ASTR 311 Lab #1 2 SEP 11

I will quickly demonstrate the mechanics of using a celestial globe to (1) show the appearance of the sky from any point on Earth, at any time of day; (2) measure altitude, azimuth, right ascension, declination, and local solar time; (3) demonstrate the diurnal apparent motion of the sky from any point on Earth; (4) demonstrate the annual apparent motion of the Sun and of the Sun relative to the stars.

Work through as many of the following exercises as you have time for. We will reconvene for the last 10 minutes for questions and a group discussion (I will also be circulating to answer questions, and please feel free to ask your colleagues for help):

1) Working with a lab partner, review and make sure you clearly see all of the aspects of my introductory demonstration.

2) Use the celestial globe to check your results from the first homework set.

3) Here's a real observational astronomy exercise! Suppose you want to obtain ground-based follow-up observations of stars in the field observed by the Kepler spacecraft (a small patch of the sky on the border of Lyra and Cygnus centered on 19^h23^m $+44^o30'$).
   a) What is the best month of the year to observe this field from Hawaii? from La Palma? from South Africa? What is the worst month?
   b) How many hours per night could you observe it (let's say it has to be 15 degrees above the horizon and the Sun 15 degrees below the horizon to be "observable") from Kitt Peak in March? June? September? December?
   c) How many hours per night could you observe it in the middle of winter at the Anglo-Australian telescope near Coonabarabran, New South Wales?