

**FIGURE 2.10**

A model Sun and Earth setup



Note that the model Sun is pointed directly at the center of the globe.

2. Have students set up their globe and lamp with the lamp's shade directing the Sun's light on the Earth and with the lamp at the same height above the table as the Earth's equator (Figure 2.10). The axis of rotation of the globe should be pointed away from the direction of the Sun (i.e., with the North Pole tipped away from the direction of the Sun), which represents the Earth's orientation relative to the Sun on the winter solstice (the first day of winter in the Northern Hemisphere, which occurs around December 21). The globe also needs to be positioned in its orbit around the Sun so that the North Pole is pointing in the north direction in the room as indicated by the sign on the wall.
3. Have the students attach one sundial to the globe at their location. Have them attach a second at the equator, and a third about the same distance south of the equator as their home location. All three should be on the same longitude line. Be sure the north-south lines on the sundials are lined up to point to the North and South Poles of the globe (Figure 2.11).
4. Assuming students did Experience 1.5, "Noontime Around the World," from Chapter 1, you may wish to skip this step. If they have not worked with the globes and model sundials before, have students explore their model Earth-Sun system to answer the following questions in their astronomy lab notebooks (be