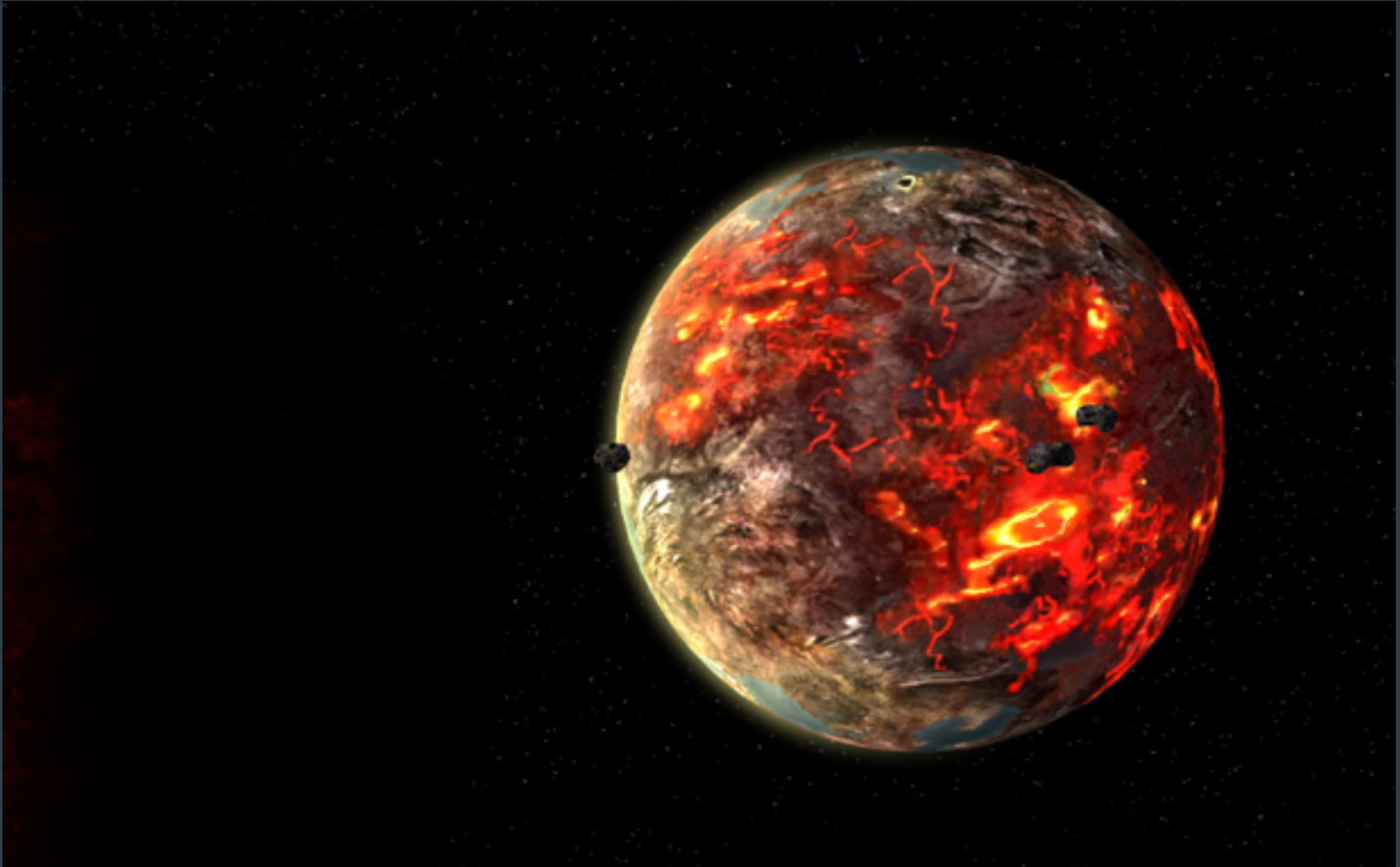
# ASTR 1010

Lab 7: Lunar Features



# A Little History

The same side of the Moon always faces us, but it has gone through many changes over the eons. Long ago, the Moon had a thinner crust and experienced volcanism, creating the dark mare.



# Face of the Moon

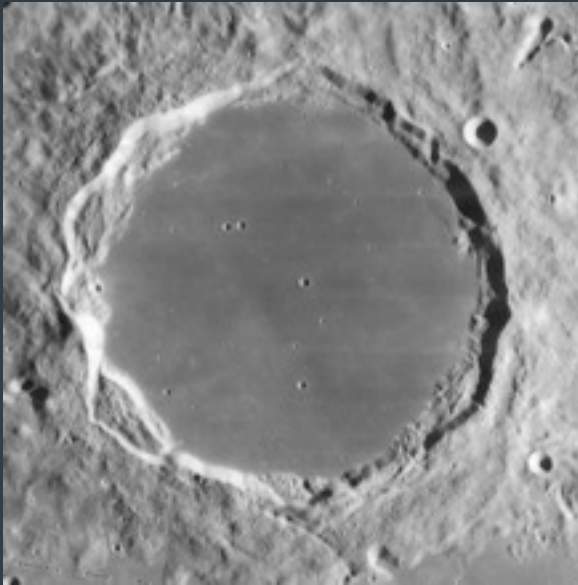
The Moon does not exist in a vacuum. It flies through space in its orbit around us and the Sun and gets bombarded by meteorites. Unlike Earth, the Moon does not have a thick atmosphere to protect it from impacts. Thus the Moon is variously pockmarked.



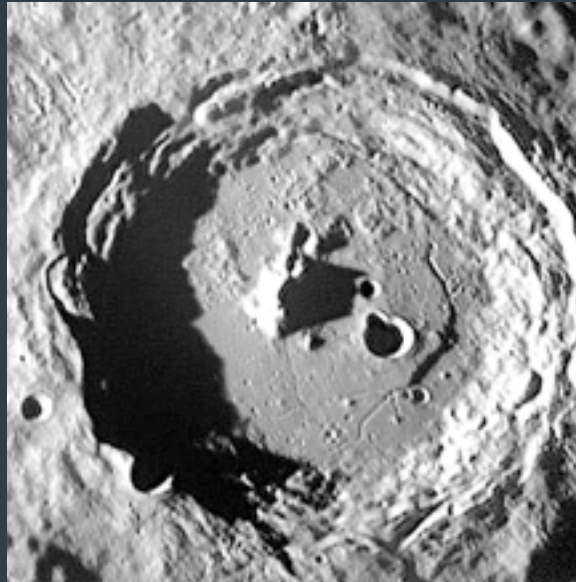
# Crater Zoo

We see three main types of craters:

Flat Bottom



Central Peak



Rays



# Photograph Scale

Goal: Measure features on the photograph and, with your knowledge of the real size of the Moon, figure out how big the Lunar features are in real life. The Moon has a radius of 1738 km, diameter 3476 km. Your photo of the Moon is a lot smaller but captures the relative sizes of objects. Find how many kilometers each photo millimeter represents. This is the scale.

$$\text{Scale} = \frac{\text{Real Length (km)}}{\text{Photo Length (mm)}}$$

$$\text{Real Length (km)} = \text{Scale (km/mm)} \times \text{Photo Length (mm)}$$

Real



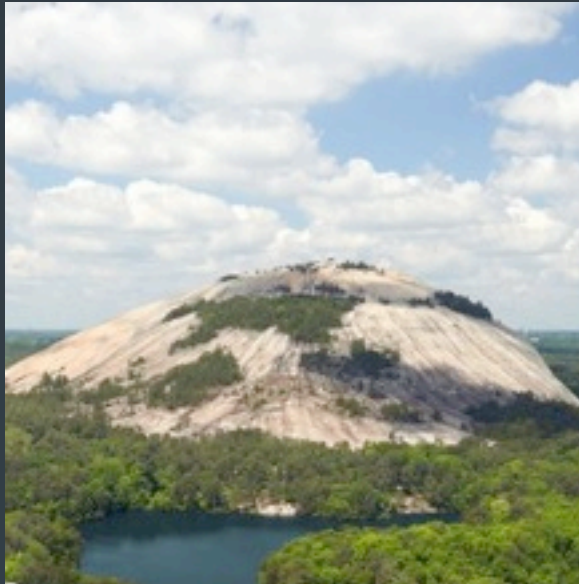
Photo

# Compare to Earth's Mountains

You'll get an estimate of the height of a Moon mountain. For reference, here are some mountain heights on Earth, from base to peak:

Stone Mountain:

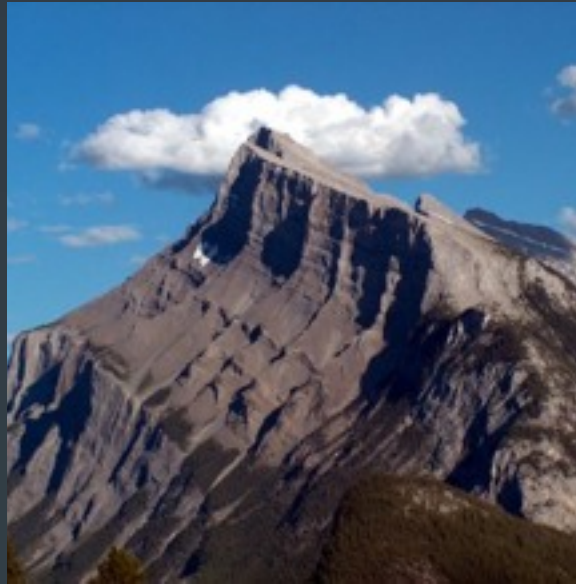
**0.26 km**



American Appalachians

Mt. Rundle:

**1 km**



Canadian Rockies

K2:

**3.2 km**



Himalayas

Fin

