

Turbidity Lab Protocol

Get a laptop and Load Logger Pro

Connect the sensor to the usb adaptor

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How to Calibrate the Turbidity Sensor:

1. Experiment -> Calibrate -> Go Link Turbidity

2. Calibrate Now

3. Wipe the inside of the sensor and the outside of the 100 NTU standard bottle carefully with a Kimwipe

4. Put the 100 NTU standard bottle into the sensor (line up the arrows) and close the lid

5. Type "100" in the box; click Keep

Box in the lower portion of the window not the box that has NTU in it

6. Put tap water in the clear bottle

7. Wipe the inside of the sensor and the outside of the clear bottle carefully with a

Kimwipe. Put the clear bottle into the sensor (line up the arrows) and close the lid

9. Type "0" in the box; click Keep; click Done

10. Test the 100 NTU standard and the 0 NTU distilled water –wipe the inside of the sensor and the outside of the bottles with a Kimwipe before each measurement

Pre-lab questions. Write these on a separate sheet of paper that you will be also recoding the rest of your work throughout the lab on. (You may need to Google some of these)

1. What is an NTU?
2. What does it mean if you get a negative NTU?
3. Is 100 the highest count of NTU?
4. List three ideas that might cause your NTU measurements to be off from their true measurements

Lab portion

1. Obtain your groups bottle of water that you collected in the previous class.
2. Construct a table on your paper that looks like:

Location water sample was taken from	Prediction	Actual
The river	5000 NTU	

3. Shake your water bottle holding your finger on the lid while you shake
4. Put your water in the clear bottle that was used for the calibration
5. Wipe the inside of the sensor and the outside of the clear bottle carefully with a Kimwipe. Put the clear bottle into the sensor (line up the arrows) and close the lid
6. Record this measurement in the “actual” column of the table you created
7. Think of a new place you can collect water from outside on campus write that in your location column of the table, and then come up with a prediction for what you think the NTU will be
8. Go get that new sample
9. Test it again repeating steps 4 and 5
10. Repeat steps 6 to 8 one more time but this time stir up the bottom of whatever water source you are testing, and attempt to get some of that sediment into your sample.

Conclusions on your own piece of paper:

1. How far apart were your three measurements?
2. Do you think they are actually different or just measurement error?
3. If it was measurement error what caused that error? Specifically you may want to refer to the EPA reading to remind yourself how this test actually works.
4. If they are different what does this tell you about how sediments affect the visibility of water?
5. Why would shaking the water bottle or stirring up the bottom matter? When would this happen in nature? What about manmade causes?
6. What ramifications do you think this has for things that drink water, or breathe it?