



Water Quality Testing

Preparing for the Learning Experiences



Overview:

Water quality testing is a regular part of most research projects that are designed to monitor and improve watershed health. Data that is collected is used to track levels of pH and dissolved materials such as oxygen, nitrates, phosphates, salts and metals in streams, wetlands and standing bodies of water. In addition, tests are conducted to determine levels of visible materials such as inorganic sediments, organic wastes, algae, zooplankton and bacteria. This unit contains information about several of these tests, instructions for safe use of the testing materials in the field or a classroom, and a discussion about their importance. Please note that we do **NOT** recommend testing for coliform bacteria, which is a routine part of the lab work done at a wastewater treatment plant. Since the levels of funding for equipment and supplies may vary widely among schools, we have included options for both low-cost procedures using common indicators as well as high-tech versions such as electronic data probes.

Several of the *Expedition Chesapeake* Learning Experiences reference the Water Quality Testing Unit as students work through their challenges and proposed solutions. While you may choose to have your students carry out the tests as a part of a stand-alone lab activity, we urge you to make these activities more meaningful to students by incorporating water quality testing into a student project within the module or test of a student-generated hypothesis.

Materials Needed for the Water Quality Testing Unit

Note: see list for each of the water quality tests included in the unit

Bioassessment: water quality test based on presence of macroinvertebrates.

Copy the lesson, *Is Anybody There* (Learning Experience #2) *Winning with Healthy Waterways* scenario within Module I

Target Grade Level: Grades 8-10

Vocabulary

Bioassessment; Dissolved oxygen (DO); indicator; nitrate; pH; phosphate; turbidity; sedimentation tank; stormwater; wastewater

