



CHAPTER 2—LAB 1: DETERMINING YOUR LATITUDE

Materials

Soda straw; cardboard, or file folder; coin, or small weight; masking tape and/or glue; string, scissors

Objective

To show your parent or guardian how to determine your latitude, without the use of any communication devices (like a computer) or printed materials (maps, reference books, etc.)

Procedure

Figures 2-13 and 2-14 will help you to construct and use an astrolabe. An astrolabe is a device to measure the angular altitude of any point in the sky. You may either make this device following the steps below, or you may just explain to the adult how it is made and used.

1. Cut out the protractor below and paste it to a sheet of thin cardboard.
2. Attach a coin or weight to a piece of string and hang it so that it pivots from the place labeled "String swings from here" at the center of the paper protractor.
3. Attach a drinking straw along the flat side of the protractor with tape as indicated in Figure 2-13.

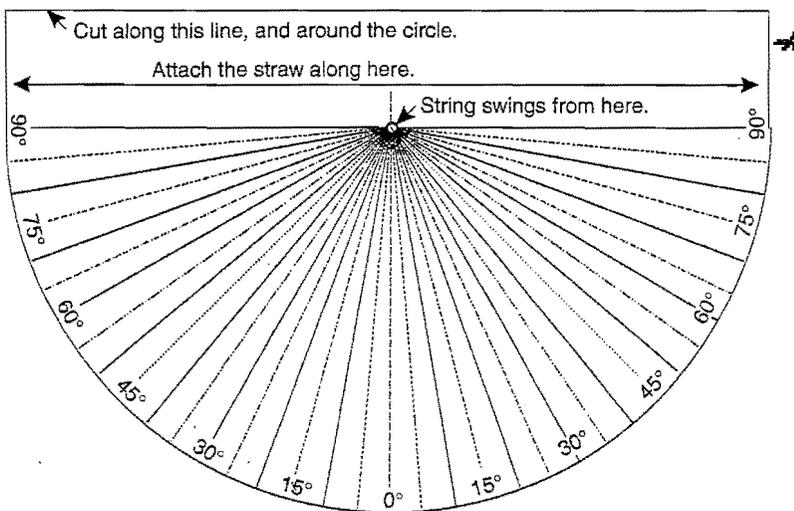


FIGURE 2-13.

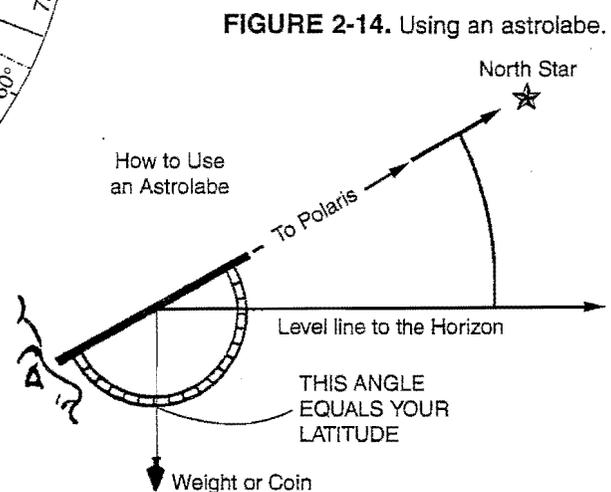


FIGURE 2-14. Using an astrolabe.

4. Outside at night, use the “pointer stars” at the end of the Big Dipper to find Polaris. (You may need to find a location such as a park where at least a few stars are visible and not obscured by nearby lights or buildings.) Figure 2-15 shows how to use the pointer stars to find the North Star.

5. Look through or along the straw pointed to Polaris as shown in Figure 2-14.

6. Ask another person to determine the latitude by reading the angle along the string.

The angle is _____.

My student, _____, has shown me how to determine our latitude.

(Signed) _____

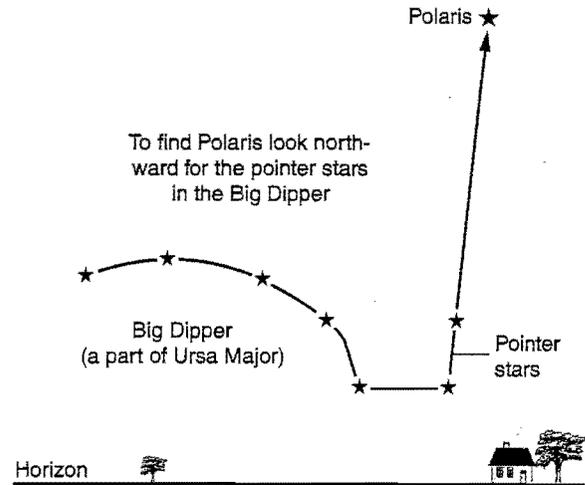


FIGURE 2-15. Using the Big Dipper to find Polaris.