

# ADAPTATION AND SURVIVAL

## Key Concepts

- Adaptations help organisms survive in their environment.
- Some animals use camouflage; others develop special features like long necks or thick fur.
- Natural selection means the best-adapted organisms survive and reproduce.

## Key Facts to Remember

- Polar bears have thick fur and a layer of blubber for insulation against the cold Arctic climate. Their white fur helps camouflage them in the snow and ice.
- Cacti store water in their thick, fleshy stems to survive in arid desert conditions. Their spines reduce water loss and protect them from herbivores.
- Birds have specialized beaks adapted to their diets, such as long beaks for nectar or strong beaks for cracking seeds.
- Camouflage allows animals to blend into their surroundings, aiding in predator evasion or ambushing prey. Examples include chameleons and leaf insects.
- Natural selection leads to gradual changes in species over time, favoring traits that improve survival and reproduction. This process drives evolution.
- Behavioral adaptations, like migration to warmer areas in winter or hibernation during food scarcity, help animals survive challenging conditions.
- Desert animals often have large ears to release excess heat and conserve water, like fennec foxes. Some also have nocturnal habits to avoid daytime heat.
- Marine animals, like seals and penguins, have streamlined bodies and flippers to move efficiently in water and conserve energy.
- Some plants, like Venus flytraps, have adapted to capture and digest insects to obtain nutrients lacking in poor soil environments.
- Animals like kangaroo rats can survive without drinking water, getting moisture from the seeds they eat and reducing water loss through efficient kidneys.

## Quick Questions

1. How does a polar bear's fur help it survive?
2. Why do cacti store water?
3. What is natural selection?
4. How does camouflage help animals?
5. Name a behavioral adaptation.
6. Why do desert animals often have large ears?
7. What role do adaptations play in survival?
8. How can natural selection change a species over time?



## Fun Fact

**A cheetah can run faster than a car on the motorway – up to 70 mph!**  
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