Hydrosphere Project: Water Quality

You will measure certain water quality standards for the Winooski, and then analyze your results with respect to optimum levels for these standards. You will propose general solutions to mitigate runoff that could potentially negatively impact these water quality standards.

Project format:
You will present your work to your peers in a poster session. Components that must be included:

Relevant Vocabulary -Incorporate the following vocabulary to enhance the meaning of your work.
- Watershed, drainage basin, runoff, elevation, tributary, confluence
- Solutes, solvents & solutions (Think about pollutants)
- Polar and non-polar molecules (Think about their behavior as pollutants)
- Point and non-point source pollution
- Infiltration, evapotranspiration, storage & reuse

1. State what you were trying to determine about the overall health of the river in terms of water quality.

2. State what data was helpful in determining the overall water quality assessment of the Winooski. **Explain how** these factors are used to determine the "health" of the river.

*For this part....**use the components handout/worksheet** to guide your responses... (summarizing the information on the worksheet will help with addressing 6 and 7 below)*
For each factor, address:
- *chemical formula / description*
- *typical units of measure ... and describe/define*
- *acceptable level or level of concern*
- *reason(s) for concern(s) if above/below acceptable level*
- *possible source(s) or conditions contributing to factor*
  for DO, include effect of T on DO

3. Using the data collected by different groups, present the average results. In addition to presenting the results, be sure to include acceptable values for each factor.

4. Identify the data that falls outside of the acceptable ranges

5. Identify the potential sources/conditions for the **non-acceptable levels** you identified in your data collection. Include sources/conditions that might be of significance at **different times of the year**.

For this part...
Summarize your response from page 3 of the components worksheet:
*"Potential **local** sources and conditions (including the time of year/seasons) that would elevate OR depress the levels of any of the factors [tested]"*

*Now, remembering that a key focus has been on **runoff**...*
6. Propose potential solutions to help mitigate the ~~point and non-point~~ sources of pollution you identified. Think about GSI....

For this part...
First, identify which of the factors tested could be significantly affected by runoff, and how so.
Then, summarize your responses from page 3 of the components worksheet:
*"… **solutions to help mitigate any areas of concern** (potential or realized)..."*
*"… **solutions to mitigate runoff issues associated with the MHS mud lot** ..."*