

# Example of adaptations

Chapter 3

# Who experiences adaptations?

- All species have experienced adaptation and will continue to slowly adapt as the next generations are born.
- We will identify certain species from each of these groups and the reasons for their success:
  - Mammals
  - Birds
  - Reptiles
  - Amphibians

# Mammals

- Endothermic or warm-blooded
- All have some type of “hair”
  - Some are very specialized, such as white polar bear fur
- Method of locomotion
- Care for young



# Birds

- Leg Length
  - Roseate Spoonbill (top right)
- Foot Webbing
  - Laughing Gull (top left)
- Beak Shape
  - Long Billed Curlew (bottom)



# Reptiles

- Ectothermic or cold- blooded
- Scales
- Some undergo hibernation and estivation
- Lay eggs on land
- Leg structure and position



# Amphibians

- Ectothermic
- Lay eggs in water
- Partially or fully webbed feet
- Have lungs or can absorb oxygen through their skin





# Animal Defense

- Some animals use these methods of defense to protect themselves:
  - **Camouflage**
    - Snake
  - **Mimicry**
    - Mexican Milk Snake
  - **Bright colors**
    - Skunk and Poison Arrow Frog
  - **“Hair” projections**
    - Hedgehog quills
    - Deer Antlers



# Type of teeth

- The shape of an animal's teeth is related to its diet.
  - Herbivores, such as deer, have many molars for chewing tough grass and plants.
  - Carnivores, such as lions, have sharp canines to kill and tear meat.





# Adaptation Applications: Lions



- Why are the eyes of a lion set in front of the head rather than on the sides?
- Answer: Eyes in front of the head allow for depth perception and ability to judge distances when hunting.

# Adaptation Applications: Lions



- What is the purpose of the mane on a male lion? What is the reason for the lion's color?
- A thick mane helps the male to appear larger and serves as protection for the throat. The tawny brown coat color camouflages the animal and young among vegetation.

# Adaptation Applications: Giraffe

- Why are giraffes able to go for long periods of time without water?
- Answer: Giraffes drink water when available, but can go weeks without it. They rely on morning dew and the water content of their food.



# Adaptation Applications: Giraffe



- How are their long necks adapted to their lifestyle?
- Answer: This extra length is thought to have evolved to help the giraffe spot predators and other giraffes in the distance. Interestingly, giraffes and humans have the same number of vertebrae in their necks. (7)



# Adaptation Applications: Zebras

- How do zebras defend themselves?
- Capable of running up to 40 mph. Zebras defend themselves by kicking and biting.
- Coloration also plays a role in evading predators, although theories have not reached an agreement.

