

**"Healthy Water, Healthy People" Experiment:
Parameter - Dissolved Oxygen**



Dissolved Oxygen Sensor (PS-2108)



Overview:

Just as animals need oxygen to live, aquatic animals need oxygen dissolved in water.

Equipment:

For each lab group:

- Dissolved Oxygen Sensor:
[PASPORT \(PS-2108\)](#)
- Computer Interface:
[PASPORT Xplorer \(PS-2000\)](#) | [PASPORT Xplorer GLX \(PS-2102\)](#)
- Water samples from various locations: (lake, river, pond, puddle, and wetland, etc...)
- 4 containers with lids/caps

Software Setup:

1. Click on one of the links below to download a pre-configured DataStudio file for this Dissolved Oxygen experiment, and then open the file.

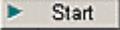
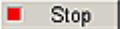
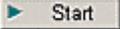
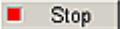
File Format: [Windows \(.zip file\)](#) or [Macintosh \(.sit file\)](#)

When the file is opened, you should see a graph display and a table display of Dissolved Oxygen vs. Solution #, as well as a digits displays of Conductivity.

2. Connect the Dissolved Oxygen sensor to an Xplorer or Xplorer GLX.

Experimental Procedure:

Data Recording:

1. Collect two water samples each, from at least two of the following water sources: lake, river, pond, puddle, and wetland.
2. Place the Dissolved Oxygen Sensor into the first sample.
3. If outdoors and not connected to a computer or laptop, press the () on the Xplorer or GLX to begin collecting data. Watch the digits display for the temperature reading to stabilize, and note the result. Click the () on the Xplorer or GLX to end data collection.
4. If indoors and connected to a computer or laptop, click the Start button () in DataStudio. Watch the digits display for the temperature reading to stabilize, and note the result. Click the Stop button () in DataStudio to end data collection.
5. Repeat steps 2-4 for the other sample.
6. Cap or cover your samples and save the second sample of each source for the biochemical oxygen demand (BOD) test to be performed later.
7. If you have collected data remotely using Xplorer or GLX, your data can be downloaded to the computer automatically. Connect the Xplorer or GLX to the USB port on your computer using the cable provided, and follow the on-screen prompts to view your data in DataStudio.
8. Allow the BOD samples to stand, while covered, for approximately 5 days.
9. Place the Dissolved Oxygen Sensor into the first sample.
10. If indoors and connected to a computer or laptop, click the Start button () in DataStudio. Watch the digits display for the temperature reading to stabilize, and note the result. Click the Stop button () in DataStudio to end data collection.
11. Repeat steps 9-10 for the other sample.
12. Compare the differences. This is the BOD for the samples. How do the levels compare?