

Smyth County Schools
Curriculum Map

Science

Grade:7

Subject:Life Science

	1st 6 Weeks	2nd 6 Weeks	3rd 6 Weeks
Standards	LS1: Scientific Method LS2: Cells LS3: Cellular Structure LS4: Basic Needs of Life LS6: Photosynthesis LS7: Ecosystems LS9: Biological Communities LS13: Genetics	LS2: Cells LS3: Cellular Structure LS13: Genetics LS14: Organisms Change Over Time	LS2: Cells LS3: Cellular Structure LS5: Classification LS6: Photosynthesis LS7: Ecosystems LS12: Ecosystem Dynamics and Humans
Content	LIFE'S STRUCTURE AND FUNCTION <ul style="list-style-type: none"> • Understanding of how the nature of science is developed and reinforced. • Use of metric units 	LIFE'S STRUCTURE AND FUNCTION <ul style="list-style-type: none"> • Cell growth and division • Role of DNA, genes, and chromosomes • Genotypes, phenotypes, Punnett Squares • Expression of traits • Non-inherited traits and genetic engineering • Significance of genetic discoveries • Factors that threaten or enhance 	FROM BACTERIA TO PLANTS <ul style="list-style-type: none"> • Study and classification of organisms beginning with the oldest and most simple forms of life • Compare eukaryotic and prokaryotic cells • Structure of bacteria and it's importance in nature's cycles • Characteristics of Kingdoms, major phyla, and species of bacteria, protists,

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	<ul style="list-style-type: none"> • Understand cell structure and development of cell theory. • Similarities and differences between plant and animal cells • Understanding of functions that maintain life (respiration, photosynthesis) • Needs of living things • Classification system • Apply the skills of the Scientific Method • Use of dichotomous keys 	<p>species survival</p> <ul style="list-style-type: none"> • Relationships of mutations, adaptation, natural selection, and extinction • Evidence of evolution of different species • How environment and genetic variation leads to diversity of organisms • Development of Cell Theory • Contributions of Watson and Crick, Franklin, and Mendel 	<p>fungi, and plants</p> <ul style="list-style-type: none"> • Plant needs • Energy transfer between sunlight and chlorophyll • Importance of photosynthesis to all living things • Adaptations that allow organisms to survive in a specific ecosystem
<p>Skills</p>	<ul style="list-style-type: none"> • Understanding of how the nature of science is developed and reinforced. • Use of metric units • Understand cell structure and development of cell theory. • Similarities and differences between plant and animal cells 	<ul style="list-style-type: none"> • Cell growth and division • Role of DNA, genes, and chromosomes • Genotypes, phenotypes, Punnett Squares • Expression of traits • Non-inherited traits and genetic engineering • Significance of genetic discoveries • Factors that threaten or enhance species survival • Relationships of mutations, adaptation, natural selection, and 	<ul style="list-style-type: none"> • Study and classification of organisms beginning with the oldest and most simple forms of life • Compare eukaryotic and prokaryotic cells • Structure of bacteria and it's importance in nature's cycles • Characteristics of Kingdoms, major phyla, and species of bacteria, protists, fungi, and plants • Plant needs • Energy transfer between sunlight and chlorophyll

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	<ul style="list-style-type: none"> • Understanding of functions that maintain life (respiration, photosynthesis) • Needs of living things • Classification system • Apply the skills of the Scientific Method • Use of dichotomous keys • Application of LS1 science skills 	<p>extinction</p> <ul style="list-style-type: none"> • Evidence of evolution of different species • How environment and genetic variation leads to diversity of organisms • Development of Cell Theory • Contributions of Watson and Crick, Franklin, and Mendel 	<ul style="list-style-type: none"> • Importance of photosynthesis to all living things • Adaptations that allow organisms to survive in a specific ecosystem
<p>Assessment</p>	<ul style="list-style-type: none"> • Life.msscience.com practice tests and quizzes • Use of microscopes • Foldable activities • Quizzes and tests • Hands-on activities • Webquests 	<ul style="list-style-type: none"> • Life.msscience.com practice tests and quizzes • Foldable activities • Quizzes and tests • Hands-on activities • Webquests • Rubrics • Classroom participation • Reading and reinforcement worksheets • Punnett Squares 	<ul style="list-style-type: none"> • Life.msscience.com practice tests and quizzes • Foldable activities • Quizzes and tests • Hands-on activities • Webquests • Rubrics • Classroom participation • Reading and reinforcement worksheets

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	<ul style="list-style-type: none"> • Rubrics • Classroom participation • Science Fair Projects • Reading and reinforcement worksheets 		
Related Literature	<ul style="list-style-type: none"> • Current Events/newspaper clippings • Flanagan/Mott • SOL Blueprint • Scope and Sequence • Curriculum Frameworks • SOL Pass 	<ul style="list-style-type: none"> • Current Events/newspaper clippings • Flanagan/Mott • SOL Blueprint • Scope and Sequence • Curriculum Frameworks • SOL Pass 	<ul style="list-style-type: none"> • Current Events/newspaper clippings • Flanagan/Mott • SOL Blueprint • Scope and Sequence • Curriculum Frameworks • SOL Pass
Technology	<ul style="list-style-type: none"> • Life.msscience.com • PowerPoint presentations • United Streaming videos and other applicable videos/DVDs 	<ul style="list-style-type: none"> • Life.msscience.com • Powerpoint presentations • United Streaming videos and other applicable videos/DVDs • Smartboard/LCD projector activities • Teacher created websites (QUIA, Portaportal) 	<ul style="list-style-type: none"> • Life.msscience.com • Powerpoint presentations • United Streaming videos and other applicable videos/DVDs • Smartboard/LCD projector activities • Teacher created websites (QUIA, Portaportal)

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	<ul style="list-style-type: none"> • • Smartboard/LCD projector activities • Teacher created websites (QUIA, Portaportal) • SOL related internet sites • BrainPop • Web cam resources 	<ul style="list-style-type: none"> • SOL related internet sites • BrainPop • Web cam resources 	<ul style="list-style-type: none"> • SOL related internet sites • BrainPop • Web cam resources
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Grade: **Subject:**

	4th 6 Weeks	5th 6 Weeks	6th 6 Weeks
Standards	LS2: Cells LS3: Cellular Organization LS4: Basic Needs of Life LS5: Classification LS7: Ecosystems LS10: Biotic and Abiotic Factors LS12: Ecosystem Dynamics and Humans	LS3: Cellular Organization LS4: Basic Needs of Life LS5: Classification LS8: Populations LS10: Biotic and Abiotic Factors LS12: Ecosystem Dynamics and Humans	LS4: Basic Needs of Life LS6: Photosynthesis LS7: Ecosystems LS8: Populations LS9: Biological Communities LS10: Biotic and Abiotic Factors LS11: Changes Over Time LS12: Ecosystem Dynamics and Humans
Content	ANIMAL DIVERSITY- INVERTEBRATES <ul style="list-style-type: none"> • Characteristics and needs of animals • Characteristics of invertebrate kingdom 	ANIMAL DIVERSITY-VERTEBRATES <ul style="list-style-type: none"> • Characteristics of the kingdom of vertebrates • Distinguishing characteristics of major phyla and characteristics of species: fish, amphibians, birds, reptiles, mammals • Adaptations that allow organisms to survive in a specific ecosystem • Influence of behavior on a population • Competition, cooperation, territory, and social hierarchy 	ECOLOGY <ul style="list-style-type: none"> • Understanding factors that influence life processes • Energy between sunlight and chlorophyll • Photosynthesis as the foundation of food webs • Carbon, water, and oxygen cycles • Flow of energy and matter through ecosystems • Interactions of members of population, community, and ecosystem

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	<ul style="list-style-type: none"> Distinguishing characteristics of major phyla and characteristics of species: Porifera, Cnidaria, Worms, Mollusks, Arthropods, Echinoderms Adaptations that allow organisms to survive in a specific ecosystem 		<ul style="list-style-type: none"> Symbiotic relationships and niches Characteristics of ecosystems and difference between biomes Adaptations, tropisms, hibernation Factors that affect population size and survival Conservation of resources
Skills	<ul style="list-style-type: none"> Characteristics and needs of animals Characteristics of invertebrate kingdom Distinguishing characteristics of major phyla and characteristics of species: Porifera, Cnidaria, Worms, Mollusks, Arthropods, Echinoderms Adaptations that allow organisms to survive in a specific ecosystem 	<ul style="list-style-type: none"> Characteristics of the kingdom of vertebrates Distinguishing characteristics of major phyla and characteristics of species: fish, amphibians, birds, reptiles, mammals Adaptations that allow organisms to survive in a specific ecosystem Influence of behavior on a population Competition, cooperation, territory, and social hierarchy 	<ul style="list-style-type: none"> Understanding factors that influence life processes Energy between sunlight and chlorophyll Photosynthesis as the foundation of food webs Carbon, water, and oxygen cycles Flow of energy and matter through ecosystems Interactions of members of population, community, and ecosystem Symbiotic relationships and niches Characteristics of ecosystems and difference between biomes Adaptations, tropisms, hibernation Factors that affect population size and survival Conservation of resources
Assessment	<ul style="list-style-type: none"> Life.msscience.com practice tests and quizzes Use of microscopes 	<ul style="list-style-type: none"> Life.msscience.com practice tests and quizzes Foldable activities Quizzes and tests Hands-on activities Webquests Rubrics 	<ul style="list-style-type: none"> Life.msscience.com practice tests and quizzes Foldable activities Quizzes and tests Hands-on activities Webquests Rubrics

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Grade:

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	<ul style="list-style-type: none"> • Foldable activities • Quizzes and tests • Hands-on activities • Webquests • Rubrics • Classroom participation • Science Fair Projects • Reading and reinforcement worksheets • Virtual dissections 	<ul style="list-style-type: none"> • Classroom participation • Reading and reinforcement worksheets • Virtual dissections 	<ul style="list-style-type: none"> • Classroom participation • Reading and reinforcement worksheets
<p>Related Literature</p>	<ul style="list-style-type: none"> • Current Events/newspaper clippings • Flanagan/Mott • SOL Blueprint 	<ul style="list-style-type: none"> • Current Events/newspaper clippings • Flanagan/Mott • SOL Blueprint • Scope and Sequence • Curriculum Frameworks 	<ul style="list-style-type: none"> • Current Events/newspaper clippings • Flanagan/Mott • SOL Blueprint • Scope and Sequence • Curriculum Frameworks

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Grade:

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	<ul style="list-style-type: none"> • Scope and Sequence • Curriculum Frameworks 		
Technology	<ul style="list-style-type: none"> • Life.msscience.com • PowerPoint presentations • United Streaming videos and other applicable videos/DVDs • Smartboard/LCD projector activities • Teacher created websites (QUIA, Portaportal) • SOL related internet sites • BrainPop • Web cam resources 	<ul style="list-style-type: none"> • Life.msscience.com • Powerpoint presentations • United Streaming videos and other applicable videos/DVDs • Smartboard/LCD projector activities • Teacher created websites (QUIA, Portaportal) • SOL related internet sites • BrainPop • Web cam resources 	<ul style="list-style-type: none"> • Life.msscience.com • Powerpoint presentations • United Streaming videos and other applicable videos/DVDs • Smartboard/LCD projector activities • Teacher created websites (QUIA, Portaportal) • SOL related internet sites • BrainPop • Web cam resources