

Name: _____ Date: _____

Alaska Water Quality

Alaska FFA Association and USDA Northwest Climate Hub

Grade Levels 6-12



1. Record observations of the water source with your group:
 - a. Does the water look like you could drink it?
 - b. Does the water look like fish and other aquatic organisms could live in it?
 - c. Does the water look and smell healthy?
 - d. Does the water look like its doing damage to the environment?

Record observations:

| Turbidity | Color | Smell | Any plants/debris? |
|-----------|-------|-------|--------------------|
| | | | |

2. Make **predictions** about water source:

| | |
|---|--|
| Temperature (<i>warm or cold</i>) | |
| Dissolved Oxygen (<i>high or low</i>) | |
| pH (<i>acidic, neutral, basic</i>) | |
| Turbidity (<i>high or low</i>) | |

3. Do you think this stream supports fish and other aquatic species? Why or why not?

4. **After** completing all water quality monitoring tests, **record results below:**

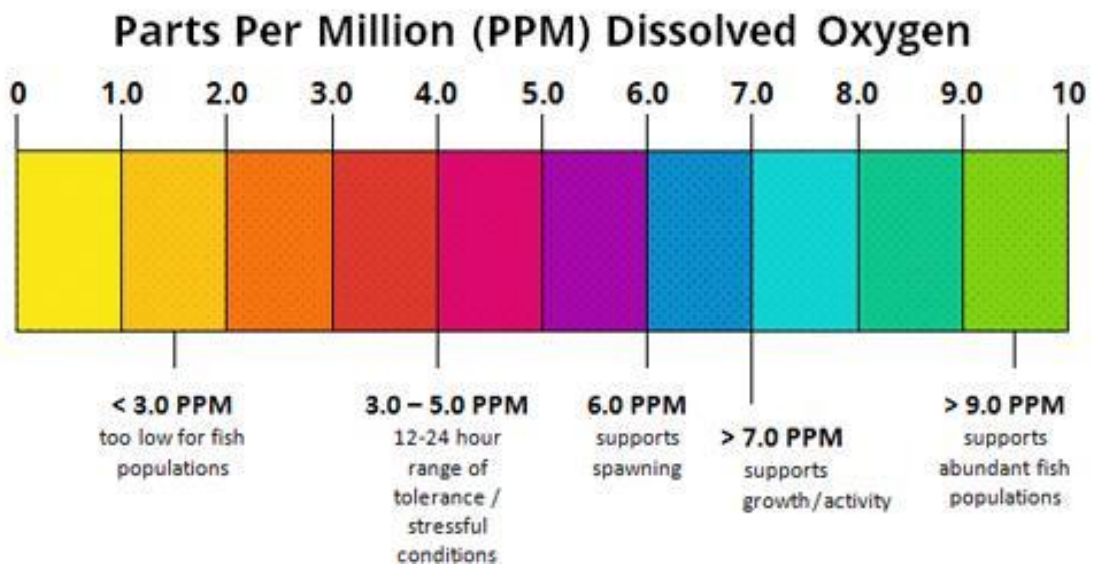
| | |
|--|--|
| Temperature (<i>in degrees Fahrenheit</i>) | |
| Dissolved Oxygen (in ppm) | |
| pH (<i>scale from 1-14</i>) | |
| Turbidity | |

Review Questions:

1. Was your temperature around the degree you expected? Do you think cold-water loving fish could live in this water?

2. According to the chart below, what level of fish life would your Dissolved Oxygen reading support? What does this mean for fish in your area?










Range of Tolerance for Dissolved Oxygen in Fish



Source: PBS

3. Was your pH around the level you expected? Was it acidic, neutral, or basic? Would this pH level be safe for fish and other aquatic insects (remember most organisms prefer pH levels of 6.5-9)?

4. Using this chart, what species would prefer to live at your recorded pH level?

| | pH 6.5 | pH 6.0 | pH 5.5 | pH 5.0 | pH 4.5 | pH 4.0 |
|--|--------|--------|--------|--------|--------|--------|
| Trout  | | | | | | |
| Bass  | | | | | | |
| Perch  | | | | | | |
| Frogs  | | | | | | |
| Salamanders  | | | | | | |
| Clams  | | | | | | |
| Crayfish  | | | | | | |
| Snails  | | | | | | |
| Mayfly  | | | | | | |

[Source: US EPA](#)

5. Based on your turbidity reading, what source do you think this body of water comes from?
 (Remember clear streams usually emit from groundwater or springs, while turbid streams can come from glaciers or areas where permafrost has thawed)

6. Based on your results from the four tests completed today, how healthy do you think this body of water is?