

## In-class activity 6

This assignment is worth a maximum of 4.0 points, and is due in class today. No in-class assignment is accepted after the end of class.

Work cooperatively and collaboratively as a team on this in-class assignment. Each person in your group will be awarded the same points as the entire assignment. *Turn in this sheet at the end of class, and attach another page if necessary.*

### Assemble Your Group

1. [0.5 points.] Find your assigned group members, and sign in below.

Team member: \_\_\_\_\_ Team member: \_\_\_\_\_  
 Team member: \_\_\_\_\_ Team member: \_\_\_\_\_

### Planet-Hunting

2. [3.5 points.] The figure on the next page shows the current positions today (2/4/2010) of Earth, the sun, and the inner planets (Mercury and Venus), as seen by looking down on the solar system from above, as well as three outer planets (Mars, Jupiter and Saturn). The size of the sun and planets are not drawn to scale.

- (a) Draw a line that connects the center of Earth to the center of the sun (this line should help you determine where an observer must be on Earth at sunset, midnight, and at sunrise). Then draw a line that connects the center of Earth to the center of Mercury, and repeat, drawing separate lines that connect Earth to each of the rest of the planets.
- (b) Complete the following table, using the letters (A)-(D) listed below to indicate where each planet would be visible in the sky for an observer in San Luis Obispo, CA, at sunset, midnight, and sunrise.
- A. Planet will be low over the E horizon.  
 B. Planet will be somewhere (high) up in the sky.  
 C. Planet will be low over the W horizon.  
 D. Planet will not be visible anywhere in the sky.

|         | Location in sky at sunset | Location in sky at midnight | Location in sky at sunrise |
|---------|---------------------------|-----------------------------|----------------------------|
| Mercury |                           |                             |                            |
| Venus   |                           |                             |                            |
| Mars    | (A)                       | (B)                         |                            |
| Jupiter | (C)                       |                             | (D)                        |
| Saturn  |                           | (A) or (B)                  |                            |