

Stellarium Tutorial: Phases of the Moon

Focus Questions: What lunar cyclical patterns may be observed from Earth? What causes these cycles?

- 1. Turn off daylight by eliminating atmosphere (a).**
- 2. Set time and date for January 27, 2009 at 6:00 P.M. Search for "Moon" (Command F) and center.**
- 3. Turn on the drawings (c) and names (v) of constellations. Turn on the Ecliptic Guide (comma).**
- 4. Using the Date/Time icon (clock), advance the days and observe how the Moon moves over a period of several days. Now return to January 27th at 6:00 P.M. and zoom in to FOV = 2 degrees. Observe the Moon's illumination. If the Moon falls beneath the horizon, continue advancing until it reappears.**
- 5. Observe the moon over a variety of time periods (a night, a week, a month) and at various FOV (120 degrees/30 degrees/2 degrees). Describe any patterns or interesting details you observe. Consider the following in your observations:**
 - The moon's phases (amount of illumination),**
 - The sides of the waxing and waning moon illuminated,**
 - The relationship between each moon's phase and the time of moon rise and moon set,**
 - The path of the moon in relation to the the Sun and planets,**
 - The phases at which lunar and solar eclipses occur,**
 - View the moon during a lunar eclipse (12/21/10 from 1:30 AM to 5:00 AM EST). What type of eclipse might you see if you were on the Moon at this time? Explain.**
- 6. Select patterns or observations in #5 you think may be closely related. Theorize what processes are responsible for each of these and how they are related. Use both written and graphic means to support your theory. Include any further observations and data supporting your theory.**