



Celestial Sphere/Constellations

Introduction

Unit Two will build upon skills learned in Unit One by teaching students to use star maps, and pre-determined points on the northern horizon to find the North Star. As an alternative, some classes might be able to perform this activity using a planetarium or starlab.

History

In the Northern Hemisphere, the North Star (Polaris), does not appear to move in the night sky. This is why it has had such an important role in ancient myths and legends, as well as in the history of navigation. In the Southern Hemisphere, there are many bright objects that are visible depending on the time of the year.

Activity 1

Objective

To locate the North Star in the night sky.

Materials

- Permission slips
- Writing utensil
- Journal
- Flashlight prepared for night time viewing
- Star map

Several websites have star maps that you can download; for instance:

- www.skymaps.com
- www.gsat.edu.au/astronet

If you have any other you can recommend, please contact astronomy@nsta.org.

Vocabulary

- Axis
- Circumference

Procedure



1. Arrange for several parents to take phone calls to answer questions about canceling or continuing the nighttime observation in case of inclement weather.
2. Using the point on the playground that was previously designated as North and a star chart have the students individually (or with their parents) locate the North Star and the Little Dipper. Have the students record the altitude and azimuth of the North star in their journals.

Suggestions

Many classes have used this lesson as an opportunity to have a star party with students and parents. Suggestions have included spreading blankets on the lawn and sharing myths and legends about the stars, moon, and planets, or having students dress up as their favorite Greek hero.

Discussion

Discuss the following questions with your students before they go home for the night.

1. Was the North Star clearly visible? Was the Little Dipper visible?
2. Did the lights from the streets and houses interfere with your viewing?

Student Journals

Students should answer the following questions in their journals and be prepared to discuss their answers in class.

1. Did the North Star seem to move? In which direction did it move? What caused the movement?
2. Where do you think you could see more stars?
3. What was the condition of the sky?
4. What was the temperature?

Connections

In future lessons students will be asked to record the amount of light pollution in their area. It may help to introduce the topic if you begin to talk about the concept starting with this lesson.

Source; <http://www.nsta.org/publications/interactive/aws-din/din-u2.aspx>

