

**"Healthy Water, Healthy People" Experiment:  
Parameter - Turbidity & Transparency**



**Turbidity Sensor (PS-2122)**



**Overview:**

Turbidity is a significant indicator of overall water quality for the aquatic community as well as human health. Erosion prevention is the best way to minimize turbidity in waterways and drinking water.

**Equipment:**

For each lab group:

- Turbidity Sensor:  
[PASPORT \(PS-2122\)](#)
- Computer Interface:  
[PASPORT Xplorer \(PS-2000\)](#) | [PASPORT Xplorer GLX \(PS-2102\)](#)
- Water samples from various locations (agricultural land, wetlands, forest, garden, playground, etc...)
- 500-mL beakers (or similar containers)

**Software Setup:**

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

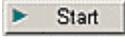
**File Format:** [Windows \(.zip file\)](#) or [Macintosh \(.sit file\)](#)

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

2. Connect the Turbidity sensor to an Xplorer or Xplorer GLX.

## Experimental Procedure:

### Data Recording:

1. Collect water sources from various sources, including a river, lake, pond, puddle and tap.
2. Fill each cuvette with a sample of your water source.
3. Visibly analyze each cuvette and determine which sources appear to be more turbid
4. Place the first cuvette into the Turbidity Sensor and close the lid.
5. 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.
6. 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.
7. Remove the cuvette from the Turbidity sensor.
8. Repeat steps 4-7 for each cuvette.
9. 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.
10. Conduct this activity over the course of a year to monitor and identify seasonal or other environmental changes.