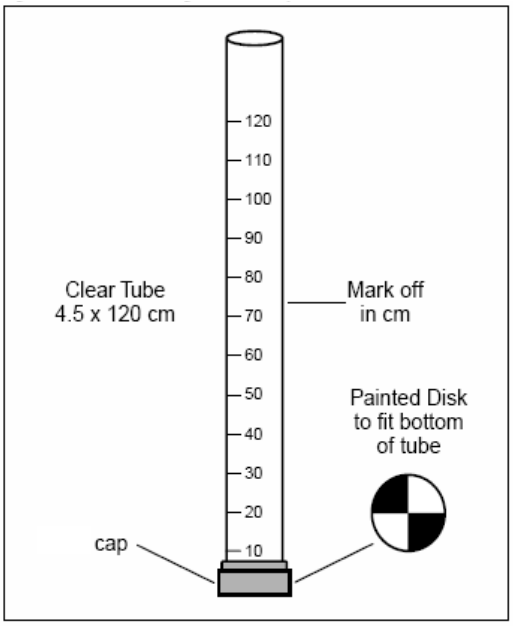
Secchi Disk Turbidity Tube Manual

How to Make a Turbidity Tube

1. Purchase a fluorescent tube light cover from a hardware store. This is usually about an 8-foot long clear plastic tube with end caps. Make sure you have the end caps.
2. Cut a disk from a plastic container lid that fits inside the end cap.
3. Divide the disk into quarters. Fill in alternating quadrants with a black permanent marker as shown in the diagram to the right. ➔
4. Glue the disk in the bottom of the tube, painted side facing up (toward the open end of the tube). Use Gorilla glue or any flexible water-tight glue. Be generous with the glue to ensure a good seal.
5. Use a marker and meter stick to make a scale on the side of the tube, beginning at the top of the painted disk with 0 cm.
6. Calibrate the water depth with a turbidity meter if possible, or record depths for comparisons. Lower depth means higher turbidity.



How to Use a Turbidity Tube

1. Pour sample water (from collected source water) into the tube until the image at the bottom of the tube is no longer visible when looking directly through the water column at the image.
2. Rotate the tube while looking down at the image to see if the black and white areas of the image are distinguishable. (Pour out water if you passed the point where the image just disappears. If you go past this point your turbidity reading will be lower than it really is.)
3. Read the turbidity on the column at the bottom of the meniscus (bottom of the curve in the water surface).

Measurement Tips

Ideally, make all measurements under the same light conditions. Different people may see the image disappear at different places. For this reason, it is best if two or three people take and compare measurements. Make sure everyone measures and records the same way, every time.

Diagram source: http://www.globe.gov/sda/tg/hydrology/WaterTransparency.pdf