What do you need?:

A textbook! Come to S107 and sign one out for the upcoming school year.

When is it due?:

The first day of class – no excuses!

Who can I work with?:

Misery loves company so you can feel free to choose one person with whom you would like to work.

What is the assignment?:

You will be creating a study guide for the first three chapters of the textbook. This will help you review material that you may have forgotten from a previous biology course. If this is your first biology course, be prepared to work! The first three chapters are review material and you should know it by the first day of class.

How will this assignment be scored?:

The assignment will count as an assessment grade. Follow the attached scoring guide.

Will there be a test on the material covered?:

You bet! We will quickly review the material in class and then there will be a test on chapters 1-3.
What should be in your study guide?

A study guide can take any form that works for you. Some students may prefer to write out the content. Others may want to take notes or create flashcards. If an electronic version is best for you then you may want to create a power point or word document. You have a lot of flexibility regarding format. However, you must cover the required topics listed below:

Guiding Questions:

1. The levels of biological organization (pgs. 2,3)
2. Emergent properties (pgs. 3,4)
3. How must structure relate to function in organisms (pg. 4)
4. Why does life require the transfer and transformation of energy and matter? (pgs. 6,7)
5. Why must organisms interact with their environment? (pg. 7)
6. Why is evolution the core theme of biology? (pgs. 7,8)
7. Charles Darwin and Natural Selection (pgs. 9,10)
8. What does biological inquiry involve? (pgs. 11-13)
9. Why are qualitative and quantitative data important? (pg. 11)
10. What are inductive and deductive reasoning? (pgs. 11,12)
11. Why does most matter exist as compounds rather than elements? (pgs. 19, 20)
12. Atomic number, atomic mass, isotopes (pgs. 20 – 22)
13. How are valence electrons important to the way atoms react? (pgs. 23, 24)
14. Why are covalent bonds important in living organisms? (pgs. 24, 25)
15. Why are ionic bonds important in living organisms? (pgs. 25, 26)
16. How are hydrogen bonds important to life? (pg. 27)
17. What are the properties of water that make life on Earth possible? (pgs. 29 -36)
18. Hydrophobic and hydrophilic (pgs. 33, 34)
19. How do we measure solute concentration in aqueous solutions? (pg. 34)
20. What makes a solution an acid or a base? (pgs. 34 – 36)
21. What is the pH scale? (pgs. 35, 36)
22. Why is pH important to living organisms? (pgs. 35, 36)
23. Why is carbon a perfect building block for life? (pgs. 40 -42)
24. What 7 functional groups are important to life? (pg. 43)
25. Why is ATP important for living organisms? (pg. 44)
26. What are dehydration synthesis (condensation) and hydrolysis reactions and how are they vital to living organisms? (pgs. 44, 45)
27. Know the building blocks (monomers), structures, types, and functions of the 4 biologic macromolecules. (pgs. 44- 62)
28. Describe the 4 levels of protein structure. (pgs. 56, 57)
★ Each guiding question will be worth 2 points. The content must be thorough and correct for points to be earned.

★ The format of the answer can vary. You may use sentences, charts, bullet points, diagrams, or graphic organizers, power points, etc...

★ The answers must be in a sequence that follows the list of guiding questions.

★ The Guiding Question must be in bold (before the answers). This makes it easier for me to find your work!

★ Your text book will provide all of the answers. You do not need to do more research but if you do, you must cite your sources.

★ Four points will be awarded for proper grammar, spelling, and punctuation.

Total possible points: 60