

NGSS Standards		Grades	What is a National Wildlife Refuge?	Explanation of Standards Met	Mammals: Predators & Prey	Explanation of Standards Met
K. Interdependent Relationships in Ecosystems: Animals, Plants, and Their Environment						
Benchmark Code	Benchmark					
K-LS1-1 From Molecules to Organisms: Structures and Processes	Use observations to describe patterns of what plants and animals (including humans) need to survive.	K-2, K	x	Video describes that all plants, animals and people need food, water, air, and space to build shelter to survive.	x	Video describes that all plants, animals and people need food, water, air, and space to build shelter to survive.
2. Interdependent Relationships in Ecosystems						
2-LS4-1 Biological Evolution: Unity and Diversity	Make observations of plants and animals to compare the diversity of life in different habitats.	K-2, 2	x	Video highlights the plant and animal life that exists throughout various Refuge habitats, specifically by providing examples of prickly pear cactus growing in deserts (Bosque de Apache) and wetlands providing the shelter saltmarsh sparrows need (Seatuck). In addition, various wildlife and plant species that are found in Refuge were featured in the video.		
3. Interdependent Relationships in Ecosystems						
3-LS2-1 Ecosystems: Interactions, Energy, and Dynamics	Construct an argument that some animals form groups that help members survive.	3-5, 3			x	Video describes the benefits to hunting in packs (wolf example) and living in groups to avoid predations (prairie dogs and deer examples.)
3-LS4-3 Biological Evolution: Unity and Diversity	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.	3-5, 3	x	Video defines what adaptations are and how these are indicative of survival. The video provides examples of how prickly pear cactus can only grow in the desert, saltmarsh sparrows build shelter in wetlands and monarch butterflies must migrate south to survive because cold northern temperatures will kill them. Paired activity, How Do You Adapt?		
4. Structure, Function, and Information Processing						
4-LS1-2 From Molecules to Organisms: Structures and Processes	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.	3-5, 4			x	Video provides examples of the variety of senses both predators and prey develop and use to be successful hunter and to avoid being predated. These characteristics are broken down by behaviors and physical characteristics. The senses are a major aspect of these characteristics.

Big Idea 14: Organization and Development of Living Organisms

- A. All plants and animals, including humans, are alike in some ways and different in others.
B. All plants and animals, including humans, have internal parts and external structures that function to keep them alive and help them grow and reproduce.
C. Humans can better understand the natural world through careful observation.

Benchmark Code Benchmark
Observe plants and animals, describe how they are alike and how they are different in the way they look and in the things they do. Content Complexity: Level 2: Basic Application of Skills & Concepts

SC.K.L.14.3
Make observations of living things and their environment using the five senses. Content Complexity: Level 1: Recall

SC.1.L.14.1
Big Idea 17: Interdependence
A. Plants and animals, including humans, interact with and depend upon each other and their environment to satisfy their basic needs.
B. Both human activities and natural events can have major impacts on the environment.
C. Energy flows from the sun through producers to consumers.

Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space. Content Complexity: Level 1: Recall

SC.1.L.17.1
Big Idea 1: The Practice of Science
A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method."
C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge.
D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.

Explain how scientists alone or in groups are always investigating new ways to solve problems. Content Complexity: Level 2: Basic Application of Skills & Concepts

SC.2.N.1.6
Big Idea 17: Interdependence
A. Plants
Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them. Content Complexity: Level 2: Basic Application of Skills & Concepts

SC.4.L.17.2

Grades

What is a National Wildlife Refuge?

Explanation of Standards Met

Mammals: Predators & Prey

Explanation of Standards Met

Video describes and shows how National Wildlife Refuges have a variety of plant and animal species that need the same resources to survive, but also provides examples of how plants and animals adapt to survive in different ways.

Video describes and shows how predators and prey are all linked together through a food web. Predators feed on other animals while prey can feed on other animals and/or plant life. Animals hunt or forage for their food, while plants get their food through the process of photosynthesis.

K

x

x

Video describes and shows how National Wildlife Refuges are great places for wildlife observation. Because this is a visual tool, emphasis was put on observing using the sense of sight and sound. Paired activity, Refuge Sights and Sounds activity.

1

x

x

Video describes each resource all living things need to survive (air, water, food and space.)

Video describes how predators and prey need similar and different resources to survive in the wild. The biggest difference is in the food they eat. Predators eat other animals, while most prey eat plant life. Otherwise all living things need fresh air, clean water and plenty of space to build their shelter.

1

x

x

Video provides examples of the different jobs National Wildlife Refuge scientists do to conserve, manage and restore native habitats and to conserve plant and wildlife species. The examples for

2

x

Video describes how each living creature is connected and all acquire their food in various ways. However it is acquired, the food each creature consumes becomes the energy they need to survive.

4

x

Activity

National Wildlife Refuges

Mammals: Predators and Prey

[Quick Freeze Prairie Dogs \(Students play an active version of freeze tag to learn about the predator and prey relationships between coyotes and prairie dogs.\)](#) Grades: 4-6

USFWS

What is a National Wildlife Refuge: General
What is a National Wildlife Refuge: What to bring
What is a National Wildlife Refuge: Wildlife
Wildlife Is Everywhere (Children make observations and understand that wildlife is all around us.)

Conservation Connect Videos

Lunch for a Bear (Children identify the kinds of foods that Black Bear's eat by creating a plate of "bear food.")

Growing Up Wild (Prek-K)

Hiding In Plain Sight (Children play a game of hide and seek to learn about important adaptations in many wild animals.)*

Show Me the Energy (Children discover that all animals, including people, depend on plants as a food source, either directly or indirectly.)

Tracks! (Children explore animal tracks and make and compare tracks of their own.)

Adaptation Artistry (Design and construct your own bird and describe your creation's adaptations and habitat.) Grades: 3-5

Tracks! (Search for and identify wildlife tracks, then make plaster casts of tracks.) Grades: 3-8

Project Wild

Color Crazy (Create representations of wild animals designed to visually blend into or stand out in their habitats, then discuss coloration as an adaptation for survival.) Grades: K-5

What's That Habitat (Sort daily items into categories of "wants" and "needs" to examine what humans and wildlife need to survive.) Grades: K-5

Habitat Circles (Physically form an interconnected circle to demonstrate the interdependence of habitat components.) Grades: 3-5

Map That Habitat (Create a map to identify the location of the components of an animal's habitat.) Grades: 3-5

Habitat Heroes (Take action in your community by designing and completing a habitat improvement project.) Grades: 3-8

Urban Nature Search (Go on a scavenger hunt to observe and record different types of wildlife and habitat features in your schoolyard.) Grades: 3-8

Birds and Bugs (Camouflage is an essential survival strategy in the natural world. Students discover the value of protective coloration as they pretend to be birds in search of colored bugs.) Grades: K-2

Project Learning Tree

Trees as Habitats (From their leafy branches to their tangled roots, trees provide habitat for a host of plants and animals. Students will inventory the plants and animals that live in, on and around trees and discover how plants and animals depend on trees in many ways.) Grades K-2

Charting Biodiversity (Students explore the amazing diversity of life on Earth and discover how plants and animals are adapted for survival. This activity helps students understand why there are so many different species and teaches them the value of biodiversity) Grades: 3-5