

Oakton Acorn pH Meter Calibration

March 23, 2009

1. Connect **pH** and temperature probes to the meter and ensure the **pH** probe connecter snaps into place.
2. Turn the meter on.
3. Determine which two buffer solutions you will use to calibrate the meter.
 - a. Use buffer solutions **pH 4** and **pH 7**, if you expect the water samples to have a **pH** below 7.
 - b. Use buffer solutions **pH 7** and **pH 10**, if you expect the water samples to have a **pH** above 7.

*Note: Surface waters are likely to be above **pH 7** unless there is an unusually significant area of wetlands in the watershed.*
4. Record the **date, time, person** doing calibration, and the **lower pH buffer** standard value on the log sheet.
5. Remove electrode from container with storage solution.
6. Rinse electrode with distilled water and shake excess water off electrode.
7. Press CAL button on the meter to start the calibration process.
8. Place electrode and temperature sensor into the lower **pH** buffer solution and submerge the glass bulb completely.
9. Wait for reading to stabilize and record the **Stabilized pH** on the calibration log sheet.
10. Press the **ENTER** key once and record the **Calibrated pH** value.
11. Check that the **Calibrated Value** is within 0.2 of the **pH** buffer standard. If the value is more than 0.2 higher or lower than its **pH** buffer value, recalibrate the meter. Record new results on the next line of the Calibration Log.
12. Remove electrode from lower value **pH** buffer solution, rinse with distilled water and shake off excess water.
13. Repeat steps 7 through 12 for the higher **pH** buffer solution.
14. Replace **pH** probe in storage solution, turn meter off, and head out to the field.

pH Sampling Procedure

1. Wade into stream mid-width.
2. Face upstream and dip plastic sample bottle into stream with the mouth faced down.
3. Submerge the bottle 12 inches or halfway between the surface and stream bottom.
4. Fill bottle by turning bottle (while underwater) so that its mouth faces up.
5. Rinse and dump water from sample bottle downstream.
6. Repeat Step 2-4.
7. Transport sample bottle back to shore or vehicle.
8. Connect any electrodes to pH meter and turn meter on.
9. Remove electrode from container with storage solution.
10. Rinse electrode with distilled water and shake off excess water.
11. Place pH and temperature probes into sample bottle and gently stir the probes.
12. Wait 2-3 minutes for pH reading to stabilize.
13. Record the pH reading on the log sheet. Do not record the temperature reading from the pH meter since it is not the actual stream temperature.
14. Rinse electrode with distilled water and shake off excess water.
15. Place electrode back in container with storage solution.
16. Disconnect electrodes and turn the meter off to store.