

# Testing the Waters

## Objectives:

Students will be able to:

- Recognize some parameters scientist test to determine the quality of water.
- Understand how people's actions affect water quality.

## Materials:

- Email [WaterEducation@WaterMatters.org](mailto:WaterEducation@WaterMatters.org) to order free water test kits from the SWFWMD. Each kit measures eight parameters (pH, dissolved oxygen, biochemical oxygen demand, temperature, turbidity, nitrate, phosphate, and coliform bacteria) and has enough test tabs to test each parameter 10 different times — for multiple water samples.
- Collect samples from nearby water bodies and ponds.
- Display the pH scale provided at [WaterMatters.org/pHscale](http://WaterMatters.org/pHscale).

## Engage:

Ask aloud the following questions to activate prior knowledge:

- How are different surface water bodies connected?
- How are surface water and groundwater interrelated?
- What can you tell about the quality of water by looking at it?
- Why do you think it is important scientists monitor water quality?

## Teacher Directions:

1. Print the Water Quality Data Sheet provided on the next page and provide it to students.
2. Divide students into groups and pass out water samples and test kits.
3. Have students conduct tests following directions provided in the test kit.
4. Ask students to record results on the data sheet.
5. Then discuss types of pollutants, people's actions, stormwater runoff, etc. that may have contributed to test results.

## Additional Resources:

- View SWFWMD's Water Quality podcast and teacher's guide at: [WaterMatters.org/Podcasts](http://WaterMatters.org/Podcasts).
- Visit SWFWMD's Water Quality Monitoring website for teachers and students at: [WaterMatters.org/WaterMonitoring](http://WaterMatters.org/WaterMonitoring).
- Participate in the World Water Monitoring Challenge by sharing your test data online and comparing your data with data from other students around the world.

# Measuring Water Quality Data Sheet

Student name: \_\_\_\_\_ Date: \_\_\_\_\_

Water sample collected from: \_\_\_\_\_

Time collected if known: \_\_\_\_\_

Test Conducted	Tests Results	Most Aquatic Organisms Prefer
Turbidity		Clear or slightly cloudy water
pH		Neutral 6.0 – 8.0
Temperature*		Cool to warm 55° F – 80° F
Dissolved Oxygen (DO)		4 parts per million (ppm) or higher for organisms living in water above 68° F

\*Temperature conversion formula: Degrees C x 1.8 + 32 = Degrees F

<b>Based on your results, circle the rating of your water sample:</b>	
<b>A</b>	Excellent habitat for most organisms Preferred results on all four tests
<b>B</b>	Good habitat for most organisms Preferred results on three out of four tests
<b>C</b>	OK habitat for some organisms Preferred results on two out of four tests
<b>D</b>	Poor habitat for most organisms Preferred results on one out of four tests
<b>F</b>	Unsuitable habitat for most organisms Outside preferred range on all four tests