

Grade 4 Science
Module 2 Animal Defense Mechanisms
Canterbury Public Schools

Subject	Science
Grade Level	4
Module Title	<p>Module 2 Animal Defense Mechanisms</p> <p>In this Grade 4 Life Science module, students investigate how the internal and external structure of plants and animals support survival in specific habitats and ecosystems. Students explore how organisms' structures function together as systems that help them obtain food, grow, protect themselves, and reproduce. Students study ecosystems such as deserts, tundras, and grasslands while analyzing how organisms are specially adapted to survive within those environments. Throughout the module, students engage in scientific inquiry, model development, argument writing, observation, discussion, and evidence-based reasoning. Students culminate the module by designing a fictional animal with specialized structures suited for survival in a chosen ecosystem and defending their scientific thinking using evidence.</p>
Module Goals	<p>Investigate internal and external plant and animal structures</p> <p>Analyze how structures support growth, defense, movement, and survival</p> <p>Compare ecosystems and environmental conditions</p> <p>Construct explanations using scientific notation</p> <p>Develop and revise scientific models</p> <p>Engage in scientific discussions and argument writing</p> <p>Use observations and informational texts to gather evidence</p> <p>Explain relationships between structure and function</p>
Pacing (# of weeks)	8 - 9 weeks
Standards	<p>4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.</p> <p>4-LS1-2 Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.</p> <p>4-LS4-3 Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.</p> <p>LS1.A Structure and Function Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior and reproduction.</p> <p>LS4.C Particular organisms are able to survive well in particular environments</p>

	LS1.D Different sense receptors are specialized for particular kinds of information processing
Content/Conceptual Knowledge (know)	<p>Animals have physical and behavioral defense mechanisms that help them survive Defense mechanisms protect animals from predators and environmental dangers Animals use structures and behaviors such as camouflage, mimicry, venom, shells, speed, warning colorations, and group behavior for protection Different animals survive in different habitats because of specialized adaptations Researchers gather information from informational texts, diagrams. Observations, and discussions Informational texts contain main ideas, diagrams, supporting details, scientific vocabulary Writers use research and evidence to inform and entertain readers Scientists and researchers synthesize information from multiple sources Organisms depend on their environment and adaptations for survival Animal behaviors and body structures are connected to survival and reproduction Scientific discussions require evidence, listening, paraphrasing, and collaboration Informational writing includes clear focus statement, facts, definitions, detail and domain-specific vocabulary Narratives can incorporate accurate scientific information Predators and prey influence animal survival behaviors Ecosystems contain relationships between organisms and their environments Close reading helps readers gather evidence and deepen understanding of scientific topics Diagrams, visuals, and text features support comprehension of informational texts Research notebooks help organize observations, questions, and evidence Scientists ask questions, investigate, and revise their thinking based on evidence</p>
Skills (be able to do)	<p>Module 2 Develop and use models Construct explanations Engage in argument from evidence Ask questions and define problems Obtain, evaluate, and communicate information Analyze and interpret data</p> <p>Observe and describe plant and animal structures Explain how structures support survival Compare organisms across ecosystems Use evidence from texts and observations Create scientific diagrams and models Participate in collaborative scientific discussions Write evidence-based scientific explanations Conduct simple investigations Record scientific observations in notebooks Defend scientific claims using evidence</p>

Essential Questions	<p>Module 2</p> <p>How do structures help plants and animals survive?</p> <p>How do organisms depend on their environment?</p> <p>Why are some structures better suited for certain habitats?</p> <p>How do scientists use evidence to explain ideas?</p> <p>How do internal and external structures work together as systems?</p> <p>How do plants and animals adapt to ecosystems?</p>
Enduring Understandings	<p>Module 2</p> <p>Living organisms have internal and external structures that support survival</p> <p>Plants and animals depend on specialized structures to meet their needs</p> <p>Organisms function as systems with interacting parts</p> <p>Ecosystems influence how organisms survived and adapt</p> <p>Scientists use evidence, models and arguments to explain scientific ideas</p> <p>Structure and function are directly related in living things</p> <p>Survival depends upon interactions between organisms and their environment</p>
Vocabulary	<p>Module 2</p> <p>Organism,habitat, ecosystem, structure, function,adaptation, survival, predator, prey, external structure, internal structure, defense mechanism, grassland, tundra, desert, roots, stem, leaves, exoskeleton, camouflage, mimicry, inherited traits, environment, reproduce, analyze, explain, evidence, compare, model, investigate construct, argument, observe, support, camouflage, adaptation, predator, venom, toxin, warning coloration, species</p>
Common Learning Experiences	<p>Inquiry</p> <p>Collaborative discussions</p> <p>Hands-on investigations</p> <p>Close reading of informational texts</p> <p>Modeling and diagramming</p> <p>Think-pair-share</p> <p>Science notebooks</p> <p>Evidence-based writing</p> <p>Interactive use of vocabulary</p>
Assessments	<p>Science notebook entries, turn and talk discussions, exit tickets, observation notes, scientific diagrams, vocabulary activities, teacher conferences, small group discussions, quick writes, model revisions, explanatory model of a fictional animal, scientific argument paragraph, ecosystem survival presentation, performance task, aligned to NGSS standards</p> <p>Performance task:</p> <p>Students design a fictional animal capable of surviving in a specific ecosystem. Students explain how the animal's specialized internal and external structures function together to support survival. Students create an explanatory scientific model and defend their thinking using evidence from scientific investigation and texts.</p>

Resources	Student science notebooks Module guide Lesson sequence materials Ecosystem informational texts Videos Reading resources Samples Magnifying glasses Chart paper Digital resource tools Supports for students Guided notes Visual vocabulary supports Sentence frames Partner discussions Diagrams Read-alouds Small group instruction Repeated modeling Chunked directions Scaffolded writing support
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