

Chapter 22

Use with Section 1

ENRICHMENT

● Types of Behavior

Animal Behavior Research

The Austrian scientist Konrad Lorenz and the Dutch zoologist Niko Tinbergen were the founders of an approach to behavior called ethology. These two men shared the 1973 Nobel Prize in medicine and physiology with the German biologist Karl von Frisch. **Ethology** is the study of animal behavior in nature, and is concerned with innate behavior patterns. Instincts and reflexes are innate behaviors.

Learned behavior is acquired as the result of experience. There are several kinds of learned behavior. **Habituation** is a form of learning in which an animal learns not to respond to a stimulus. Animals may learn not to respond to stimuli that are repeated frequently and that are unimportant to them. Conditioning is another type of learned behavior. There are two kinds of conditioning. Ivan Pavlov, a Russian psychologist, knew that dogs respond to the smell of food by salivating. This

response is innate. Pavlov wanted to know if the salivation response could be caused by a less likely stimulus. Pavlov rang a bell at the same time the dog was given food. Eventually, the sound of the bell was enough to cause the dog to salivate. This type of conditioning is known as **classical conditioning**.

The American psychologist B.F. Skinner used pigeons to study another type of conditioning. He realized that if a certain behavior were followed by a reinforcement or reward, the behavior was more likely to be repeated in the future. To study this phenomenon, he invented the Skinner box. The box contained a typewriter-like key connected to a food supply. If the pigeon pecked at the key, it would be rewarded with food. This type of learning is called **operant conditioning**. If the response is reinforced with a reward, the behavior tends to be repeated.

Determine if the following behaviors are innate or learned. If the behavior is innate, determine if the behavior is an instinct or a reflex. If the behavior is learned, determine if the behavior is habituation, classical conditioning, or operant conditioning.

1. The first time a squirrel sees a nut, it tries to bury it.
2. Jane touches a hot curling iron and jerks her hand away.
3. John is startled by a loud noise outside his window. The same noise is repeated several times, but John no longer responds.
4. Cindy is teaching her dog tricks. When the dog rolls over at her command, she rewards it with praise.
5. A planarian moves away from bright light. It curls up when electrically shocked. When a bright light is closely followed by an electric shock, the planarian curls up. Eventually, the light alone causes the planarian to curl.
6. Kittens stalk imaginary prey.

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