

ANIMAL DIVERSITY AND ADAPTATION

Organ Systems of Vertebrates

Animals have organ systems just like you do! Here are some examples of the **systems that animals and humans have in common**:

Integumentary system - Integumentary is just a fancy word for skin! Animals do not have skin quite like humans do. Instead they have tougher skin, feathers, fur, or scales. This outer coat helps protect the animal's insides and keeps the animal protected from weather and environmental conditions, such as very cold temperatures or very dry air.

Muscular system - The muscular system allows animals to move! Animals can control their movement to do the things they need to do to survive - like find food, hide from predators, chew their food, and find shelter. The muscular system is made up of skeletal and smooth muscles.

Endocrine system - The endocrine system is made up of glands that release hormones into the blood. These hormones control different parts of the body.

Nervous system - The nervous system of an animal sends signals from the animal's brain to the animal's body....and allows the animal to feel hot and cold as well.

Circulatory system - The circulatory system of an animal keeps the blood moving throughout an animal's body. Animals have veins, capillaries, and arteries just like you!

Respiratory system - The respiratory system allows animals to take in oxygen (which they need to survive) and breath out carbon dioxide.

Digestive system - The digestive system breaks down the food animals eat so that animals can break their food down into energy! Animals need energy to move around and carry out their life processes.

Excretory System - This system allows animals to rid their body of waste.



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Reproductive system – This is an easy to figure out...it enables animals to produce offspring.

Immune system - The immune system protects animals against sicknesses, infections, and diseases.

Skeletal System - The skeletal system consists of the bones and cartilage that supports an animal's body parts.

Lesson Checkpoint:

What is one organ system you have in common with an animal and what is the function of that system?

Animals Can Move

Animals have the ability to move from place to place in their environments; plants do not have this ability. Some animals can move quite

Animals can move themselves – such as the heads of their



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Comparing

Characteristics of Vertebrates

- ✓ have backbones
- ✓ bigger than invertebrates
- ✓ move faster than invertebrates

Characteristics of Invertebrates

- ✓ do NOT have backbones
- ✓ much smaller than vertebrates
- ✓ move much slower than vertebrates

Lesson Checkpoint: What is the difference between a vertebrate and an invertebrate?

Animal Adaptations

Adaptations are traits that animals have that help them survive in their environments.

Adaptations can be physical or behavioral. Examples of a **physical** trait are the thickness of an animal's fur in the winter (which helps the animal survive cold winters), the shape of a bird's beak (which helps them get food and build nests), and even the shape of an animal's ears (bats have large ears to hear well since they rely on their hearing to fly). Animals depend on their physical features to help them find and eat food, to build shelters, to attract mates, and to protect themselves.

Behavior adaptations are activities that animals DO, which help them survive in their environment. Behavior adaptations can be learned from a parent or other animals or they can be inherited (a behavior they are born with). An example of a behavior adaptation is how an opossum plays dead when a predator is near by or how many animals migrate.



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Animals use their adaptations to protect themselves. For example, a polar bear's white fur allows an animal to blend in with its surroundings. This is an adaptation that helps the animal survive. A polar bear's white fur makes an adaptation that helps it survive when it is really not.

protect
allows an
adaptation
us when

Camouflage is another adaptation. It allows animals to blend in with their surroundings. Animals use this adaptation to hide from predators and to sneak up on their prey!

Migration is when animals move from one area to another for a certain period of time or season. Animals migrate in order to get to a place where the temperature allows for the animal to survive and find food.

Hibernation is also an adaptation! When an animal goes into a deep sleep, it is hibernating. During this time the animal's body temperature drops significantly. The animal's breathing and heartbeat slow down.

What is THAT animal?

It is a tigon, which is a **cross-breed** between a tiger and a lion.

Crossbreeding is when two animals (or plants) of different breeds and species reproduce and create an offspring. Cross-breeding does not happen in wild, it only occurs with human intervention.

Hybrids are the animals that are produced as a result of cross-breeding. A mule is a hybrid. It is a cross-breed of a donkey and a horse.

Lesson Checkpoint: What is a hybrid?

Animal Diversity

Millions of different animal species live on the Earth today! Animals range in size from teeny tiny to huge! Some animals are unicellular while others are multicellular.

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See if you

before. Do



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