Assignment #1 for First-Year Students

Part 1: Due February 24th, 2010
Part 2: Due March 10th, 2010

Part 1: Identify 5 everyday activities that are scientifically intriguing to you (examples: brushing your teeth, driving your car, etc.). For each activity, do the following:

1. Identify one way that the field of chemistry and/or biology plays an important role. For full credit, make sure to explain the connection of chemistry and/or biology to the activity in a short paragraph. (chemistry related to above examples: remineralization of tooth enamel by the fluoride ions, or combustion of the organic alkanes that comprise gasoline) (biology related to above examples: antiseptic activity that kills harmful bacteria or the impact of emissions on plants and animals).

2. Include one literature reference from your research for each activity. Identifying a sound scientific link to biology or chemistry will require library searches. Be sure to read the handout on choosing appropriate references.

3. Name a real course and/or a real research group at the University of Illinois that deals with the chemistry or biology of the activities you chose.

4. Indicate which of the five activities from Part 1 to you wish to investigate further in Part 2 of this assignment.

Part 2.
Choose one of the five activities you described in Part 1. Explain the chemical and/or biological processes involved in this activity. Describe a potential area of research relating to this process (what questions remain to be answered about this process). Be sure to include sufficient detail to fully explain chemical or biological concepts and possible research questions about these topics, but avoid repetition and gross amounts of detail. About 1.5 – 3 pages should suffice. Include at least 4 literature references. At least three of the four sources must be from peer-reviewed publications.

Please note!
- References must be in PNAS style in order to get full credit.
- Electronic copies of your documents must be uploaded to the course web page prior to the beginning of class on the due dates.
- 2 bonus points will be awarded if in Part 2, you do not choose the traditional favorites of caffeine, soap, sleep, shampoo or eating.