

Problem Set 1

CENG 340–Introduction to Environmental Engineering

Instructor: Deborah Sills

September 1, 2013

Due Date

Monday 9 September, in class.

Learning Goals

1. Become familiar with the environmental engineering profession.
2. Know where to find information on local water quality.
3. Apply commonly used units to express environmental measurements.

Questions

1. My former colleague, Dr. Gretchen Heavner, works for an environmental engineering firm in Seattle, WA, called [Floyd|Snider](http://floydsnyder.com). Dr. Heavner will attend our class virtually on September 13th to answer questions about what environmental engineers do. To prepare, go to Floyd|Snyder's website at <http://floydsnyder.com>, read about their services, expertise, projects, and business approach, and compose two questions for Dr. Heavner (please type your answers). Make sure your questions are thoughtful, specific, and demonstrate that you looked carefully at the website.
2. On Friday, a student in CENG340 asked me whether it's safe to drink the tap water in Lewisburg. I told him that I drink the water, but that it's best to check. Luckily, the local water utility provides such information on their [website](#). Take a look at the information provided in this document, and answer the following questions:
 - What is the source of the water?
 - Are there any violations? If not are there any constituents that are at levels close to being violations?
 - If so, are the violations for physical, biological, or chemical constituents?

3. Benzene is associated with petroleum products and is typically found in contaminated soil beneath gas stations. What is the maximum contaminant level (MCL) of benzene (in units of mg/L) allowed in drinking water (hint: read the first two sections of Ch. 10 in the textbook, which were assigned for last Wednesday)? Express this drinking water standard in terms of (a) ppm_m, (b) ppb_m, and (c) moles/m³.