Stream pH Lab Protocol

Pre-Lab Questions:

1. What would it mean if the water was said to be basic/alkaline?
2. What would it mean if the water was said to be acidic?
3. If a pH goes from 6 to 5 would we say the pH went up or down?
4. If we poured a basic solution in the river would the pH go up or down?
5. What is the Mean/Average of 10, 14, 7.5, 8, and 9?
6. Why would you want to take an average of the pH within the creek?

Safety Questions:

1. What should you never do in a lab?
2. What does this mean for the pH probes?

Have a teacher review your answers before you move on

Laboratory procedure:

1. Get a laptop
   a. Turn on and load up laptop
2. Get a pH probe
3. Get a GoLink
4. Connect probe to GoLink
5. Load logger pro on the computer
6. Connect GoLink with probe connected to it to the computer
7. Make a table like the one below in a word processor or on your piece of paper

Water Sample Locations	pH of samples	Average of stream samples
Tap water sample		
Rainwater sample		

8. Get a sample of tap water from the sink
9. Remove the bottle from the pH sensor
10. Test the sample of tap water by putting the probe into the sample of Tap water
11. Record that data onto the chart above
12. Dump out the sample of tap water
13. Go outside and find the freshest puddle of rainwater you can find. Collect a sample from it
14. Test that samples pH and record it in the table
15. Dump out the sample of rainwater
16. Go back outside and get three samples of creek water from three SEPARATE locations in the creek
17. Record the locations you got the samples from on your chart (upper creek, under the bridge, etc.)
18. Test each sample and record its pH on the table

19. Once all three have been tested and recorded, average the pH of the samples, and record the number you get for the average on the table

Conclusion questions (cite your sources. "Myself" is not adequate):

1. Where do creeks get most of their water from (most specific than upstream or in the hills)?
2. Why is the pH of creek water different than rainwater?
3. What causes tap water to be different than rainwater and creek water?
4. Why might the tap water's pH effect the pH of creek water?
5. You are requested by the ODFW (Oregon Department of Fish and Wildlife) to determine if putting a new hatch of salmon in Jackson Creek would result in the death of the salmon fry. They have already determined every other water quality factor is appropriate for the salmon fry expect pH.
6. The ODFW has also determined that Spotted Driftwood Catfish use to be native to the creek. Once again they have determined everything but the pH is appropriate for the adult fish. They would like to know if they should put adult fish in the creek based on the pH.
7. The ODFW would like to put a third fish in the river. They want a recommendation, based only on pH, of a fish that would do well in the creek. For clerical reasons, they need both the common name and scientific name of the fish you choose.