

There are five questions to this homework, please see the back of this sheet for problem #5.

**Homework #4**

**Geology 1020 Section 2**

**Name:** \_\_\_\_\_

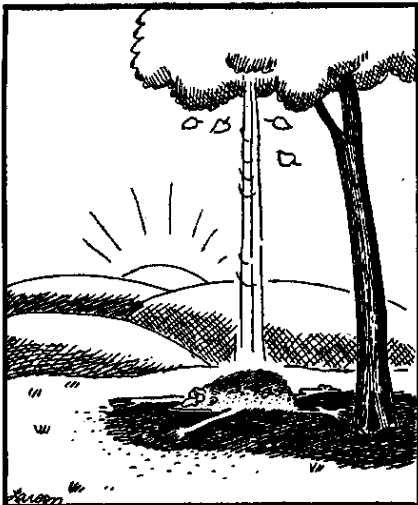
*Due Thursday February 19, 2009.*

*(For full credit, you **must** hand this in **at 1230am** on Thursday & **WRITE CLEARLY**)*

1. Which combination of the following factors influences the process of natural selection? (Circle A, B, C, or D)
  1. Greater ability to resist disease
  2. Ability to bear large numbers of offspring
  3. Greater ability to avoid enemies
  4. Ability to survive in a wide range of environments
  5. Mutations induced by laboratory cloning
  - A. 1,2,5
  - B. 1,2,3,4
  - C. 2,4
  - D. 1,2,3,5
  
2. A major problem that Darwin encountered in trying to gain support from other naturalists for his theory of Natural Selection was: (circle one)
  - A. His observations were limited to terrestrial plants and animals
  - B. There was no paleontological record to test his theories against.
  - C. His observations were limited to the Galapagos Islands.
  - D. Most naturalists still adhered to Mendel's theory instead.
  - E. Modern genetics had not yet been discovered.
  
3. Although animals and plants have been abundant throughout much of the latter Eon of Earth's history (the Phanerozoic), briefly state at least *three* reasons that fossils of many (if not most) species that have ever existed have yet to be found.
  - A.
  - B.
  
4. When high burial rates of isotopically light organic material occur in the oceans, the Earth's levels of atmospheric O<sub>2</sub>, and CO<sub>2</sub> (circle one)
  - A. Decrease, and Increase, respectively
  - B. Increase, and Decrease, respectively
  - C. Are tied up more readily in the production of CaCO<sub>3</sub> and C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>
  - D. All of the above are possible consequences

5. In a fit of clarity, your otherwise delusional friend makes the following statement to you at a Valentine's Day party: "When in balance, the photosynthesis-respiration cycle has little effect on the isotopic ratio of  $\text{CO}_2$  in the Earth's atmosphere."

*Explain WHY this may be the case (use the space below)*



**The Dawn of Man**