Secchi Disk Transparency Protocol (for deep, still waters)
Field Guide

Task

Measure the transparency of your water sample.

What You Need

- ☐ *Hydrosphere Investigation Data Sheet*
- ☐ *Cloud Type and Contrail Type Protocol Field Guide*
- ☐ *Cloud Cover and Contrail Cover Protocol Field Guide*
- ☐ Secchi disk with rope attached
- ☐ *Latex gloves*
- ☐ Meter stick
- ☐ *GLOBE Cloud Chart*
- ☐ Pen or pencil
- ☐ Clothespins (optional)

In the Field

1. Fill in the top portion of the *Hydrosphere Investigation Data Sheet*.
2. Record the cloud and contrail types and cover (see the *Cloud Protocols* in the *Atmosphere Investigation*).
3. Stand so that the Secchi disk will be shaded or use an umbrella or piece of cardboard to shade the area where the measurement will be made.
4. If you cannot reach the water surface, establish a reference height. This can be a railing, a person's hip, or the edge of a dock. All measurements should be taken from this point. Wear latex gloves, as you will probably touch the rope wet with sample water.
5. Lower the disk slowly into the water until it just disappears.
6. Mark the rope with a clothespin at the water surface or, if you cannot easily reach the water surface (for example, if you are standing on a dock or bridge), mark the rope at your reference height.
7. Lower the disk another 10 cm into the water, then raise the disk until it reappears.
8. Mark the rope with a clothespin at the water surface or at your reference height.
9. There should now be two points marked on the rope. Record the length of the rope between each mark and the Secchi disk on your *Hydrosphere Investigation Data Sheet* to the nearest cm. If the depths differ by more than 10 cm, repeat the measurement and record the new measurements on your *Data Sheet*.
10. If you marked the rope at the water surface, record "0" as the distance between the observer and the water surface.
11. If you marked the rope at a reference point, lower the disk until it reaches the surface of the water and mark the rope at the reference point. Record the length of the rope between the mark and the Secchi disk as the distance between the observer and the water surface.
12. Repeat steps 5-11 two more times with different students observing.