BIOLOGY 2 SUMMER WORK:

1. **BOOK WORK, CLASS NOTES AND ONLINE TESTS** **KEEP EVERYTHING IN A BINDER!!!** **6/12/2013**
2. **TECHNICAL RESEARCH /SCIENCE FAIR PROJECT**

Welcome to your second year of biological sciences. Your summer assignment is to complete topic coverage of Chapters 1-7 and perform a literature search and design an experiment to investigate for your science fair project. Checkpoints will be at mid-quarter of each 9-week session. We will be utilizing the Moodle2 website https://moodle2.cnusd.k12.ca.us/ and this is where you will find the Active Learning Guides, ALG notes with the ALG's – the 2 sections are Biochemistry Chapters 2-5 and Biodiversity of Organisms Chapters 26-34. You are also expected to perform the U-Texas homework that coincides with the chapters covered.

Online work: BOOK WORK, CLASS NOTES AND ONLINE TESTS
All ALG's must be printed (2 sided is okay, and 2 pages per sheet is okay) and turned in as a notebook, with dividers for each section, the second week of August. Notes (handwritten on ALG pages) are already posted online. Questions that accompany the ALG activities must be answered – they will be spot checked for assessment purposes. Any labs found in the ALG's will be performed during the first 10 days of class. Lab report formats will be explained at that time.

IB students: If you have done preliminary work on a G4 project, we can use this for research project. This project is a significant portion of your first semester grade. You need to carry out your research during the summer since we have a very tight schedule to follow when school resumes in September. **Don't forget – Google is your friend!** . If you have questions, you can email me at cehs.science.osborn@gmail.com and I will reply as soon as possible.

Technical Research Paper = AP Science Research Project = IB Extended Essay + IB Internal Assessment sample.
Your **science project** is a technical research report based on a literature search from articles found in official scientific journals (NO WEBSITES!) and an experiment you designed, collected data, analyzed the data and drew your conclusions on. There will be a few days during class when we will go to the library to do research. The scientific journal article must be printed out and included in your notebook. All other work must be done on your own time and outside of the classroom. This project is significant portion of your 1st semester grade.

PART 1 The Technical Research Paper
Your research paper must follow the guidelines posted on my website or you will not receive full credit.

PART 2 The Science Fair Experiment: already completed and included in binder with photos!
The experiment will be related to the research paper that you completed first. Set it up as a Science Fair Notebook. You must have approval for your experiment and topic. Do not use the following: drugs, alcohol, tobacco, or animals. If you use people in your experiments they must all sign a safety and release form.
In a report cover notebook, you will turn in your research paper again, plus the following:

- Title Page
- Purpose or Problem
- Hypothesis- stated as If….then….because…..
- Materials
- Procedure
- Results – raw data collected in tables or charts with appropriate, measurable units
- Data Analysis- graphs to show comparisons
- Conclusion and Evaluation - 1 page stating how your results make/don't make sense according to your research paper. You must explain what happened and why. State if your hypothesis was

correct or not and why. Evaluate any errors that may have occurred and changes you would make if you did this project over again.

- Appendix- showing pictures of you doing the experiment at different stages. All partners must be in the pictures participating.

Research Project Timeline:

<u>You are a 3rd or 4th year science student</u> – it is your responsibility to keep your own timetable and produce an upper level research project. It is expected that you will enter it into the Centennial Science Fair.

• Each item is contained in its own "section" • Use dividers • Place in 3-ring binder and turn in before Winter Break	1. Title and Description of experiment	December 15, 2012
	2. Literature Cited and ½ page notes from each of your different sources (must have 5 from valid scientific journals NOT WEBSITES!)	
	3. Working draft of research paper (at least 6 pages completed)	
	4. Final draft of research paper	
	5. Materials and procedure – see details in instructions sheets for Tech Paper	
	6. Final draft of experiment and research paper together in a report cover	
• Deadline for entry into CeHS Sci Fair	Backboard and Science Fair Notebook	January 14, 2013