



**Course Title:** Foundations of Biology

**Content Area:** Science

**Grade Level:** 9

## Scope and Sequence

Unit or Topic	Standards (Biology Keystone Eligible Content)	Length of Time	Key Content	Assessment Tools	Scaffolding Strategies (Interventions, Special Education)	Resources & Materials
Basic Biological Principles	BIO.A.1.1.1 BIO.A.1.2.1 BIO.A.1.2.2	2 weeks	-Characteristics of life shared by all organisms -Cellular structure and function	Teacher created assessments -Test -Quizzes -Laboratories	-Classroom resources and study aides available through Blackboard -Modified tests and quizzes -Additional time for assignments and assessments	<b>Textbook:</b> <i>Miller/Levine Biology</i> -On-line virtual laboratories -Teacher created laboratories/activities -Material posted on Blackboard
Chemical Basis for Life	BIO.A.2.1.1 BIO.A.2.2.2 BIO.A.2.2.3 BIO.A.2.3.1 BIO.A.2.3.2	5 weeks	-Unique properties of water -Carbon chemistry -Biological macromolecules -Enzymes	Teacher created assessments -Test -Quizzes -Laboratories	-Classroom resources and study aides available through Blackboard -Modified tests and quizzes -Additional time for assignments and assessments	<b>Textbook:</b> <i>Miller/Levine Biology</i> -On-line virtual laboratories -Teacher created laboratories/activities -Material posted on Blackboard
Bioenergetics	BIO.A.3.1.1 BIO.A.3.2.1 BIO.A.3.2.2	4 weeks	-Photosynthesis -Cellular respiration -ATP	Teacher created assessments -Test -Quizzes -Laboratories	-Classroom resources and study aides available through Blackboard -Modified tests and quizzes	<b>Textbook:</b> <i>Miller/Levine Biology</i> -On-line virtual laboratories -Teacher created laboratories/activities



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					-Additional time for assignments and assessments	-Material posted on Blackboard
Homeostasis and Transport	BIO.A.4.1.1 BIO.A.4.1.2 BIO.A.4.1.3 BIO.A.4.2.1	3 weeks	-Cell membrane and transport -Homeostasis	Teacher created assessments -Test -Quizzes -Laboratories	-Classroom resources and study aides available through Blackboard -Modified tests and quizzes -Additional time for assignments and assessments	<b>Textbook:</b> <i>Miller/Levine Biology</i> -On-line virtual laboratories -Teacher created laboratories/activities -Material posted on Blackboard
Cell Growth and Reproduction	BIO.B.1.1.1 BIO.B.1.1.2 BIO.B.1.2.1 BIO.B.1.2.2	3 weeks	-Cell cycle -Mitosis -Meiosis -DNA Replication	Teacher created assessments -Test -Quizzes -Laboratories	-Classroom resources and study aides available through Blackboard -Modified tests and quizzes -Additional time for assignments and assessments	<b>Textbook:</b> <i>Miller/Levine Biology</i> -On-line virtual laboratories -Teacher created laboratories/activities -Material posted on Blackboard
Genetics	BIO.B.2.1.1 BIO.B.2.1.2 BIO.B.2.2.1 BIO.B.2.2.2 BIO.B.2.3.1 BIO.B.2.4.1	8 weeks	-Patterns of inheritance -Chromosome structure -Transcription -Translation -Genetic mutations -Genetic engineering	Teacher created assessments -Test -Quizzes -Laboratories	-Classroom resources and study aides available through Blackboard -Modified tests and quizzes -Additional time for assignments and assessments	<b>Textbook:</b> <i>Miller/Levine Biology</i> -On-line virtual laboratories -Teacher created laboratories/activities -Material posted on Blackboard



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Evolution	BIO.B.3.1.1 BIO.B.3.1.2 BIO.B.3.1.3 BIO.B.3.2.1 BIO.B.3.3.1	4 weeks	-Mechanisms of evolution -Speciation -Hypothesis, law, theory, observation	Teacher created assessments -Test -Quizzes -Laboratories	-Classroom resources and study aides available through Blackboard -Modified tests and quizzes -Additional time for assignments and assessments	<b>Textbook:</b> <i>Miller/Levine Biology</i> -On-line virtual laboratories -Teacher created laboratories/activities -Material posted on Blackboard
Ecology	BIO.B.4.1.1 BIO.B.4.1.2 BIO.B.4.2.1 BIO.B.4.2.2 BIO.B.4.2.3 BIO.B.4.2.4 BIO.B.4.2.5	7 weeks	-Ecological organization -Biotic vs. abiotic -Energy flow in an ecosystem -Ecosystem interactions -Recycling of matter -Succession -Population growth	Teacher created assessments -Test -Quizzes -Laboratories		<b>Textbook:</b> <i>Miller/Levine Biology</i> -On-line virtual laboratories -Teacher created laboratories/activities -Material posted on Blackboard