HONR268A Homework # 2 –
Due Tuesday, December 13, 2005

Please answer each of the following questions in a few words or at most a sentence. Do not work together on this homework. Use the Energies book and, for each question, also note the page number where you found the answer. Write your answers directly on this sheet of paper.

1. Fusion of H into He produces 98.5% of the Sun's energy. What produces the other 1.5%?

2. When did Oxygen levels rise to 10% of today's levels and what were the causes and effects of this rise?

3. What parts of Earth receive most sunlight?

4. When and where was the largest recorded earthquake?

5. What fraction of Earth's biomass is in forests?

6. In a prairie grassland, what fraction of the biomass is below ground?

7. What weights more - an elephant or a million mice?

8. How large is a New Zealand kiwi's egg in comparison to the bird?

9. Can small or large animals jump higher?

10. For humans, how efficient is sweating compared to other forms of heat loss?

11. College Student Special: Can you live by getting your only calories from alcohol?

12. Give one advantage of cattle and one of horses for use as draft animals.

13. What makes charcoal a good fuel?

14. How long did it take the ancient Romans to sail from Italy to Egypt and from Egypt to Italy?

15. When did the US lose leadership in oil and natural gas production and to what countries?

16. Which three countries are the top users of Hydro power?

17. Why is an inert gas put into incandescent light bulbs?

18. How energy intensive is Titanium production compared to Aluminum production?

19. What fraction of gasoline's energy is converted into the forward motion of a car?

20. How far can a Boeing 747-400 fly without refueling?

21. For years, oil tankers were built with ever larger capacity to realize economy of scale. So why did they recently stop at a capacity of 500,000 tons?

22. Which country has the most telephone lines per 100 people?

23. What is the main challenge for computer chip designers?

24. Make a question out of a fact that you found interesting in the Energies book. Give the answer and page number in the book where the answer can be found.