

## **SECTION 4: THE REASONS FOR THE SEASONS LAB**



Westminster College

### **INTRODUCTION**

The tilt of the Earth on its axis causes the seasons as the Earth revolves around the Sun. In winter, the direction of the tilt is the same as in the summer (the axis points toward the North Star, Polaris), but since the Earth is now on the opposite side of the Sun, the Southern Hemisphere is tilted toward the Sun and the Northern Hemisphere is tilted away. Therefore, the Sun's rays striking the United States are more slanted, causing less heating. The tilt also causes longer days in the summer, resulting in more heating of the Earth. The tilt of the Earth is 23.5 degrees from vertical.

### **ASSESSMENT ANCHORS ADDRESSED**

- S4.A.3.1** Use models to illustrate simple concepts and compare the models to what they represent.
- S4.A.3.3** Identify and make observations about patterns that regularly occur and reoccur in nature.
- S4.D.3.1** Describe Earth's relationship to the sun and the moon.

### **PURPOSE**

Students will see demonstrations that explain the reasons for the seasons and the difference between direct and slanted Sun rays.

### **MATERIALS**

#### **For the teacher:**

1 lamp with bulb

Globe\*

Book\*

Seasons transparency

Clay

Flashlight

White graph paper

*Teacher provides items marked with \**