

Unit Plan: ECOLOGY: INTERACTIONS, ENERGY, AND DYNAMICS

Grade: 8TH

Subject: BIOLOGY

Term: 1

<p>Thematic Concept: RESILIENCE</p>	<p>Universal EQ: “Why is resilience crucial for success?”</p>	
<p>Supporting Concept: RELATIONSHIPS</p>	<p>Content-Based EQ: “HOW ARE RELATIONSHIPS CONNECTED TO RESILIENCE?”</p>	
<p>Generalizations: The relationships between biotic and abiotic factors affect the energy and dynamics (resilience) of an ecosystem.</p>		
<p>Standard(s): HS-LS2- 1, 2, 3, 4, 5, 6, 7, 8</p>		
<p>Unit Outcomes: The emphasis of this unit is on the use of mathematical reasoning and models to construct explanations for how and why organisms interact with their environment and the effects of these interactions.</p>		
<p>Unit Description: This course focuses on interdependent relationships in ecosystems, cycles of matter and energy transfer in ecosystems, ecosystem dynamics/function/resilience, and social interactions and group behavior.</p>		
<p>Conceptual Knowledge Students will understand:</p> <ul style="list-style-type: none"> • How cause and effect relationships determine resilience • Why a phenomenon is dependent on scale, proportion, and quantity • How to use systems and models to simulate interactions within systems • Why energy is conserved • Why stability and change influence resilience and success 	<p>Procedural Knowledge Students will be able to do:</p> <ul style="list-style-type: none"> • How to implement safety procedures • Use mathematical representations to support how certain factors affect carrying capacity and biodiversity • Diagram how cycles of matter and energy are transferred in ecosystems • Model how fluctuations in conditions impact populations and functions of an ecosystem 	<p>Factual Knowledge Students will know:</p> <ul style="list-style-type: none"> • Ecology vocabulary • Laboratory safety procedures • Scientific method of inquiry • How to collect, record, and chart data

Unit Plan: ECOLOGY: INTERACTIONS, ENERGY, AND DYNAMICS

Grade: 8TH

Subject: BIOLOGY

Term: 1

<p>Conceptual Formative Assessments:</p> <ul style="list-style-type: none"> • Ecology lessons/activities 	<p>Procedural Formative Assessments:</p> <ul style="list-style-type: none"> • Ecology lessons/activities 	<p>Factual Formative Assessments:</p> <ul style="list-style-type: none"> • Ecology lessons/activities
<p>Conceptual Summative Assessments:</p> <ul style="list-style-type: none"> • Bottle Biology • Create your own ecosystem • Cycles of Matter • Biomes of the World • Ecology Menu Project 	<p>Procedural Summative Assessments:</p> <ul style="list-style-type: none"> • Bottle Biology • Create your own ecosystem • Cycles of Matter • Biomes of the World • Ecology Menu Project 	<p>Factual Summative Assessments:</p> <ul style="list-style-type: none"> • Unit Exam
<p>Affective Self-Regulatory Strategies:</p> <ul style="list-style-type: none"> • Building confidence through collaboration 	<p>Behavioral Self-Regulatory Strategies:</p> <ul style="list-style-type: none"> • Science safety procedures • Scientific methods 	<p>Cognitive Self-Regulatory Strategies:</p> <ul style="list-style-type: none"> • Reflection on daily collaboration
<p>Resources/Materials</p>		

Unit Plan: ECOLOGY: INTERACTIONS, ENERGY, AND DYNAMICS

Grade: 8TH

Subject: BIOLOGY

Term: 1

--