

Parent update: 12-20-08

First of all, I want to wish you all a very peaceful and joyous Holiday season. I encouraged our girls to find plenty of time to sleep and enjoy their friends and families. You will find this update in a list form because we have done so much, and are growing in leaps and bounds both academically and socially here at SBA.

Since the last letter, we have done the following in Biology:

- 1) Finished up all the required science process skills and continued to use them in labs and activities. Proper Lab writing format is habit by now.
- 2) The girls explored the concept of "Evolution" by viewing Dr. Larry Miller from Brown University, and an HHMI holiday lecture series. Names associated with the background which brought about the most commonly held Ideas from Lamarck & finally Charles Darwin. Theories were presented as well as some noteworthy readings from Origin of the Species and voyage of the Beagle.

I believe it is important to place scientific discoveries in the context of History. I like them to know what was going on in the world as well as in our country at the time of these events and discoveries.

- 3) Classification was explored from reasons why things need to be classified to names associated with development of systems from Aristotle to Carrolus Linnaeus.
- 4) Basic chemistry was reviewed and expanded from ninth grade content (basic atomic structure) to more complex ideas (chemical reactions, enzyme/substrate rxn, and oxidation/reduction rxns). Use of the periodic table as a tool was enhanced with a PT webquest as well as the "Element Song"
- 5) Biochemistry was the next step as we noticed how the basic elements of life became BIOMOLECULES. From C,H,O,N, and sometimes P and S to Carbohydrates, Lipids, Proteins, and Nucleic Acids. Ask your daughter "What is the building block of a Protein?" I'm sure she will easily answer "Amino Acid!"

The girls learned the chemical, structural, formulas as well as the reactions Which either build polymers from monomers (condensation) or break polymers Down to monomers (hydrolysis).

If this sounds a little like organic chemistry to you...you are right. Biology content is driven by biochem/organic chem.. It is challenging for Sophomores and I hope you can appreciate their hard work taking ownership of their knowledge.

- 6) By Christmas, we studied the structure and function of plant and animal cells and their organelles. The girls all had some background in this area from which we could begin, but even they are amazed at how much more there was to know! Upon their return from vacation we will do a 2 day cell lab and culminate the chapter with a cell design activity in class Monday and chapter test Tues.
- 7) Next, we will begin an overview of the chapter on Homeostasis and Transport, some of which will be on the mid-term.
- 8) Midterm study guides have been distributed. Comprehensive midterm exams will be the end of January. The girls will have ample review and I am available for more review upon request.
- 9) See you next quarter when we will explore photosynthesis and the Calvin Cycle as well as Respiration and the Citric Acid (Krebs) Cycle!