

# Water Quality Tests

- Dissolved Oxygen

Dissolved Oxygen (DO) is important to the health of aquatic ecosystems. All aquatic animals need oxygen to survive. Natural waters with consistently high dissolved oxygen levels are most likely healthy and stable environments, and are capable of supporting a diversity of aquatic organisms. Natural and human-induced changes to the aquatic environment can affect the availability of dissolved oxygen.

## DO ranking test results:

Result	Rank
8 ppm	Excellent
6 ppm	Good
4 ppm	Fair
<4 ppm	Poor

- pH

pH is a measurement of the acidic or basic quality of water. The pH scale ranges from a value of 0 (very acidic) to 14 (very basic), with 7 being neutral. The pH of natural water is usually between 6.5 and 8.2. Most aquatic organisms are adapted to a specific pH level and may die if the pH of the water changes even slightly. pH can be affected by industrial waste, agricultural runoff, or acid rain.

## pH ranking test results

Result	Rank
4	Poor
5	Poor
6	Good
7	Excellent
8	Good
9	Poor
10	Poor

- Turbidity

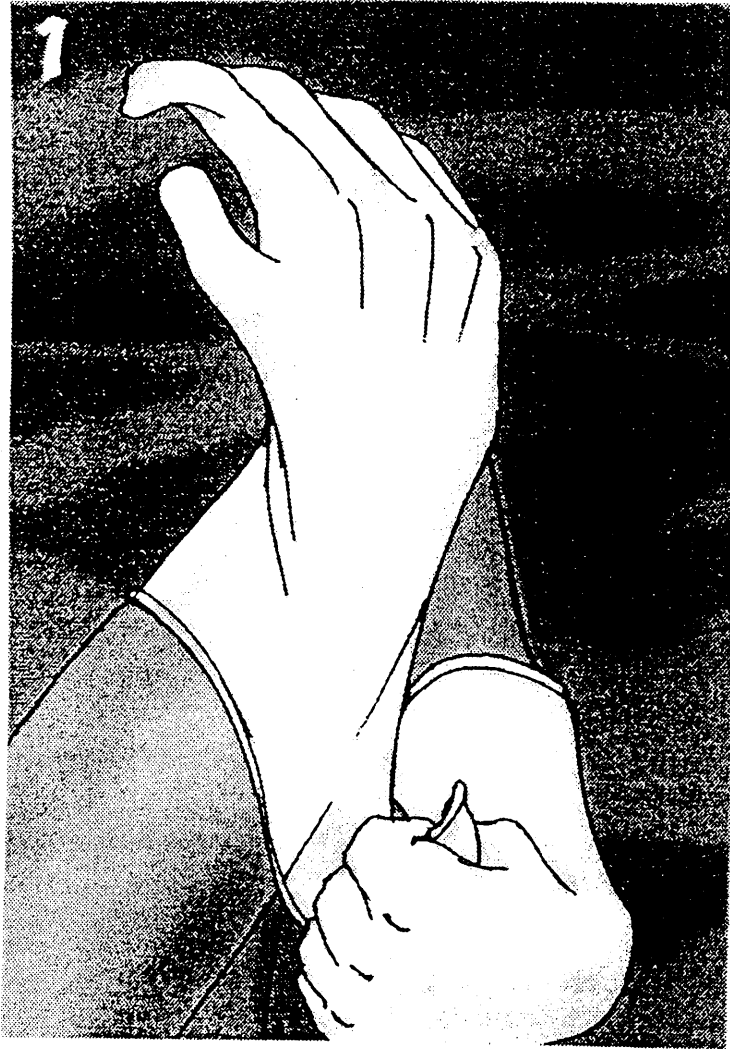
Turbidity is the measure of the relative clarity of water. Turbid water is caused by suspended matter such as clay, silt, organic/inorganic matter, and microscopic organisms. Turbidity should not be confused with color, since darkly colored water can still be clear and not turbid. Turbid water may be the result of soil erosion, urban runoff, algal blooms, and bottom sediment disturbances which can be caused by boat traffic and abundant bottom feeders.

## Turbidity ranking test results

Result	Rank
0 JTU	Excellent
>0 to 40 JTU	Good
>40 to 100 JTU	Fair
> 100 JTU	Poor

# temperature procedure

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1. Wear protective gloves.



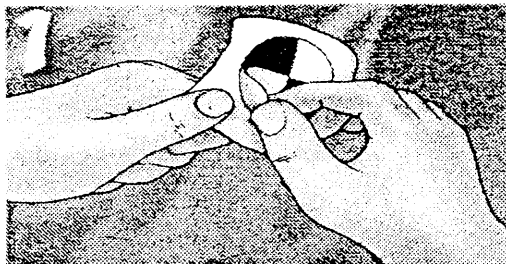
2. Place the thermometer four inches below the water surface for one minute.



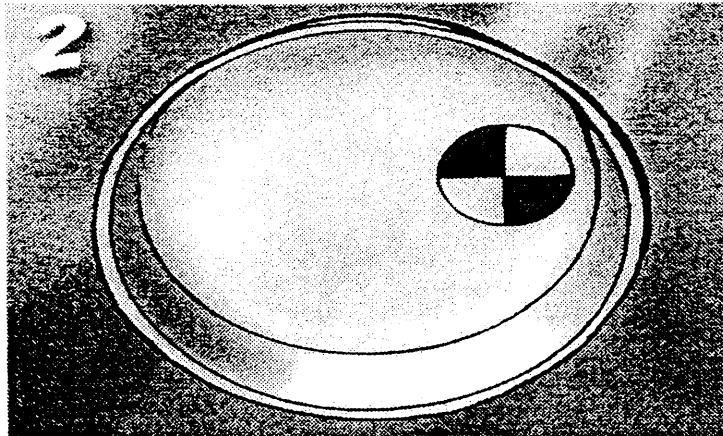
3. Remove the thermometer from the water, read the temperature and record the temperature as degrees Celsius.

# turbidity procedure

The white jar is used to perform the Turbidity test. If possible, adhere the Secchi disk icon sticker to the jar 8-24 hours before use to allow the adhesive to cure.



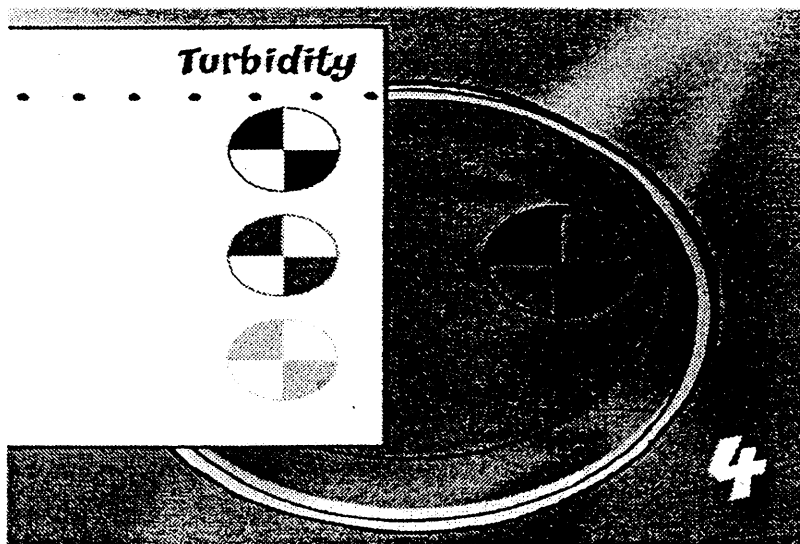
1. Remove the backing from the Secchi disk icon sticker.



2. Adhere sticker on the inside bottom of the large white jar (kit container). Position the sticker slightly off center.



3. Fill the jar to the turbidity line located on the label.



4. Hold the Turbidity Chart on the top edge of the jar. Looking down into the jar, compare the appearance of the Secchi disk icon in the jar to the chart. Record the result as Turbidity in JTU.

# dissolved oxygen procedure



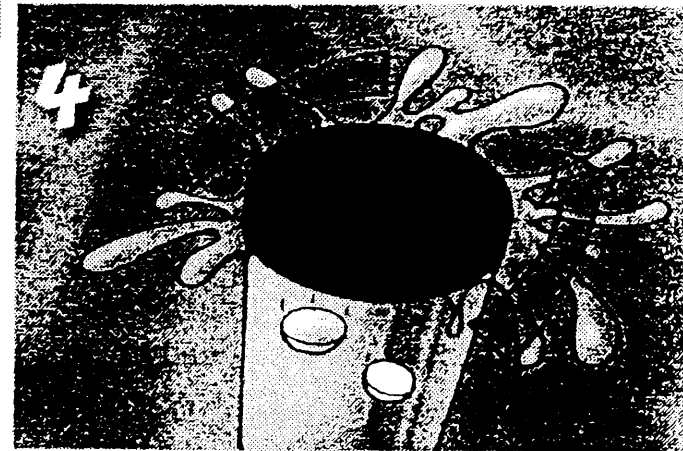
**1.** Record the temperature of the water sample.



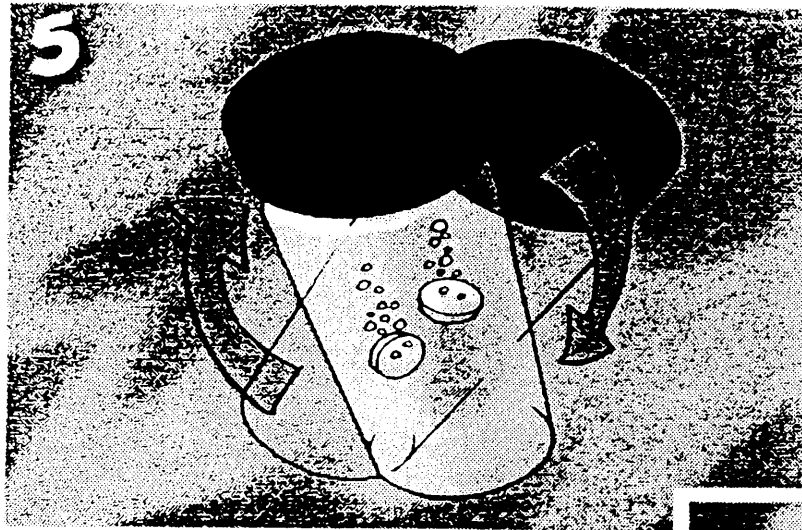
**2.** Submerge the small vial (0125) into the water sample. Carefully remove the vial from the water sample, keeping it full to the top.



**3.** Drop two Dissolved Oxygen TestTabs® (3976A) into the vial. Water will overflow when the tablets are added.

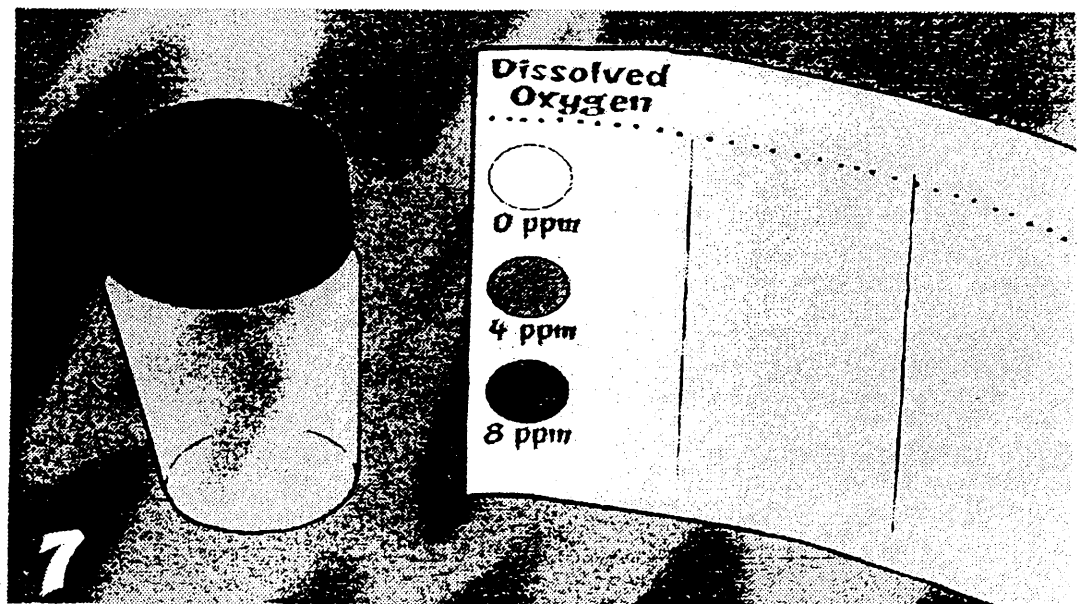
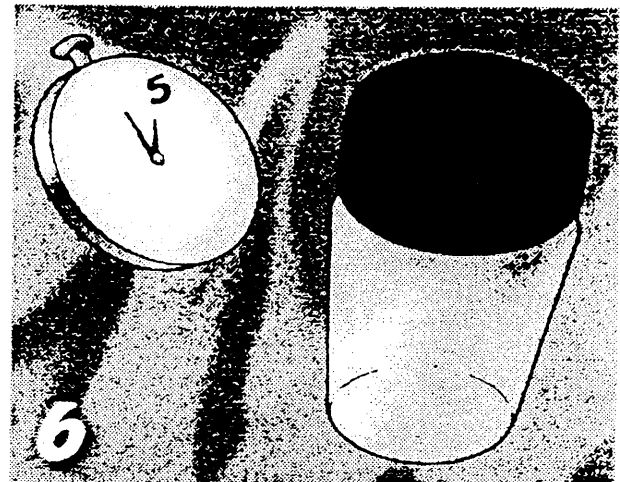


**4.** Screw the cap on the vial. More water will overflow as the cap is tightened. Make sure no bubbles are present in the sample.



5. Mix by inverting the vial over and over until the tablets have disintegrated. This will take about 4 minutes.

6. Wait 5 more minutes for the color to develop.

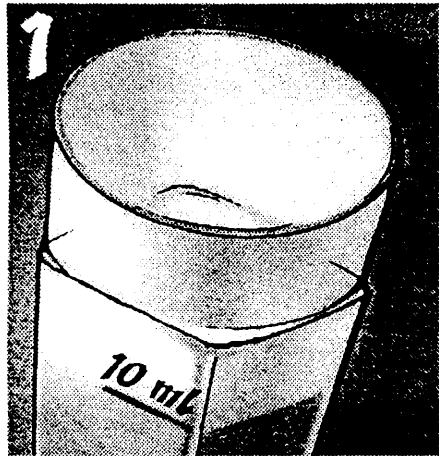


7. Compare the color of the sample to the Dissolved Oxygen color chart. Record the result as ppm Dissolved Oxygen.

# pH

pH is a measurement of the acidic or basic quality of water. The pH scale ranges from a value of 0 (very acidic) to 14 (very basic), with 7 being neutral. Most aquatic animals prefer a range of 6.5 to 8.0. They are adapted to a specific pH level and may die, stop reproducing, or move away if the pH of the water varies beyond this range. Low pH can also allow toxic compounds to become more available to aquatic plants and animals. This can produce conditions that hurt aquatic life. pH can be affected by atmospheric deposition (or acid rain), wastewater discharges, drainage from mines, and the type of rock naturally found in the area.

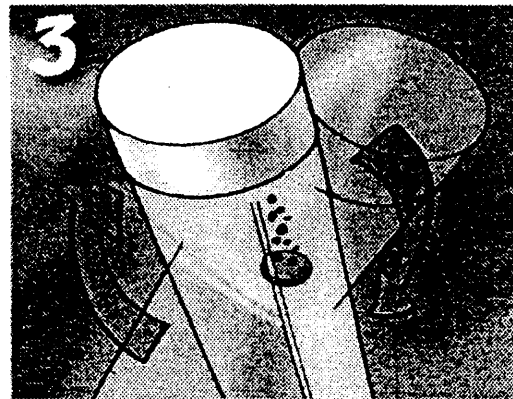
## pH procedure



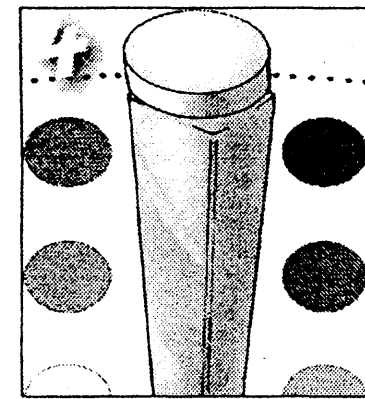
**1.** Fill the test tube (0106) to the 10 mL line with the water sample.



**2.** Add one pH Wide Range TestTab (6459A).



**3.** Cap and mix by inverting until the tablet has disintegrated. Bits of material may remain in the sample.



**4.** Compare the color of the sample to the pH color chart. Record the result as pH.