HONORS BIOLOGY II

4610

February 2009

Northern York County School District Curriculum

Course Name:		Biology II						
Content:		Biochemistry						
Key Learning(s):		Stude	Student will learn the unity and diversity of organic nutrients.					
Essential Question(s):		What	What is the function group? What are the organic nutrients? What is the unity and diversity found in each group?					
Grade Level:		11 th –	$11^{th} - 12^{th}$					
Number Standar		lard	Student Learning Experiences	Procedures for Assessment	Resources			
3.1.10B 3.3.10A	Describe explain chemica structura basic of living organisr Explain structura function similarit and different found an living th	e and the 1 and al ns the al and al ies ces nong ings	Students will know the structural formulas for each group.Students will know the metabolic functions of each group.Students will know the unity and diversity in the chemical and functional aspects for each group.Students will know the functional groups and their effect on the molecule.	Class participation Molecule structure Molecule Identification Handouts Quizzes Tests	Textbook Model Kits Discovery Learning Activity Enrichment Activity			

Northern York County School District Curriculum								
Course Name:		Biolog	Biology II					
Content:		Energ	y flow in the life of a cell through photosynthesis and resp	iration				
Key Learning(s):		Studer	Student will learn the various phases and reactions and energy transformation in photosynthesis and cellular respiration					
Essential Question(s):		What cellula	What is energy? How does energy flow in chemical reactions? What are energy transformations in photosynthesis? In cellular respiration?					
Grade Level:		11 th -1	11 th -12 th					
Number	Standard		Student Learning Experiences	Procedures for Assessment	Resources			
3.3.1A 3.3.12B 3.4.12B	Identify and explain interactions among living things Identity and describe factors affecting metabolic functions		 Students will know how the laws of thermodynamics relate to living things. Students will know the types of economic and economic reactions in energy transfer. Students will know the unity and diversity found in photosynthesis. Students will know the unity and diversity found in cellular respiration. Students will know the various phases of photosynthesis and cellular respiration. 	Class participation Quizzes Group presentations Diagrams Laboratory Tests	Textbook Worksheets Laboratory materials Videos			
	4.12B Determine the heat involved in chemical reactions		Students will know the various metabolic controls of photosynthetic and cellular respiration.					

Northern York County School District Curriculum								
Course Name:		Biolog	Biology II					
Content:		Cytolo	ogy					
Key Learning(s):		Studen	nts will learn the unity and diversity found among cells					
Essential Question(s):		What a diversa	What are basic features of cells? What functions do organelles perform? What is the unity found in cells? What is the diversity found in cells?					
Grade Level:		11 th -12	2 th					
Number	Standard		Student Learning Experiences	Procedures for Assessment	Resources			
3.3.10B 3.3.10A	Explain function progress terms of chemica reactions energy changes Explain structura function similarit and difference found ar living th	cell s and es in l s and the d and al ies ces nong ings	Students will compare prokaryotic cells and eukaryotic cells.Students will learn the unity and diversity found in cell types.Students will know the chemical organizations in cell organelles.Students will know the various forms of transport found in cells.	Class participation Quizzes Cell laboratory Critical and creative thinking relative parts and whole Organelle identify Tests	Textbook Microscopes Lab slides Cell models Cell illustrations Osmosis/diffusion equipment			

Northern York County School District Curriculum								
Course Name:		Biology II						
Content:		Cellul	ar reproduction – Mitosis and Meiosis					
Key Learning(s):	Studer	nts will learn the unity and diversity in cellular reproduction	n				
Essential Question(s):		How o	How do mitosis and meiosis differ? What is the cell cycle? How does the process of meiosis produce genetic variation?					
Grade Level:		11 th –	12 th					
Number	Stand	lard	Student Learning Experiences	Procedures for Assessment	Resources			
3.3.10C 3.3.10C	Describe genetic informa inherited expressed Distingu differen reproduc patterns living th	e how tion is d and ed uish t ctive in uings	 Students will compare and contrast the function of mitosis and meiosis. Students will compare the processes of sexual and asexual reproduction through methods and results. Students will know the phases of mitosis and meiosis in regards to chromosome behavior. Students will know how random assortment and genetic variation occurs in meiosis. 	Lab reports Discussion Section reviews Skills development Quizzes Tests	Textbook Lab slides Microscopes Worksheets Videotapes			

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Course Name:		Biology II						
Content:		The m	The molecular and chromosomal levels of genetics					
Key Learning(s):		Stude	Students will know the chemical variation in genetic procedures					
Essential Question(s):		How c evolut	How does protein synthesis produce genetic expression? How does DNA recombination occur in nature? How did evolutionary thought evolve?					
Grade Level:		11 th -12	1 th -12th					
Number	er Standard		Student Learning Experiences	Procedures for Assessment	Resources			
3.3.12C 3.3.12C 3.3.12D	Analyze expressi the mole level Describe genetic techniqu applicat and imp Analyze theory o evolutio	e gene on at ecular e ions orts the f n	 Students will know the sequence of DNA replication. Students will know the sequence of RNA production. Students will know the sequence of protein synthesis. Students will know how to solve Mendelian and Sutton genetic problems. Students will know the summary of the Darwin Wallace Theory of Evolution. 	Laboratory Activities Group reports Problem solving Quizzes Tests	Textbook Library research Problems Laboratory materials			

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Course Name:		Biology II						
Content:		Vertebrate Anatomy and Physiology						
Key Learning(s):		The u	The unity and diversity in vertebrate anatomy and physiology					
Essential Question(s):		How o	How do the major animal groups show evolutionary development?					
Grade Level:		11 th -1	11 th -12th					
Number Standard		lard	Student Learning Experiences	Procedures for Assessment	Resources			
3.3.12 A 3.3.12A	Explain relations between structure function levels of organiza Evaluate relations between structure function different anatomic parts	the ship e and at all f tion e ships e and s of t cal	 Students will be able to identify structures in various systems. Students will know the functions of organs in various systems. Students will know the role of organs in the maintenance of homeostasis. Students will know the unity and diversity in systems. 	Laboratory dissections Laboratory quiz Group reports Quizzes Tests	Laboratory materials Textbook Library materials Dissection kits Models			