Name_____ **Snapshot '07: Chemical Description** Location_____

1. **pH**   measures how acidic or basic (alkaline) a solution is. The scale goes from 0 to 14 with 7 being neutral, below 7 is acidic and above 7 is basic. Most fish prefer 6.5 to 8.

   Time: _____   circle equipment used:

   Test Strips   color match test kit   meter   pH pen

   Reading 1: _____   Reading 2: _____   Reading 3: _____

2. **Salinity** is a measure of the amount of salt present in the water (we are measuring the chloride)
   It is measured in PPT (parts per thousand) OR in smaller amounts as PPM (parts per million) or mg/l. Some people measure in PSU or practical salinity units. Others measure Conductivity as mS/cm (Microsiemens), uS/cm (millisiemens), or PSU

   Time: _____   circle equipment used:

   Drop count test kit   meter   refractometer   test strips   hydrometer

   Reading 1: _____   Reading 2: _____   Reading 3: _____   (<u>note correct units</u>)

3. Water temperature

Record water temperature in degrees Celsius or degrees Fahrenheit. You can convert between the two using these formulas: $C = 0.556 \times (F - 32)$ $F = (1.8 \times C) + 32$

   Time: _____   Location: Sunny, shady, covered with plants (circle one)
   Approximate water depth (in feet): _____

   Reading 1: _____ C   _____ F

   Reading 2: _____ C   _____ F

   Average: _____ C   _____ F

4. Dissolved oxygen (DO)

The amount of dissolved oxygen in the water is one of the most important factors in telling how healthy that ecosystem is. Many variables affect DO, including temperature, time of day, presence of plants, and wind conditions. DO measurements are given in mg/l and as percent saturation. 100% saturation means that the water cannot hold any more oxygen at that temperature. If more oxygen is added (such as by a high wind or a waterfall) the oxygen will go from the water into the air.

   Time: _____   Water temperature in C _____ (use average from #3 above)

   circle equipment used: meter   drop count kit   other
   DO (mg/l) or PPM: _____% saturation (see chart nextpage) : _____

   Describe the area where you are collecting water:_____
                                                          (In direct sun? In the shade? Water very still?)

METHOD
Source of chart: http://waterontheweb.org/under/waterquality/oxygen.html

For a quick and easy determination of the percent saturation value for dissolved oxygen at a given temperature, use the saturation chart above. Use the mg/l of dissolved oxygen you measured and the temperature of the water in degrees C. Draw a straight line between the water temperature and the mg/l of dissolved oxygen. The percent saturation is the value where the line intercepts the saturation scale. Waterways with a saturation value of 90% or above are considered healthy.

0   5   10   15   20   25   30

Water temperatures °Cent.

% Saturation
10 20 30 40 50 60 80 100 120 140

Oxygen, ppm

0 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17