

MCS Zoology Subject Group Overview

Fall Semester: Unit 1-3 (18 weeks)

Spring Semester: Unit 4-6 (18 weeks)

Unit Name	Unit 1: Introduction to Classification and Evolution	Unit 2: Vertebrates: Chordata	Unit 3: Animal Adaptations and Behaviors	Unit 4 : Invertebrates Part 1: Arthropoda, Mollusca and Echinodermata	Unit 5: Invertebrates Part 2: Porifera, Cnidaria, Platyhelminthes, Nematoda, and Annelida	Unit 6: Human Impact and Invasive Species
Time Frame	8 weeks	8 weeks	2 weeks	8 weeks	7 weeks	3 weeks
Standards	<p>SZ1a: Construct an explanation of the relationships among animal taxa using evidence from morphology, embryology, and biochemistry.</p> <p>SZ1c: Develop a model using data to place taxa in a phylogenetic context to support hypotheses of relationships</p> <p>SZ2a: Construct an explanation of the geological history of earth and the effects of major environmental changes</p> <p>SZ2b: Construct an explanation of how evolution allows species to adapt to environmental changes.</p>	<p>SZ1b: Analyze and interpret data to explain patterns in structure and function and construct a classification of representative animal taxa</p> <p>SZ3a: Plan and carry out investigations to determine patterns in morphology</p> <p>SZ3b: Construct an explanation of life functions at appropriate level of organization for representative taxa</p> <p>SZ3c: Construct an explanation based on evidence to relate important structural changes across evolutionary history to key functional transitions.</p> <p>SZ4a: Construct explanations to relate structure and function of animals to ecological roles, including morphological, physiological, and behavioral adaptations</p>	<p>SZ4a: Construct explanations to relate structure and function of animals to ecological roles, including morphological, physiological, and behavioral adaptations</p>	<p>SZ1b: Analyze and interpret data to explain patterns in structure and function and construct a classification of representative animal taxa</p> <p>SZ3a: Plan and carry out investigations to determine patterns in morphology</p> <p>SZ3b: Construct an explanation of life functions at appropriate level of organization for representative taxa.</p> <p>SZ3c: Construct an explanation based on evidence to relate important structural changes across evolutionary history to key functional transitions.</p> <p>SZ4a: Construct explanations to relate structure and function of animals to ecological roles, including morphological, physiological, and behavioral adaptations</p> <p>SZ4b: Develop a model to explain patterns in various life cycles found among animals</p>	<p>SZ1b: Analyze and interpret data to explain patterns in structure and function and construct a classification of representative animal taxa</p> <p>SZ3a: Plan and carry out investigations to determine patterns in morphology</p> <p>SZ3b: Construct an explanation of life functions at appropriate level of organization for representative taxa</p> <p>SZ3c: Construct an explanation based on evidence to relate important structural changes across evolutionary history to key functional transitions.</p> <p>SZ4a: Construct explanations to relate structure and function of animals to ecological roles, including morphological, physiological, and behavioral adaptations</p> <p>SZ4b: Develop a model to explain patterns in various life cycles found among animals</p>	<p>SZ5a: Ask questions and define problems identifying the cause and effect of human activities on the biodiversity of organisms</p> <p>SZ5b: Design a solution to preserve species diversity in natural and captive environments with regard to conservation, habitat restoration, breeding programs and management of genetic diversity at local and global levels.</p> <p>SZ5c: Construct an argument based on evidence of the short-term and long-term impacts of legal, societal, political, ethical, and economic decisions on animal diversity.</p>

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		<p>behavioral adaptations</p> <p>SZ4b: Develop a model to explain patterns in various life cycles found among animals</p> <p>SZ4c: Construct an explanation based on evidence of the effects of symbiotic relationships between animals and between animals and other organisms</p>			
<p>Content Specific Information (texts, documents, methods)</p>	<p>Statement of Inquiry The geological history of Earth has influenced the form and function of organisms through geologic time.</p> <p>Phenomenon: Fossils from the Cambrian have representatives of almost all animal groups identified today.</p> <p>Crosscutting Concepts</p> <ul style="list-style-type: none"> ● Stability and Change ● Scale, Proportion, and Quantity ● Structure & Function 	<p>Statement of Inquiry Animal diversity is influenced by human activities.</p> <p>Phenomenon: Humans share many structures with other vertebrate classes</p> <p>Crosscutting Concepts</p> <ul style="list-style-type: none"> ● Systems and Systems Model ● Stability and Change ● Scale, Proportion, and Quantity ● Cause and Effect ● Patterns <p>CORE IDEAS Distinguishing characteristics of animal groups with emphasis on evolution of transitional body structures and comparison of body systems as well as human and animal interactions,</p>	<p>Statement of Inquiry Animal form and function within invertebrate animal phyla and across key taxa influence how animals interact with their environment.</p> <p>Phenomenon: Animal variety in form and function is still a field of discovery.</p> <p>Crosscutting Concepts</p> <ul style="list-style-type: none"> ● Systems and Systems Model ● Stability and Change ● Scale, Proportion, and Quantity ● Cause and Effect ● Patterns <p>CORE IDEAS Distinguishing characteristics of animal groups with emphasis on evolution of transitional body structures and comparison of body systems as well as human and animal interactions,</p>	<p>Statement of Inquiry How does human activity impact the biodiversity of life on earth?</p> <p>Phenomenon: Humans transport invasive species that impact local species</p> <p>Crosscutting Concepts</p> <ul style="list-style-type: none"> ● Systems and Systems Model ● Stability and Change ● Cause and Effect ● Patterns 	

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	<ul style="list-style-type: none"> ● Cause & Effect ● Patterns <p style="text-align: center;">CORE IDEAS</p> <p>Characteristics of Animals; Classification and Taxonomy; Earth History; Evolution</p>					<p style="text-align: center;">CORE IDEAS</p> <p>Research and discuss the economic and ecological role of invasive species in an environment</p>
Common Assessments/ Major Projects	<p>CSA X 1 CFA X 2</p> <p>Geological History activity</p> <p>Evidence of evolution activity</p> <p>Classification/cladogram activity</p> <p>Animal behavior exploration</p> <p>Introduction to dissection</p>	<p>CSA X 1 CFA X 2</p> <p>Vertebrate exploration/dissection</p> <p>Skeletal comparisons</p> <p>Body coverings research and lab design</p> <p>Symbiotic relationships activity</p>	<p>Unit project</p> <p>Midterm Presentation</p>	<p>CSA X 1 CFA X 2</p> <p>Arthropod dissection/exploration</p> <p>Arthropod, Echinoderm and Mollusk modeling activity</p> <p>Cladogram characteristics activity</p> <p>Echinoderm dissection/exploration</p> <p>Mollusk dissection/exploration</p>	<p>CSA X 1 CFA X 2</p> <p>Porifera and Cnidaria modeling activity</p> <p>Annelida Dissection/exploration</p> <p>Worm phyla speed dating activity</p> <p>Animal behavior exploration</p>	<p>Unit project</p> <p>Final exam presentation</p>
Level Specific Differentiation	Marietta City Schools teachers provide specific differentiation of learning experiences for all students. Details for differentiation for learning experiences are included on the district unit planners.					
Major Resources	<ul style="list-style-type: none"> - www.ck12.org - Miller and Levine Biology Textbook 2009, (Dragonfly book) workbook, text, and test bank - Argument Driven Inquiry NSTA activity book - Shape of Life website videos and activities - Youtube videos of Dissections of specific animals 					

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| | <ul style="list-style-type: none">- Biologyjunction.com;- Biologycorner.com;- https://manoa.hawaii.edu/exploringourfluidearth/biological- Eyewitness videos- Preserved specimens slides for observation and dissection- BBC nature documentaries |
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