

Teacher's Guide

Grade 5: Adaptations and Survival



TEKS 5.10 Organisms and Environments The student knows that organisms undergo similar life processes and have structures that help them survive within their environments. The student is expected to:

- A) compare the structures and functions of different species that help them live and survive such as hooves on prairie animals or webbed feet in aquatic animals.



Background Information: This unit reinforces structural and behavioral adaptations of organisms that help them survive in a particular environment. Students learn that the role an organism plays in its environment is called its niche, and that organisms are specially adapted to their niches.



Prerequisite Knowledge: Prior to this year, students have learned how organisms interact and depend on both the living and nonliving parts of their environment in order to survive and reproduce. They know and have observed that plants and animals have physical characteristics and behaviors, or adaptations, that function to help them meet their basic needs in the specific environment in which they live. They understand that factors in the environment, including temperature and precipitation, affect growth and behaviors, such as migration, hibernation and dormancy. They have observed how the physical characteristics, or adaptations, of animals relate to where they live, how they move, and what they eat. They also know that plants have adaptations that help them survive and reproduce even in environments where precipitation is limited and temperatures are harsh.



Common Misconceptions: Students often believe that individual organisms change to better adapt to their environment so they are better able to survive. However, species adapt over time, both physically and behaviorally, due to variations or changes in populations. Occasionally, an organism's environment changes causing a variation in a trait to give the individuals who have it a better chance of surviving and reproducing. This ensures the variation in the trait, or adaptation, is passed on to future generations.



Essential Questions:

- 1) What is an adaptation?

An adaptation is a physical body part or behavior that aids an organism's survival in some way, such as an animal's fur or feathers, the waxy coating on the outside of a cactus, playing dead when threatened, or the ability to hibernate when food is scarce.

- 2) What is the difference between physical and behavioral adaptations?

Physical adaptations are physical features or body parts of an organism that aid survival, such as a sharp beak, webbed feet, or having flowers. It can also be coloring. For example, a chameleon changes color to camouflage and a rose is brightly colored to attract pollinators. Behavioral adaptations are based on how an organism acts to help it survive in its habitat. Examples include: hibernation, migration and dormancy. There are two types of behavioral adaptations, learned and instinctive. Learned behaviors must be taught while instinctive behaviors are inborn.

- 3) What are some examples of similar adaptations in different species

that provide the same function, such as hooves in prairie animals and webbed feet in aquatic animals used for movement?

Answers will vary. Accept all answers that correctly identify similar



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