

**NORTHSIDE CHRISTIAN SCHOOL
HONORS BIOLOGY SYLLABUS 2008**

UNIT #	UNIT TITLE	CHAPT/SEC	CHAPTER CONTENT	LAB/S	OTHER
INTRO	The Scientific Method		Introduction and the Scientific Method	<i>Pillbugs and the Sci. Method</i>	

Begin September

UNIT #	UNIT TITLE	CHAPT/ SEC	CHAPTER CONTENT	LAB/S	OTHER
1	Chemistry of life	2 3.2 3.3 4 5	Chemistry Context of Life Water and the Environment Cohesion, Adhesion, Surface Tension, Solution terms, Hydrophobic, Hydrophilic Acid / Base, pH Carbon and the Molecular Diversity of Life The Structure and Function of Large Biological Molecules	<i>Diffusion and Osmosis (Potato Cores) AP Lab 1</i> <i>Organic Testing</i>	

September 25--No School – Camp Peniel Retreat

September 26 No School – Teacher’s In Service

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
2	The Cell – Structure and Function	6 7	A Tour of the Cell Membrane Structure and Function	Cell Fractions	Project – Power Point – Cellular organelle

End September

Begin October

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
3	Communication	11.1 – 11.4	Cellular Communication Reception Transduction Response	<i>Enzyme Catalysis – Potato and Catalase AP Lab 2</i>	
		11.5	Apoptosis		
		39	Plant Responses to Internal and External Signals		
		45	Hormones and the Endocrine System		

October 15, No School – Parent Teacher Conferences

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
4	Cellular Energy and Metabolism	8	An Introduction to Metabolism	<i>Cell Respiration AP Lab #5</i>	
		9	Cellular Respiration Harvesting Chemical Energy		
		10	Photosynthesis		

End October

End of 1st Nine Weeks - October 31

November 3-7 HS BJU Fine Arts Festival

Begin November

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
5	Cellular Reproduction	12	The Cell Cycles Mitosis	<i>Microscopic Study of Mitosis and Meiosis</i>	Project – Models of mitosis and meiosis
		13	Meiosis		
		29.2	Mosses - Alternation of Generation		
		46..4	The timing and patterns of meiosis in mammals Spermatogenesis Oogenesis		
		46.5	Hormone regulation		

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
6	Mendelian and Non-Mendelian Genetics	14	Mendel and the Gene Idea	<i>Genetics of Organisms, (Drosophila)</i> <i>AP Lab 7</i>	Genetic Project – Human Pedigree of the Genetic Wheel
		15	The Chromosomal Basis of Inheritance		
				<i>Population Genetics</i> <i>AP Lab 8</i>	Genetic Conference

End November

November 26-28 No School – Thanksgiving Vacation

Begin December

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
7	Molecular Genetics	16	The Molecular Basis of Inheritance DNA Structure Replication	<i>PCR-BioiRad</i>	
		17	From Gene to Protein RNA Protein Synthesis Mutations		

End December

December 22, Christmas Vacation Begins

Begin January 5th

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
8	Recombination DNA Technology	18	Regulation of Gene Expression	<i>Restriction Enzymes and DNA</i>	Genetic Project Due
		20	Biotechnology		
		21	Genomes and It's Relationships	<i>pGLO Transformation BioRad</i>	

1st SEMESTER EXAMS – January 13-15

End 2nd Nine Weeks -- END OF FIRST SEMESTER January 15

January 16-19th No School – Teacher Work Day and Martin Luther King Day

January

3rd Nine Weeks BEGIN SECOND SEMESTER – January 20

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
9	Creation / Evolution	22	Descent with Modification		Book Report Due - <u>Darwin's Black Box</u> by Michael J. Behe
		23			
		24			
		25			

End January

Begin February

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
10	Microbiology	19	Viruses	<i>Microscopic Exam of Protozoans</i>	
		27	Bacteria and Archaca		
		28	Protista		
		31	Fungi		

February 16 No School – President's Day

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
11	Plants Types and Anatomy	29	Plant Diversity I Moses and Ferns	<i>Transpiration, AP Lab 9</i>	Paper – Genetic Disease (symptoms, molecular cause, loci, present treatment, future treatment)
		30	Plant Diversity II Gymnosperms, Angiosperms		
		35.1 - 35.4	Plant Structure, Growth, Development		

End February

Begin March

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
12	Plant Physiology	35.5	Growth and Differentiation	<i>Excision and Growth of a bean embryo (teacher generated)</i>	
		36	Resource Acquisition		
		37	Soil and Nutrition		
		38	Angiosperm Reproduction		
		39	Plants Response to Internal and External Signals		

End of 3rd Nine Weeks - March 20

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
13	Invertebrates	32	Animal Diversity	<i>Planaria Regeneration (teacher generated)</i>	Parasitology study
		33	Invertebrates		
		40	Principles of Animal Form and Function	<i>Dissection of Crayfish</i>	
		51	Animal Behavior		

End March

Begin April

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
14	Vertebrates and Comparative Anatomy	34	Vertebrates	<i>Dissection of the Fetal Pig</i>	Case Study – Galloper’s Gut #7
		41	Animal Nutrition		
		42	Circulation and Gas Exchange		
		43	Immune System		

April 6-13 No School – Spring Vacation

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
15	Comparative Anatomy	44	Osmoregulation and Excretion	<i>Embryology of the Sea Urchin</i>	
		46	Reproductive		
		47	Animal Development		
		48	Neurons, Synapses, and Signaling		
		49	Nervous System		

End April

Begin May

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
16	Comparative Anatomy	50	Sensory and Motor Mechanism		Surgery at OSU hospital
	Ecology	52	An Introduction to Ecology and the Biosphere		
		53	Population Ecology		
		54	Community Ecology		
		55	Ecosystem		

REVIEW FOR AP EXAM

UNIT #	UNIT TITLE	CHAPT /SEC	CHAPTER CONTENT	LAB/S	OTHER
17	Research Project				

End May

May 25 No School – Memorial Day

June 2-4th FINAL EXAM
Commencement June 5th