

Introduction to the sky

1 Indoor: visualizing the sky

Materials

seasonal star chart or planisphere

Instructions

Orient a planisphere or star chart for the current season with the real cardinal directions (roughly). Notice anything odd about where N, S, E, and W are on the chart? **How do you have to hold the chart for the directions to match up with the real directions?**

Pick out a few of the brightest constellations and visualize being outside and looking up to see them in the sky. **What direction would you face? What landmarks would you see on the horizon? How high up in the sky would the constellation appear (make a guess in degrees)?**

Actually practice this indoors: face in the appropriate direction and point up at the angle above the horizon where you expect the constellation to appear. Now swing your arm to indicate the path of the constellation through the sky over the course of the night. Show a TA.

2 Indoor: constellations in the Milky Way

Materials

star chart or planisphere, large Milky Way panorama

Instructions

Now use your star chart or planisphere to pick out constellations in the photographic panorama of the Milky Way. **Sketch whole Milky Way with the constellations you have found in your lab notebook.**

3 Computer: using planetarium software

Materials

computer with planetarium software, “Seasonal Objects” page from Consolmagno and David, *Turn Left At Orion* 2nd Edition: 1998, , Cambridge University Press)

Instructions

Make sure you each understand how to do the following:

1. Figure out how to set the time and viewing location. View the sky as it looks right now from our current location.
2. Find all of the current seasonal “guideposts” from the *Turn Left at Orion* book.

3. **Find out what solar-system objects will be up tonight and where they are in the sky and record this in your lab notebook.** Think about going out on the roof at 8:00pm: **what direction would you face to see each planet that is up then, and how high up in the sky will it be?**

4 Outdoor: A first look at the sky

Materials

Turn Left at Orion pages, star chart or planisphere

Instructions

1. Find as many of the summer “guideposts” from *Turn Left at Orion* as you can.
2. Find any solar-system objects that are up.
3. Find Polaris (the North Star).
4. Find as many constellations as you can.
5. If it is very clear: **figure out what constellation any visible solar-system objects are in, and draw their positions with respect to the bright stars in the constellation.**