

Desert Connections

Program Summary: Participants will learn about animals, plants, and cultural characteristics of desert environments.

K – 2nd grade:

“What is a desert?” Discuss that deserts are hot, do not have a lot of water, do not always have a lot of food, usually have small sized animals (do not need large amounts of water, food, shelter). Discuss that animals seek protection from the heat. Discuss simple connections between animals/plants/people (animals eat plants, plants are homes for animals, animals help people control “pests”). Observe characteristics that might help the animal to survive in a desert.

- ✓ SC00-S1C1-01: Observe common objects using multiple senses
- ✓ SC00-S1C1-02: Ask questions based on experiences with objects, organisms, and events in the environment
- ✓ SC00-S4C1-01: Distinguish between living and non-living things
- ✓ SC00-S4C1-02: Name human body parts
- ✓ SC00-S4C1-03: Identify the 5 senses and their corresponding body part (touch - skin, smell - nose, taste - tongue, hearing - ears, sight - eyes)
- ✓ SC00-S4C2-01: Describe that most animals will grow to physically resemble their parents
- ✓ SC00-S4C3-01: Identify some plants and animals that exist in the local environment
- ✓ SC00-S4C3-02: Identify that plants and animals need the following to survive - food, water, air, and space
- ✓ SC00-S5C1-01: Identify the following observable properties of objects using the senses - shape, texture, size, color
- ✓ SC00-S5C1-02: Compare objects by the following observable properties - size, color, type of material
- ✓ SS00 - 3SS-R1: Demonstrate understanding of the concept of location, with emphasis on:
 - 01: determining the relative location of objects using the terms near/far, behind/in front, over/under
- ✓ SC01-S1C1-02: Ask questions based on experiences with objects, organisms, and events in the environment
- ✓ SC01-S4C1-01: Identify characteristics of living things
- ✓ SC01-S4C1-02: Compare observable features of living things - movement (legs, wings), protection (skin, feathers, tree bark), respiration (lungs, gills)
- ✓ SC01-S4C1-03: Identify similarities/differences between/among different groups of animals (#of legs, body coverings, size)
- ✓ SC01-S4C2-02: Identify similarities and differences between animals and their parents
- ✓ SC01-S4C3-01: Identify some plants and animals that exist in the local environment
- ✓ SC01-S4C3-02: Compare habitats in which animals live (desert, prairie, forest, water, underground)
- ✓ SC01-S4C3-03: Describe how plants and animals within a habitat are dependant on each other
- ✓ SC01-S5C1-01: Classify objects by the following observable properties - shape, texture, size, color, weight
- ✓ SC01-S5C2-01: Demonstrate the various ways that objects can move (straight line, zigzag, back-and-forth, round-and-round, fast, slow)
- ✓ SC02-S1C1-02: Formulate relevant questions about the properties of objects, organisms, and events in the environment

- ✓ SC02-S1C1-02: Predict the results of an investigation (in animal life cycles, phases of matter, the water cycle)
- ✓ SC02-S4C1-01: Identify animal structures that serve different functions (sensory, defense, locomotion)
- ✓ SC02-S4C1-02: Identify the following major parts of - digestive system (mouth, esophagus, stomach, small/large intestines), respiratory system (nose, trachea, lungs, diaphragm), circulatory system (heart arteries, veins, blood)
- ✓ SC02-S4C1-03: Describe basic functions of systems (digestive - breakdown and absorption of food, disposal of waste, respiratory - exchange of oxygen and carbon dioxide, circulatory - transportation of nutrients and oxygen throughout the body)
- ✓ SC02-S4C2-01: Describe the life cycle of various insects
- ✓ SC02-S4C2-02: Describe the life cycles of various mammals
- ✓ SC02-S4C2-03: Compare the life cycles of various organisms
- ✓ SC02-S5C1-01: Describe objects in terms of measurable properties - length, weight, temperature

3rd – 4th grade:

Observation and discussion will emphasize plant/animal connections and the deserts of Arizona. Identify AZ as being in the southwestern US and that there are 4 deserts in AZ. Observe and discuss adaptations that plants/animals have for life in the desert (plants small leaves/waxy skin, cactus stores water, desert tortoise stores water from cactus, animals live in plants – saguaro, animals pollinate plants and seed dispersal).

- ✓ SC03-S1C1-01: Formulate relevant questions about the properties of objects, organisms, and events in the environment using observations and prior knowledge
- ✓ SC03-S4C3-01: Identify the living and non living components of an ecosystem
- ✓ SC03-S4C3-03: Explain the inter-relationships among plants and animals in different environments - consumers, producers, and decomposers
- ✓ SC03-S4C4-01: Identify adaptations of plants and animals that allow them to live in specific environments
- ✓ SC03-S4C4-02: Describe ways that species adapt when introduced into new environments
- ✓ SC03-S4C4-03: Cite an example of how a species inability to adapt to changing conditions in the ecosystem led to the extinction of that species

- ✓ SC04-S4C1-02: Classify animals by identifiable group characteristics - vertebrates (mammals, birds, fish, reptiles, amphibians) and invertebrates (insects and arachnids)
- ✓ SC04-S4C4-02: Give examples of adaptations that allow plants and animals to survive - camouflage (horned lizards, coyotes), mimicry (Monarch and Viceroy butterflies), physical (cactus spines), mutualism (species of acacia that harbor ants which repel other harmful insects)
- ✓ SS04 - 3SS-E1: Demonstrate understanding of the physical and human features that define places and regions in Arizona, including the use of geographic tools to collect, analyze, and interpret data, with emphasis on:
 - 01: Identifying Arizona as part of the Southwestern region of the US
 - 03: Locating and comparing the three landform regions of Arizona - the plateau, mountain, and desert regions - according to their physical features, plants, and animals
- ✓ SS04 - 3SS-E2: Describe the impact of interactions between people and the natural environment on the development of places and regions in Arizona, including how people have adapted to and modified the environment, with emphasis on:
 - 04: How people have depended on the physical environment and its natural resources to satisfy their basic needs, including the consequences of Arizonans' adaptation to, and modification of, the natural environment

5th – 6th grade:

Observation and discussion will emphasize people/animal connections and the deserts of Arizona. Discuss that AZ is in the southwestern US and that there are 4 deserts in AZ. Discuss the differences and similarities between the AZ deserts. Observe animal characteristics to determine in which deserts the animals are found. Discuss the reasons people came/settled/grew in AZ (mining, ranching, agriculture, and tourism) and how the plants and animals were/are affected. Discuss how people and animals depend on each other (animals are food for people, people conserve/preserve land for animals, people protect animals by law, some Native American beliefs, etc). Discuss the importance of water for people and animals.

- ✓ SS05 - 3SS-E1: Demonstrate understanding of the physical and human features that define places and regions in Arizona, including the use of geographic tools to collect, analyze, and interpret data, with emphasis on:
 - 01: Identifying Arizona as part of the Southwestern region of the US
 - 03: Locating and comparing the three landform regions of Arizona - the plateau, mountain, and desert regions - according to their physical features, plants, and animals
- ✓ SS05 - 3SS-E2: Describe the impact of interactions between people and the natural environment on the development of places and regions in Arizona, including how people have adapted to and modified the environment, with emphasis on:
 - 01: The reasons for migration to, and the settlement and growth of, Phoenix, Mesa, Tucson, Flagstaff, Prescott and Yuma, including mining, ranching, agriculture, and tourism
 - 04: How people have depended on the physical environment and its natural resources to satisfy their basic needs, including the consequences of Arizonans' adaptation to, and modification of, the natural environment
- ✓ SC06-S4C1-01: Explain the importance of water to organisms

7th grade and up:

Discussion will emphasize deserts of the world and the animals that live in them. Discuss how the animals differ depending on their particular desert environment. Compare and contrast the desert animals and desert environments of the world to those of AZ. Discuss resource conservation (water, especially in AZ desert) and environmental conservation (reducing pollution, habitat destruction, urbanization, off-roading).

- ✓ SC08-S4C4-01: Explain how an organism's behavior allows it to survive in an environment
- ✓ SC08-S4C4-02: Describe how an organism can maintain a stable internal environment while living in a constantly changing external environment
- ✓ SCHS-S4C3-02: Describe how organisms are influenced by a particular combination of biotic (living) and abiotic (nonliving) factors in an environment