

Name \_\_\_\_\_

Date \_\_\_\_\_

# Did I Learn That???

Key Words		
acquired	adaptations	behavior
characteristics	environment	generation
hibernation	inherit	instinct
learned behavior	migration	offspring
structural adaptations	survive	trait

Have you ever wondered why zebras have stripes, why a frog's eyes bulge out the way that they do, or why pandas eat bamboo? The zebra's stripes, the frog's bulging eyes, and the panda's eating habits are all **characteristics**, or features, that help the animals **survive** in their **environment**. All of the millions of different organisms living on the Earth today have special characteristics that help them to survive and thrive. Some of these characteristics are **inherited**, which means they are passed from parent organism to **offspring** before birth. Some characteristics are learned, or **acquired**, which means they result from living in the environment. Human beings have special characteristics, too. Some of these special characteristics include the ability to walk upright on two legs, the thumbs on our hands, and the ability to learn different languages.

You might think that any plant or animal can live any place, but this is not the case. All of the living and nonliving things in an organism's environment affect it. Organisms can respond to changes in their environment by slowly developing characteristics that help them survive. This process takes many **generations** and thousands of years to occur. These changes are called **adaptations**. All organisms develop adaptations that help them meet their basic needs in their environments. These characteristics can be inherited by offspring from the parent organism.

Sometimes, an organism's characteristics change during its lifetime. In these cases, the organism may be changing in a way that is NOT inherited from its parents. For example, people who exercise a lot might be thinner than their parents. You inherit

your eye color from your parents, but the languages that you speak are not inherited characteristics. In the plant world, a fern might inherit some characteristics from its parent, such as being sensitive to light. However, if the young fern is exposed to too much sunlight, it takes on a new characteristic: browned and wilted leaves.

The way an animal reacts to internal or external changes is called a **behavior**. A behavior is something that an animal does. Behavior can develop over a shorter time than **structural adaptations**, which require many generations to take hold. Certain behaviors, called **instincts**, are automatic, and they happen without the animal even thinking about them. Instincts are inherited from parent organisms. Each year birds such as Canadian geese fly south for the winter. Then, when spring comes and the weather gets warm up north, they fly back home. This kind of journey is called a **migration**. Many different animals go on seasonal migrations for better feeding opportunities. Some kinds of animals survive through the cold winter by hibernating. **Hibernation** is a deep sleep-like state when an animal's body processes slow down. The animal's body temperature drops, and its breathing and heart rate become very slow. These animals know to migrate and hibernate because their instincts tell them. Scientists don't really understand how these instincts work!

**Learned behaviors** are behaviors that must be learned or acquired. Most animals have complex brains that are capable of learning survival lessons during their lifetimes. A bird may find that a certain brightly-colored butterfly is quite nasty to eat, so the bird learns to avoid that butterfly. Some animals—such as tigers, lions, and humans—learn survival behaviors from their parents.

Structural adaptations and instinctive behaviors are inherited. Inherited characteristics are called **traits**. Offspring frequently look like their parents, and they also have the same instincts. Each parent passes on some of its traits to the offspring, so that the offspring have some traits that match one or both parents. Some human examples of inherited traits are eye color, hair color and the ability to roll one's tongue. Sometimes the offspring look different from their parents or from the other young. They may even act differently. Being different, or having variations, gives the species a better chance to survive. The more variations a species has, the quicker it can adapt to changes in the environment.

1. Which of the following behaviors is an instinct?
  - A A cat using a litter box
  - B A chimpanzee using sign language
  - C A dog begging for food at the dinner table
  - D A male grasshopper rubbing its legs together to attract a mate
  
2. The seasonal movement of a species is called migration. Which of the following is NOT a reason to migrate?
  - A To find a place to hibernate
  - B To escape a change in the weather
  - C To search for food
  - D To look for a place to breed
  
3. Which of the following is an inherited trait?
  - A Curly hair
  - B The ability to speak Spanish
  - C The ability to read
  - D A liking for eating pizza
  
4. Which of the following traits best helps a giraffe survive in its environment?
  - A Short legs
  - B A long neck
  - C Lots of teeth
  - D A short tail
  
5. What are traits that parents pass on to their offspring called?
  - A Acquired traits
  - B Learned behaviors
  - C Inherited traits
  - D Responses
  
6. Which of the following is NOT an example of a learned behavior?
  - A A chimpanzee using a stick to gather termites
  - B A dog sitting up and begging on command
  - C A salmon swimming upstream to lay its eggs
  - D A cheetah returning to the site of its last kill

7. Robber flies have large eyes and piercing mouth parts. They sit on a tall “home base” plant and fly out to attack other bugs flying by. They bring their prey back to their base plant, suck out their juices, and drop the bodies on the ground. Which of the following characteristics are all inherited traits of the robber fly?



- A Large eyes, piercing mouth parts, and wings
- B Small eyes, a stinger, and the ability to attack other bugs
- C The places where they build their nests and their large eyes
- D Their home base plant, sucking out the juices of their prey and dropping the bodies



8. Starlings are birds that live and feed close together in flocks. When a starling extends the tips of its wings and rapidly flicks them, they also make a “squealing call”. This behavior tells other starlings that a predator is near, which they should “mob”, or attack as a group. This type of behavior is—
- A an acquired behavior
  - B a learned behavior
  - C an instinct
  - D a structural adaptation

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