

Welcome to Biology

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TEXT: Miller K.R. & Levine J. *Biology*. Prentice Hall. 2006.
Textbook online at: <http://www.pearsonsuccessnet.com>



Some suggestions for success:

Be accountable to yourself – this is your learning. Therefore:

- Bring all your supplies to class (book, notebook, writing utensils, assignments)
- Be on time
- Be in your seat and quiet by the time the bell rings
- Be respectful of all of us in the class
- Only one person speaks at a time
- Do not put your head down
- The bell closes the class
- Bathroom time = passing time, not classroom time!
- Hold on to this syllabus – you will need it throughout the year.

Personal Electronic Devices

Please remove headphones/ earplugs before entering classroom. Store all electronic equipment in your backpack. Focus on what is happening in class.

I WILL CONFISCATE YOUR ELECTRONIC EQUIPMENT AND KEEP IT UNTIL THE END OF THE DAY IF I SEE IT USED WITHOUT PERMISSION

Do NOT use this room as a charging station.

1. Note taking

- Start a new spiral notebook that is designated solely to biology.
- Take notes each and every class period without being asked to do so.
- Start each entry with the date and topic.
- Underline or highlight new vocabulary.

Taking notes is a skill that is essential for the rest of your life (just what you want to hear...☺) and needs to be developed by doing it. It will be frustrating and laborious at times but so was learning how to walk.. Your notes along with your book will serve as a guideline and source for information.

My power point notes will be posted online and serve as a guideline – they do not replace your note-taking in class.

2. Reading

Your textbook and notebook will only be of value to you if you use them. Your daily assignment will always be to go over your notes with the help of your book. I should not have to remind you. Do this with a classmate – it will go faster, you might see things from a different perspective and will be more fun. Read the news, cruise the internet, follow science feeds on twitter – there is science in the media daily!

3. Homework

The purpose of homework is to practice what you have learned in class. The more you practice the more you will learn. Only practice will make you good. Homework will be assigned on a regular basis. Please understand that you are not doing homework for me. Take this as an opportunity to see whether **you** understand the material. Do not copy phrases from the textbook – we have copy machines for that. Instead put what you read in your own words. Don't copy someone else's work. Your **ownership of the material** will be tested sooner or later.

4. Makeup Work

It is **YOUR RESPONSIBILITY** to find out what you missed and make it up in a timely fashion. Check the assignment board, the online calendar and with classmates to find out what you have missed. The last day to hand in missing assignments is on the day of the unit test. Once the unit test has been taken, missing assignments will no longer be accepted. Keep this in mind – you can only retake objectives if all assignments have been handed in on time!

5. Grading

Your grade will assess how much biology you know – **not** how many assignments you have turned in. I will be assessing your knowledge of the objectives listed for each unit at the end of this syllabus. In addition, each unit will have a mastery objective. The mastery objective represents the most fundamental knowledge of that unit. A student **MUST** pass **EVERY** Mastery Objective in a semester in order to pass the semester. You will be able to retake any un-passed mastery objective.

A. Quarter Grades

1. Formal Assessments.....90%
-This includes: Final unit tests, quizzes, projects, lab conclusions
2. Practice and informal assessment10%
- Daily class work, practice & homework

B. Semester Grade

1. First/Third Quarter Grade.....42.5%
2. Second/Forth Quarter Grade.....42.5%
3. Semester Exam15%

	B+ 87-89	C+ 77-79	D+ 67-69	F < 60
A 93-100	B 83-86	C 73-76	D 63-66	
A- 90-92	B- 80-82	C- 70-72	D- 60-62	

Grades are accessible on powerschool and are updated regularly.

NP – nonproficient; used when scoring below minimal expectation on a formal assessment objective

NE – no evidence; used when a formal assessment piece is missing
 MA – missing assignment; used when practice/ informal assessment is missing
 INC – incomplete; used to reflect partial completion of practice/ informal assessment

If you do all the work that is assigned you will be plenty busy. Do not procrastinate with any assignments, the quarter catches up with you quicker than you realize. Study for your tests, do your homework, participate in class and you will do just fine.

6. Retake of objectives

If you have scored a non-proficient on any objective you will be given the opportunity to retake that objective on your own time. You are typically given a week within which you should prepare yourself to retake the objective. The following requirements **must** be met in order to retake any objective:

- You may not have any missing assignment for that unit. Remember that the last day to hand in any missing assignments is the day of the test for that unit
- You must have properly corrected the entire unit test and justified your new answers
- You must schedule a time for the retake
- You must bring your corrected test when retaking the objective

7. Equipment

You will be using a lot of expensive and fragile equipment during class. Treat it with respect, only as directed and use common sense when working with it. You will be charged the amount that it will cost to repair or replace any equipment that breaks while in your use.

For safety reasons please do not bring any food or drink into the classroom and/or lab area!!!
 No electronic devices other than those used for instructional purposes in my room.

Biology: 2014-2015 - Scientific Content Objectives:

- Stared and green objectives are the Mastery Objective for each unit.
- The numbers under the **Quarter** columns are the relative weights given to each objective.

Objective	Q1	Q2	Q3	Q4
<u>UNIT NAME: Classification & Life</u>	Q1	Q2	Q3	Q4
1. *Mastery Objective: Know the fundamentals of the unit.	P/F			
2. Students will know the vocabulary related to the unit.	.5			
3. Students will know the basic characteristics of living things & be able to apply the characteristics of living things to differentiate between living, dead or inanimate objects.	1.5			
4. Students should understand how the science of taxonomy is used to classify and name organisms.	1.5			
5. Students will know the general characteristics and examples of the major kingdoms.	1			
6. Students will be able to use dichotomous keys to help identify organisms.	1			
	Q1	Q2	Q3	Q4

<u>UNIT NAME: Chemistry</u>				
7.	*Mastery Objective: Know the fundamentals of the unit.	P/F		
8.	Students will know the vocabulary related to the unit. Including but not limited to: monomer, polymer, hydrophobic, and hydrophilic.	.5		
9.	List the hierarchy of matter that forms life.	.25		
10.	List the four main categories of organic molecules, examples of each and their presence in food.	1		
11.	List the structures and functions of each of the 4 main categories of organic molecules.	1		
12.	Students will understand the structure and function of enzymes.	1		
<u>UNIT NAME: Cell organelles</u>		Q1	Q2	Q3
13.	*Mastery Objective: Know the fundamentals of the unit	P/F		
14.	Students will know the function and structure of major cell organelles and generate analogies comparing cells and their organelles to other complex systems.	3.5		
15.	Students will know cell theory and be able to differentiate between animal and plant cells, as well as prokaryotes and eukaryotes.	1.5		
16.	Students are able to use a microscope to identify different types of cells and their organelles.	1		
<u>UNIT NAME: Cell Energy</u>		Q1	Q2	Q3
1.	*Mastery Objective: Know the fundamentals of the unit.		P/F	
2.	Students will know the vocabulary related to the unit.		1	
3.	Students will know a. the balanced equation for photosynthesis b. where photosynthesis occurs c. how radiant energy is converted into glucose		1.5	
4.	Students will know a. the balanced equation for respiration b. where cellular respiration occurs c. how glucose is converted into ATP d. the differences between Aerobic and Anaerobic respiration.		1.5	
5.	Students will understand the ecological significance of photosynthesis and respiration as they pertain to carbon cycles and energy flow (specifically how the sun's energy is ultimately converted into ATP).		.5	
<u>UNIT NAME: Bacteria and Viruses</u>		Q1	Q2	Q3
6.	*Mastery Objective: Know the fundamentals of the unit.		P/F	
7.	Students will know the vocabulary related to the unit.		.5	
8.	Students will understand the major differences between bacteria and viruses.		2	
9.	Students will understand the differences between antibiotics, antiseptics, and vaccines both in their nature and use.		1	
10.	Students will discuss historical & contemporary issues concerning bacteria and viruses.		1	

<u>UNIT NAME: Evolution</u>		Q1	Q2	Q3	Q4
11.	*Mastery Objective: Know the fundamentals of the unit.		P/F		
12.	Students will know the vocabulary related to the unit.		.5		
13.	Students will be able to explain the evidences that support the theory of evolutionary.		1		
14.	Students will be able to explain the process of evolution via natural selection.		2		
15.	Students will understand the biological species concept and the circumstance that may lead to speciation.		1		
16.	Students will be able to organize organisms into a family tree based on characteristics and explain possible evolutionary relationships.		1		
<u>UNIT NAME: DNA</u>		Q1	Q2	Q3	Q4
1.	*Mastery Objective: Know the fundamentals of the unit.			P/F	
2.	Students will know the vocabulary related to the unit.			.5	
3.	Students will know the structure of DNA and how it is replicated.			1	
4.	Students will know how DNA determines protein structure			1.5	
5.	Students will understand how DNA mutations affect protein structure and function.			1	
6.	Students will be familiar with the history of DNA.			.5	
<u>UNIT NAME: Cell Division</u>		Q1	Q2	Q3	Q4
7.	*Mastery Objective: Know the fundamentals of the unit.			P/F	
8.	Students will know why cells need to divide, how that happens, and what happens when it gets out of control.			1	
9.	Students will understand how meiosis and fertilization produce new genotypes/gametes.			1	
<u>UNIT NAME: Mendelian Genetics</u>		Q1	Q2	Q3	Q4
10.	*Mastery Objective: Know the fundamentals of the unit.			P/F	
11.	Students will know the vocabulary related to the unit.			.5	
12.	Students will be able to predict outcomes of monohybrid simple dominance crosses.			2	
13.	Students will be able to predict outcomes of various inheritance patterns (including blood type and sex linked inheritance).			1.5	
14.	Students will understand how to interpret a pedigree.			1	
15.	Students will know the genetic basis and symptoms for some common genetic diseases.			.5	
<u>UNIT NAME: Cell Transport</u>		Q1	Q2	Q3	Q4
17.	*Mastery Objective: Know the fundamentals of the unit.			P/F	
20.	Students will know the vocabulary related to the unit.			.5	
21.	Students will know how diffusion & osmosis work.			1	
22.	Students will be able to predict which way water and/or solute will flow in a given concentration gradient.			2	

23. Students will understand the structure and function of the cell membrane.			.5	
<u>UNIT NAME: System Overview and Circulation & Respiration</u>	Q1	Q2	Q3	Q4
1. *Mastery Objective: Know the fundamentals of the unit (see unit study guide for details).				P/F
2. Students will know the vocabulary related to the unit.				.5
3. Students will list the major functions and components of the 11 human body systems.				2
4. Students will know the structures & functions of the circulatory and respiratory systems.				1.5
5. Students will know what order the blood flows through the parts of the circulatory system, and gas exchange in the respiratory system.				1
6. Students will investigate some factors that affect circulation, respiration and how they relate to human health.				1
<u>UNIT NAME: Nutrition, Digestion & the Urinary System</u>	Q1	Q2	Q3	Q4
7. *Mastery Objective: Know the fundamentals of the unit (see unit study guide for details).				P/F
8. Students will know the vocabulary related to the unit.				.5
9. Students will understand the main structures & functions of the digestive and urinary systems.				2
10. Students will know the major nutrients needed by the body and their functions.				1
11. Students will be able to relate energy to the concept of a food calorie & how caloric intake relates to body weight.				1
<u>UNIT NAME: Unit objectives: Ecology</u>	Q1	Q2	Q3	Q4
12. *Mastery Objective: Know the fundamentals of the unit (see unit study guide for details).				P/F
13. Students will know the vocabulary related to the unit.				.5
14. Students will be able to make a food web and/or energy pyramid of an ecosystem.				1
15. Students will understand the concept of niches in an environment.				1
16. Students will understand how populations grow, the limits to growth, and be able to build and interpret graphs of population growth.				1
17. Students will be able to describe common relationships between organisms. (Predator/prey, symbiosis, competition...)				1.5