ESSAY QUESTIONS FOR TEST 2, February ~~16~~th, 18th, 2010

The first part of the exam will consist of 40 multiple choice questions, ½ point each (I provide a ‘bubble’ sheet, YOU provide a pencil). The second part of the exam is essay, two questions, 5 pts each. The essay questions are taken directly from the Learning Objectives given for each lecture, however I have limited it to just six as possibly being included in the ESSAY test. For learning objectives not listed here or not used in the essay section, those will appear instead in the multiple choice section of the test. It is wise to know all the learning objectives and study questions, but PARTICULARLY wise to know the six listed below since they make 1/3 of the test.

You will be given THREE OF THESE and you must answer TWO for the essay section. It would be good to know them all since you do not know which ones you will be asked to answer. If they are not on the essay, they will appear in the multiple choice.

1. Draw and label a diagram demonstrating the greenhouse effect. In words briefly describe the basic mechanism. (class 7)
2. Explain the long term habitability of the Earth, listing 5 important conditions on Earth which have contributed to the Earth’s habitability. (class 8)
3. Describe the mechanism central to Darwin’s original theory of how evolution occurs. Compare that to the mechanism central to Lamarck’s theory to explain evolution. Provide examples of both. (class 9)
4. Explain the difference between autotrophs and heterotrophs. Explain the distinction between the chemo- and photo- classifications. Provide what kind of ‘troph’ we humans are. (class 9)
5. Describe the chemical evolution of the earth’s atmosphere, how it first formed and its chemistry and then how life (starting when and what kind of life) altered it to the chemistry we see today. (class 10)
6. List the three unique properties of water that make it the most likely liquid from which life anywhere will be based from and why. (class 11)