

## Review Items for Environmental Biology Exam 1

The following questions may be on the first exam. No other questions will be on this exam.

1. Your uncle has a friend, with whom you're chatting at a social occasion. This person mentions that he is not sure what to think about the scientific debate involving climate change. He asks you what you think. If you had plenty of time and you realize that he is open-minded to new information, what would you tell him? Use as much specific information as necessary to support your case effectively.
2. The Nature Conservancy just received a huge donation from Jeff Bezos, which has been designated to create protected areas to preserve biodiversity. He wants the Nature Conservancy to purchase about six big plots of land (though 5 or 7 is okay) that will maximize the global protection of biodiversity. What plots of land would you recommend, and why? What methods did you use to arrive at these recommendations?
3. Draw the carbon cycle, incorporating the following processes, including and labeling the components that are involved the processes: cellular respiration, photosynthesis, decomposition, combustion, mineralization, subduction.
4. You're tutoring a high school student who is preparing for the AP Biology exam. He is having trouble understanding evolution because he doesn't really understand how natural selection works. Explain, using clear reasoning that is correct but without using technical language, the mechanism of natural selection, and how natural selection leads to organisms that are adapted to their environment.
5. You are working as a congressional staffer for a member of Congress, who has requested a brief on pending legislation, which will approve dozens of new nuclear reactors to be produced in the next 20 years before outlawing the production of any subsequent reactors. You are asked produce a one-page document outlining the SWOTs (strengths, weaknesses, opportunities and threats) of this proposal, without taking a specific position on the issue, citing specific information as necessary.