

## **Further questions on your sunset/moon observations**

### **The Moon**

1. Does the moon rise earlier or later each day?
2. When the moon is visible during the daylight, is it “waning” (getting “smaller”) or “waxing” (getting larger)?
3. When the moon is visible at night, is it “waning” or “waxing.”
4. When the moon is full, where is its location relative to the sun?
  - 4.5 What is its rising time relative to the sun’s?
5. When the moon is new, where is its location relative to the sun?
  - 5.5 What is its rising time relative to the sun’s?
6. Draw four sketches of the earth/moon/sun system looking “down” from the above north pole: one sketch for each major phase of the moon (new, first quarter, full, last quarter). Label where you are on the earth, and set the time to be about sunset.

### **The Sun**

7. What is the average amount of time that the set earlier each day over your observation period? (Use two decimal places for your answer.)
  - 7.5 Did some people in your group have very different values than others? What was the maximum and minimum? Try to develop an explanation for these differences. Look carefully at your drawings. Is there anyone whose observations are skewed for some reason?
8. Calculate the average time change in sunset for September, October, and November. Did the average change in sunset times differ between these three months?