

GSE High School Biology Curriculum Map

These are bundles of core ideas from the Georgia Standards of Excellence related to an anchoring phenomenon.
The following Curriculum Map is part of a GaDOE collection of Science Frameworks that include lessons and resources.

Instructional Segment	Stability & Change in Populations Over Time	Patterns in Living Systems	Structure & Function of Molecular Genetics	Patterns of Heredity & Selection	Stability & Change in Ecosystems	Capstone
Estimated Time	6 weeks	8 weeks	8 weeks	6 weeks	7 weeks	1 week
Crosscutting Concepts	<ul style="list-style-type: none"> • Cause and effect • Stability and change • Patterns 	<ul style="list-style-type: none"> • Patterns • Matter and energy • Structure and function 	<ul style="list-style-type: none"> • Structure and function • Systems and system models • Cause and effect 	<ul style="list-style-type: none"> • Patterns • Scale, proportion, and quantity • Systems and system models 	<ul style="list-style-type: none"> • Scale, proportion, and quantity • Matter and energy • Stability and change 	All
Anchoring Phenomenon	Year-Long Phenomenon: Sickle cell is a heritable genetic mutation that evolved in response to interactions in ecosystems.					
	Antibiotics use may lead to resistance in bacteria.	Protists are a challenging group to classify.	Sickle cell disease may be reversed by gene therapy.	Siblings do not look like each other or their parents.	Human activities can cause major shifts in ecosystems.	Sickle cell anemia and its prognosis.
Core Ideas	<ul style="list-style-type: none"> • Evolution of viruses • Viruses vs living organisms • Antibiotic resistance • Genetic drift • Speciation • Pattern of biodiversity • Speciation • Fossil 	<ul style="list-style-type: none"> • Evolution • Endosymbiosis • Photosynthesis • Cellular respiration • Kingdoms and clades • Cell organelles (structure and function) 	<ul style="list-style-type: none"> • Cell structures and organelles • Cellular reproduction (binary fission, mitosis, meiosis) • Macromolecules • Cancer • Structure of DNA • DNA replication • Synthesizing proteins • Gene mutations • Enzymes • Viruses vs living 	<ul style="list-style-type: none"> • Sexual reproduction (binary fission, mitosis, meiosis) • Mendel's laws • Karyotypes • Chromosomal mutations • Dihybrid crosses • Non-Mendelian genetics 	<ul style="list-style-type: none"> • Photosynthesis • Cellular respiration • Biotechnology • Biodiversity (population size, carrying capacity, limiting factors, keystone species) • Energy flow • Cycling of matter • Environmental stability and change • Ecosystems 	All

	evidence <ul style="list-style-type: none"> • Cell structures and organelles 		organisms		<ul style="list-style-type: none"> • Diversity and speciation • Evolution 	
	Obtain, Evaluate, & Communicate Information					
Science and Engineering Practices	<ul style="list-style-type: none"> • Construct explanations • Engage in argument from evidence • Analyze and interpret data • Develop and use models 	<ul style="list-style-type: none"> • Construct explanations • Engage in argument from evidence • Plan & carry out Investigations • Develop & use models 	<ul style="list-style-type: none"> • Develop and use models • Engage in argument from evidence • Construct explanations • Ask questions 	<ul style="list-style-type: none"> • Use mathematics and computational thinking • Ask questions • Engage in argument from evidence 	<ul style="list-style-type: none"> • Plan and carry out investigations • Analyze and interpret data • Construct explanations • Develop and use models • Engage in argument from evidence 	All
GSE	SB1.a; SB4.a,c; SB5.a,e; SB6.a,b,c,d,e	SB1.a,c,e; SB4.a,b;	SB1.a,b,c,d; SB2.a,b,c; SB3.c; SB6.d	SB3.a,b,c; SB6.b,d	SB2.c; SB5.a,c,d,e	All