

## Hydrosphere Project: Stormwater Infrastructure Design

**You will create an assessment of a current site in Montpelier with respect to stormwater runoff. You will propose a design to mitigate runoff and include a rationale for each design element.**

### **Possible sites:**

- The MHS Mud Lot (outside the auditorium)
- Well-articulated neighborhood site (ex: a playground, someone's yard, the rec field...) or a site downtown (ex: statehouse parking lot, Shaw's parking area ...)

### **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 meaningfully into 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. Describe your site: location in town, photos and/or drawings...
2. State the overall problems you are trying to solve at your site.
  - This includes a detailed description of all of the stormwater runoff problems you identified on the site.
  - For each problem you identify, be sure to explain HOW this problem will contribute to stormwater runoff
  - For each problem you identify, be sure to explain HOW this problem will contribute to water pollution.
3. Identify and explain each of the design ideas that you proposes to help solve the runoff problems. Be sure to explain how the design incorporates Green Stormwater Infrastructure and how it will reduce runoff and pollution.
  - Describe (where applicable) how your proposed design will increase evapotranspiration, increase infiltration, and increase storage and reuse.
  - How will these design elements reduce water pollution.
4. Create a detailed site design (diagram) that SHOWS and LABELS your proposed design elements.

Part of earning a 4 on this project will be ... when thinking about your proposed design elements, which, if any, specific water quality factors will be impacted by your design choice(s). This work may involve talking with your classmates working on the water quality project to get some insight into which water quality factors they are testing and which are directly affected by runoff.