

Curriculum Map for Biology A and B

Unit of Study	Key Concepts	Estimated Time	Learning Strategies	Activities	Instructional Resources	Assessments		Prerequisites	Content Expectations
						for Learning	of Learning		
Nature of Science	Science is a way of knowing and learning about the natural world	0.5 weeks		-Moonbeam Lab				L2.p1A	
Ecology	Organisms are interdependent with each other and the environment.	2.5-3 weeks	-Problem Solving -Graphic Organizers -Scientific Reasoning	-Create a food web and energy pyramid -Oh Deer! Activity -Succession Activity -Population Graphing	-Human Population Video	-Question -Labs -Worksheets -Supplemental reading	-Unit Test -Final Exam	L2.p1E, L2.p4A, L2.p4B, L3.p1A, L3.p2A, L3.p2B, L3.p2C, L3.p2D, L3.p3A, L3.p3B, L3.p3C, L3.p3D, L3.p4A, L5.p1A, L5.p1B	B2.3C, B3.2A, B3.2B, B3.2C, B3.3A, B3.4A, B3.4B, B3.4C, B3.5A, B3.5B, B3.5C, B3.3b, B3.4d, B3.4e, B3.5d, B3.5e
	Positive and/or negative impacts are inevitable when humans interact with the environment.								
Chemical Compounds of Life	Cells, like our bodies, use energy and chemical compounds to grow, develop, and reproduce.	2.5-3 weeks	-Problem Solving -Graphic Organizers -Scientific Reasoning	-Acid/ Base Lab -Testing for organic compounds in food -Carbohydrate and Protein Models -Enzyme lab (Liver/Pineapple)		-Question -Labs -Worksheets -Supplemental reading	-Unit Test -Final Exam	L2.p1B, L2.p2B, L2.p3A, L2.p5A, L2.p5B, L2.p5C	B2.2A, B2.2B, B2.2C, B2.2D, B2.2E, B2.3A, B2.3B, B2.5A, B2.2f, B2.2g, B2.3g

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Cells	The cell is the basic unit of life.	2 weeks	<ul style="list-style-type: none"> -Problem Solving -Graphic Organizers -Scientific Reasoning 	<ul style="list-style-type: none"> -Plant and Animal Cell Lab -Cell Analogy Project -Diffusion Lab -Osmosis Lab 		<ul style="list-style-type: none"> -Question -Labs -Work sheets -Supplemental reading 	<ul style="list-style-type: none"> -Unit Test -Final Exam 	L2.p1C, L2.p1E, L2.p2A	B2.1C, B2.3g, B2.4h, B2.4i , B2.4g, B2.5g, B2.5h, B2.5i
	The cell's structure determines its function.								
Body Systems	Many systems work together to maintain homeostasis.	2 weeks	<ul style="list-style-type: none"> -Problem Solving -Graphic Organizers -Scientific Reasoning 			<ul style="list-style-type: none"> -Question -Labs -Work sheets -Supplemental reading 	<ul style="list-style-type: none"> -Unit Test -Final Exam 	L2.p1D	B2.3B, B2.3C, B2.4B, B2.3d , B2.3e, B2.3f, B2.6a
	The general functions and interactions of the main systems of the human body.								
Photosynthesis and Cellular Respiration	Energy is required for life processes.	2 weeks	<ul style="list-style-type: none"> -Problem Solving -Graphic Organizers -Scientific Reasoning 	<ul style="list-style-type: none"> -Old Man Honda Photosyn./Respiration -Test Tube Respiration Lab -B. Blue/Elodea 		<ul style="list-style-type: none"> -Question -Labs -Work sheets -Supplemental reading 	<ul style="list-style-type: none"> -Unit Test -Final Exam 	L2.p1B, L2.p1E, L2.p3B, L2.p3C, L2.p3D , L2.p4A, L2.p4B , L2.p4B	B2.1A, B2.1B, B2.5B , B2.5C, B2.5D, B3.1A, B3.1B, B3.1C, B3.1D, B2.4e, B2.4f, B2.5e, B2.5f , B2.6g, B3.1e, B3.1f

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Mitosis	Cells are established from pre-existing cells.	1 week	-Problem Solving -Graphic Organizers -Scientific Reasoning	-Mitosis Onion Lab -Cancer Activity??		-Question -Labs -Work sheets -Supplemental reading	-Unit Test -Final Exam	L2.plC	B2.1C, B4.4b
Meiosis	Meiosis enables genetic variation.	1 week	-Problem Solving -Graphic Organizers -Scientific Reasoning	-Meiosis Yarn Model -Reebop Lab		-Question -Labs -Work sheets -Supplemental reading	-Unit Test -Final Exam	L4.plA, L4.plB	B4.3A, B4.3B, B2.1d, B2.1e, B4.3e, B4.3f
Genetics	Organisms pass on traits to their offspring. Organisms pass on genes, which may mutate and cause changes to characteristics.	3.5 weeks	-Problem Solving -Graphic Organizers -Scientific Reasoning	-Pedigree/Punnett squares/Karyotypes -Face Lab -Aces High -Color Blind Lab -Draw chromosomes with mapped genes	-Video: Bubble Boy Syndrome -Video: Lorenzo's Oil -Video: Mystery of Black Death	-Question -Labs -Work sheets -Supplemental reading	-Unit Test -Final Exam	L4.p2A	B4.1A, B4.2A, B4.3C, B4.1c, B4.1d, B4.1e, B4.3d, B4.3g

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Genetic Engineering	How scientists use genetic engineering techniques to analyze genes and manipulate the DNA of various species.	0.5 week	-Problem Solving -Graphic Organizers -Scientific Reasoning	-Designer Products -Gel Electrophoresis -Paper Plasmids	-Video: Designer Babies -Video: Clone -Video: Clone Age -Video: Pandora's Box	-Question -Labs -Worksheets -Supplemental reading	-Unit Test -Final Exam		B4.2h, B5.3f
DNA and Protein Synthesis	DNA is the blueprint for protein synthesis.	3 weeks	-Problem Solving -Graphic Organizers -Scientific Reasoning	-Build DNA Models -CF Mutation Lab -Simulation of DNA and Cancer -Keratin Lab -Replication Paper Lab -Kool-Aid Lab -Protein Synthesis Project		-Question -Labs -Worksheets -Supplemental reading	-Unit Test -Final Exam		B2.2D, B4.1B, B4.2A, B4.2B, B4.2C, B4.2D, B4.2E, B4.2f, B4.2g, B4.3e, B4.4a, B4.4c
Evolution	Species change through time.	2.5 weeks	-Problem Solving -Graphic Organizers -Scientific Reasoning	-Evidence of Evolution/Amino Acid Sequence Lab -Salamander Speciation -Fossil Safari -Half-life Lab -Here today, Gone tomorrow -Peppered Moth Lab -Darwin's Journey -Caminalcules Lab		-Question -Labs -Worksheets -Supplemental reading	-Unit Test -Final Exam	L5.p1A, L5.p1C, L5.p1D, L5.p2A	B2.4A, B2.4C, B4.2B, B4.3B, B5.1A, B5.1B, B5.3A, B5.3B, B2.4d, B5.1c, B5.1d, B5.1e, B5.1f, B5.1g, B5.2a, B5.2c, B5.3d, B5.3e

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Classification	Classification is an organizational tool to better understand the world around us.	0.5 week	-Problem Solving -Graphic Organizers -Scientific Reasoning	-Far Side Classification -"Real" Dichotomous Key -Salamander Classification		-Question -Labs -Worksheets -Supplemental reading	-Unit Test -Final Exam	L2.p4A	B2.4A