Chapter 2 Questions

1. Is a Hypothesis made before or after making observations and taking measurements? Why would making observations and taking measurements be important to the scientific process?
2. What gives the scientific law the strength it has? How would a law be effected by poor accuracy in the measurements and observations it is based upon?
3. What does a controlled experiment try to isolate and study the effect of? Why only one at a time?
4. Compare and Contrast deductive and inductive reasoning.
5. Describe in your own words a paradigm shift.
6. Give an example of Junk Science and explain why it is Junk Science.
7. Why can't scientists prove anything absolutely?
8. When are mathematical models really helpful?
9. Give 3 examples of positive feedback loops.

10. Define Synergy
11. Skip Unintended Harmful Results of Human Activity
12. Explain how an element can be a part of a compound but a compound is not an element.
13. What is the difference between an atomic number and an atomic Mass.
14. How are ions and the pH scale related?
15. What makes an organic compound organic?
16. Compare and contrast Eukaryotic and Prokaryotic cells.
17. What is plasma?
18. Connect matter quality and resource productivity using an example of the aluminum can.
19. Give three examples of physical change and 3 examples of chemical change and explain why each is a in the category it is in.
20. Explain why when you burn paper all the matter that made up the paper still exists even though you can't see it.

21. Give the four types of pollutants listed on page 40 and describe each in your own words. Which form will have the greatest persistence?
22. Compare and contrast nuclear fussion and fission.
23. What is energy? What kind of energy do you get when you drink a monster?
24. What caused the shift from burning wood for fuel to coal? What caused us to shift from coal to oil?
25. Explain the difference between Kinetic energy and potential energy.
26. Which type of energy is present in the heat stored in the oceans?
27. Summarize the First Law of Thermodynamics in your own words.
28. Summarize the Second Law of Thermodynamics in your own words. Explain how the second law is alluded to in the first law.
29. Define, using real world examples, High-throughput economies and low-throughput

economies. Explain two ways you could change your life style to a low-throughput life style.