Name_____

Lab Report Template

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Project 4.3.5 Drink This

Problem

There are many sources of drinking water found through the world. The government has done lots of research and determined EPA drinking water standards. We will look at multiple water samples and compare the health criteria of these

Hypothesis

Water quality varies depending on the source.

Materials

- LabQuest2
- Conductivity Meter
- Turbidity Meter
- Dissolved Oxygen Sensor
- pH Sensor
- Buffer Solution
- 4 Beakers (2x 250mL and 2x 50mL)
- Three Different Water Samples

Procedures

1. Collect three water samples
    i. Pool
    ii. Pond from cattle pasture
    iii. Hose pipe
2. Set up the LabQuest and probes
3. Set up the probes so they collect spot data
4. Test each of the parameters for each sample (rinsing the probe in distilled water each time)

Data Collection

	Pool	Cattle Pond	Hose Pipe
Dissolved Oxygen	3.4 mg/L	3.5 mg/L	3.7 mg/L
pH	7.15	3.17	7.16
Turbidity	3 MTU	6 MTU	4 MTU
Conductivity	3 uS/cm	3 uS/cm	5 uS/cm

Analysis of Results

Based on results from the DO, pH, and turbidity, the water would be potable for human consumption. The only concerning number would be the dissolved oxygen levels because the oxygens levels are low. This would be concerning for organisms that require certain amounts of oxygen to survive.

EPA standards water quality

Dissolved oxygen	Any works
pH	6.5 – 8.5
Turbidity	Less than 5 NTU
Conductivity	Less than 500 mg/L

Conclusions

All the water samples tested were healthy with the exception of one turbidity measurement from the cattle pond. Also, the water from the municipal system was very similar. I guess I should drink the hose pipe. The cattle pond has more conductivity because of more dissolved ions.

Further questions could include testing other sources of water, including bathrooms or fountains. Dissolved oxygen is unnecessary for the potability of water.