

- b. Make note of some of the specific features on your drawing including dark and light areas, craters, mountains, etc. Using a Moon Map find the formal name of many of the major features. Include any references that you use.

### ESTIMATING THE ALTITUDE OF THE MOON

To measure altitude, simply use your fists. Do not use a computer program, only your fists and eyes. Start by holding one fist out in front of you with your arm fully stretched out like you are holding a vertical rope, and your arm and body making a 90 degree angle. This allows for the bottom of your fist to be "sitting" on the horizon in front of you. (From top to bottom, a fist at arm's length is about ten degrees on the sky.) Start climbing this imaginary rope with one fist over another, touching. Count the number of "fists" from the horizon up to the moon. So, if you counted 5 fists then your altitude would be 50 degrees, 6.5 fists would be 65 degrees, etc. If the horizon involves trees, buildings or a mountain, estimate where the horizon would actually be if there were no trees, mountains or buildings and use that as the starting point for your measurement. It will be important that you are able to measure the altitude within one fist (~10 degrees).

### EXERCISE 3: FORMAL PAPER

A minimum three page research paper regarding Lunar Science will be part of the project. The content of the paper must include

- A brief narrative on the theories of how the Earth's Moon was formed. Include the parameters that would be needed to create the Earth-Moon system that we see today. Be sure to include details about how the theories explain features of the Moon.
- A brief description of the Apollo Moon Landing program is to be included concentrating on the landing sites and most important discoveries (including analysis of the lunar material brought back to Earth).
- If the Apollo missions visited any of your 15 major features from your observations make sure to mention which ones.
- Finally, include a brief summary of the 3 most recent missions to the moon (US and other countries) making sure to note any important discoveries.

The paper must have an introduction and conclusion, be well organized, and have a professional appearance. (No abstract needed.)

The paper needs to be a least 3 pages, in APA format, and it should be double-spaced, with Times New Roman font size 12 and 1-inch margins (excluding work cited, tables, and figures). Students who plagiarize any portion of their final paper will receive a zero for the entire assignment. Using a paper written for a previous class is not allowed. The in-text citations and reference page should be correctly formatted using APA