



Objective

The Water Sampling virtual lab is intended to help learners explore basic techniques for water sampling in the field. It can be used as a training module prior to a field experience. It can also be used for distance learning or as a lab activity (on computers) in the classroom. It can be used alone, or in conjunction with the Water Testing virtual lab.

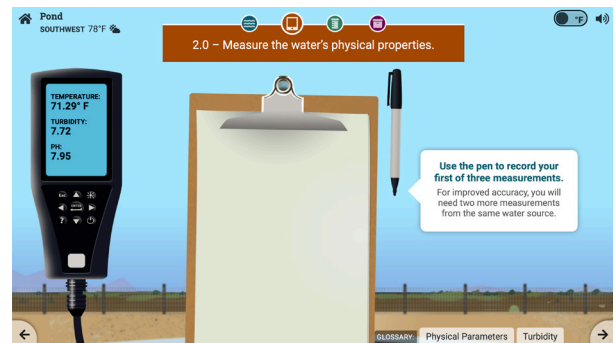
Teachers can use the prompts below to guide discussion. Additional resources linked below can help teachers or students learn more about contaminated water samples and support deeper thinking about the implications of contaminated water sources.

First, give students 15 to 20 minutes to explore the water sampling module at <https://conserve.nmsu.edu/conserve-sampling-app/index.html>

Then, use the prompts below to help your students review main points and discuss broader implications.

Main Content Overview Questions

- What elements might distort a water sample's actual quality? (Precipitation events causing runoff, sample location too close to bank, cross contamination of equipment, etc.)
- Why is it important to make sure all equipment used is clean before sampling? (To avoid cross contamination.)
- Why is it important to note a water source's physical properties? (They are different for each location and might influence bacterial levels.)



Discussion Points/Prompts

- Why is it important that we sample and test these alternative water sources? (If people will come into contact with the water by drinking it or irrigating food crop or lawns, we need to make sure the water is not contaminated.)
- How sanitized do you think nontraditional water sources should be if they are used for irrigating food crops? Does this depend on the type of crop? (All irrigation water used for food crops should have a relatively high level of sanitization to lower the chance that the crop could be contaminated. Some foods might be more sensitive to water intake and might be contaminated more easily; see <https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-produce-safety>.)
- Think about some possible ways certain contaminants may be eliminated even before entering the water source. (Control point source pollution leading to runoff – restrictions, increasing medical waste site accessibility, avoiding dumping in private wastewater, etc.)

