# ASTRONOMY-TO-GO
## The John J. McCarthy Observatory

**LESSON:** Lunar Phases and Eclipses **( 3 )**

**CURRICULUM:** Grade 5, CT Std. 5.3) Most objects in the Solar System are in a regular and predictable motion.
Earth in the Solar System: "Describe the monthly changes in the moon's appearance related to its orbit around the Earth."

**INSTRUCTOR:** JJMO volunteer, or classroom teacher

**TIME:** About 40 minutes

**LOCATION:** SNIS Planetarium (best); classroom w/ projector screen (OK for JJMO)

**TEACHING AIDS:** The program Celestia, v. 1.3.2 (installed on the SNIS Planetarium computer) and script "Solar-Lunar Eclipses"
PowerPoint "Lunar Phases and Eclipses";
Video of 2006 eclipse over Jalu, Libya; NASA eclipse charts.

**DESCRIPTION:** Multimedia show with narration

The cyclical change in the moon's appearance is explored through a power point presentation. The presentation is then augmented by the Celestia astro-simulation program to view a solar and a lunar eclipse from orbit. The simulation is then made vivid with a video taken of the 2006 total solar eclipse over Jalu, Libya and its effects. Several NASA charts that track that eclipse and the one predicted on Aug. 21, 2017 which will traverse the US from Oregon to South Carolina will be explored.

The power point presentation provides an in-depth look at the relationship of the Earth and its only natural satellite as it pertains to the appearance of the moon from the Earth. Illustrations provide the relationship between the moon's orbital position and its appearance and other lunar phenomenon such as Earthshine, lunar and solar eclipses.

**ASSESSMENT:** Q & A period after, time permitting.

WC, 1/17/2006
PEM, 2/15/2011
Revised 2/2014