| | DO | Turbidity |
|---|---|---|
| What is it? | Oxygen gas trapped in water (diffusion, aeration, plants in water) | Visible particles suspended in water (silt/mud, biological) |
| How is it measured? | · Sensor (calibration!)<br>· Chemicals<br>mg/L ↔ ppm | · Sensor (calibration)<br>· Secchi disk  <br>NTU |
| Why is it important for water quality? | Many aquatic organisms do not have lungs (they can't breathe air) — they get $O_2$ from water | · Turbidity can interfere with gill function (clogs)<br>· Turbidity can increase temperature (sunlight)<br>· Drinking, swimming, recreation is less fun |

# DO and drinking water:

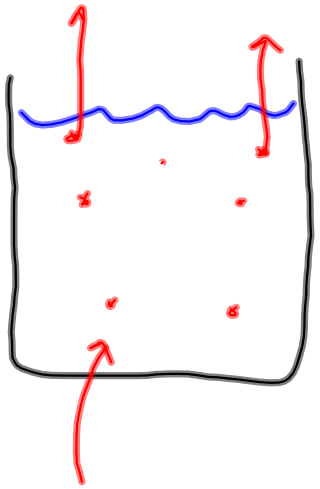
- Organisms do not get useable oxygen by drinking water

DO is critical:
- Some organisms have gills (or other organs) that can extract oxygen gas (DO) from water... but not by drinking it

DO is meaningless:
- Other organisms breathe - they get oxygen directly from air

# DO and temperature:

- Warmer water can hold less DO




→ as temperature increases, the oxygen molecules wiggle more

→ the more they wiggle, the more likely they are to jump out of the water

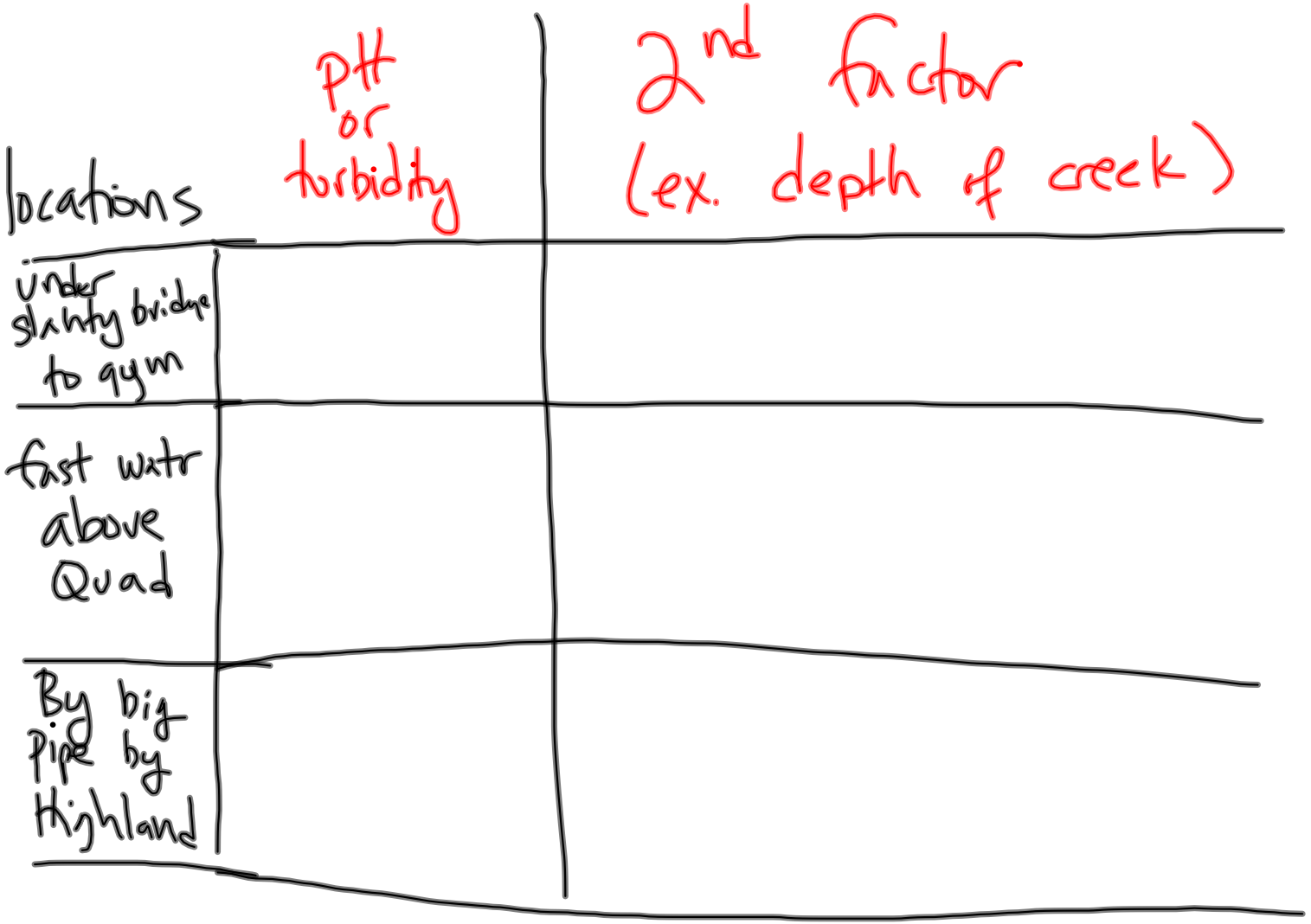
# Turbidity & rainfall:

- Turbidity is particles in water
- Rainfall causes erosion (where soil particles are carried away by water)
- Much of the water that falls as rain ends up in streams, rivers, and lakes
- SO: rainfall increases turbidity

# WATER QUALITY IS RELATIVE:

ideal values for the parameters are different!

- Some human use (drinking water, recreation)
- Some other organism's use (animals, plants)
- Some ecological function (like flooding, erosion, nutrient transport)
- Historical conditions


Locations
pH or turbidity
2nd factor (ex. depth of creek)
under slanty bridge to gym
fast watr above Quad
By big pipe by Highland