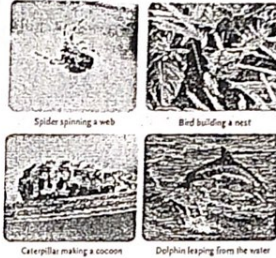


Besides building nests, birds have other instincts. One example occurs in gulls. One of the chicks is pecking at a red spot on the mother's beak, his inherited behavior causes the mother to feed the chick. In many other species of birds, the chicks open their mouths wide whenever the mother returns to the nest. This inherited behavior, called gaping, causes the mother to feed them.



Spider spinning a web

Bird building a nest

Caterpillar making a cocoon

Dolphin leaping from the water

Inherited behaviors are rigid and predictable. All members of the species perform the behaviors in the same way. Inherited behaviors usually involve basic life functions, such as finding food or caring for offspring. If an animal were to perform such important behaviors incorrectly, it would be less likely to survive or reproduce. These inherited behaviors are necessary for **survival** and reproduction.



This female graylag goose is a ground-nesting water bird. Before her chicks hatch, the mother protects the eggs. She will use her bill to push eggs back into the nest if they roll out. This is an example of an inherited behavior.



All animals have inherited behaviors, even humans. Can you think of human behaviors that do not have to be learned? Chances are, you will have a hard time thinking of any. The only truly inherited behaviors in humans are called reflex behaviors, an involuntary response to a stimulus. They occur mainly in babies. Like instincts in other animals, reflex behaviors in human babies help them survive.

An example of a reflex behavior in babies is the sucking reflex. Newborns instinctively suck on a pacifier that is placed in their mouth. It is easy to see how this behavior evolved. It increases the chances of a baby feeding and surviving. Another example of a reflex behavior in babies is the grasp reflex. Babies instinctively grasp an object placed in the palm of their hand. Their grip may be surprisingly strong. How do you think this behavior might increase a baby's chances of surviving?

Learned Behavior



Learning is a change in behavior that occurs as a result of experience. Compared with inherited behaviors, learned behaviors, behaviors in response to a stimulus, are more flexible. They can be modified to suit changing conditions. This may make them more adaptive than instincts. For example, drivers may have to modify how they drive when roads are wet or icy. Otherwise, they may lose control of their vehicle. Animals learn behaviors in a variety of ways.

Do you play a sport? If you play a sport like soccer, then you realize it takes a lot of work. Remember how you didn't know at all what you were doing when you first started? You had rules to figure out and skills to practice. Playing a sport is an example of a learned behavior.

Just about all human behaviors are learned. Learned behavior is behavior that occurs only after experience or practice. Learned behavior has an advantage over inherited behavior, it is more flexible. Learned behavior can be changed if conditions change. For example, you probably know the route from your house to your school. Assume that you moved to a new house in a different place, so you had to take a different route to school. What if following the old route was an instinct? You would not be able to adapt. Fortunately, it is a learned behavior. You can learn the new route just as you learned the old one.

Although most animals can learn, animals with greater intelligence are better at learning and have more learned behaviors. Humans are the most intelligent animals. They depend on learned behaviors more than any other species. Other highly intelligent species include apes, our closest relatives in the animal kingdom. They include chimpanzees and gorillas. Both are also very good at learning behaviors.

You may have heard of a gorilla named Koko. The psychologist, Dr. Francine Patterson, raised Koko. Dr. Patterson wanted to find out if gorillas could learn human language. Starting when Koko was just one year old, Dr. Patterson taught her to use sign language. Koko learned to use and understand more than 1,000 signs. Koko showed how much gorillas can learn. Click here for a link to the video, *A Conversation with Koko*, <https://goo.gl/rcOv7B>

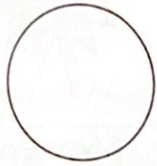
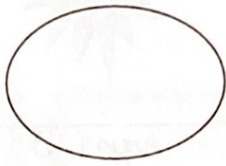

Think about some of the behaviors you have learned. They might include riding a bicycle, using a computer, and playing a musical instrument or sport. You probably did not learn all of these behaviors in the same way. Perhaps you learned some behaviors on your own, just by practicing. Other behaviors you may have learned from other people. Humans and other animals can learn behaviors in several different ways.

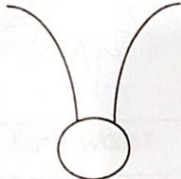
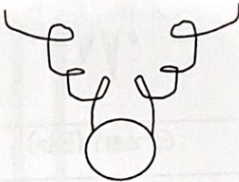
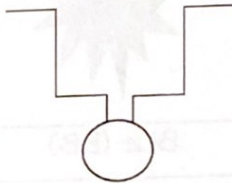
Directions: Flip a pair of coins to determine the genotype for the eight traits of the Doochickey Bug. When flipping the coins two heads (HH) is dominant, one head and one tail (HT) is the heterozygous mixed trait, and two tails (TT) is the recessive trait. The coins should be flipped for each trait. then using the Doochickey Bug Trait Key, fill in the table below with each genotype and phenotype. When finished flipping your coins, draw your Doochickey Bug using the phenotypes listed in your table. Paste the table and drawing in your Interactive Notebook.

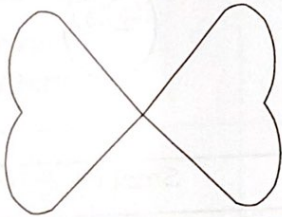
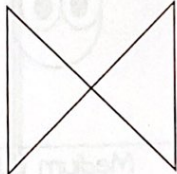
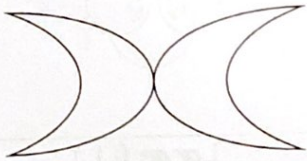
Doochickey Bug		
Trait	Genotype	Phenotype
Body Shape		
Antennae Shape		
Wing Shape		
Wing Pattern		
Wing Color		
Body Color		
Eye Size		
Feet Color		


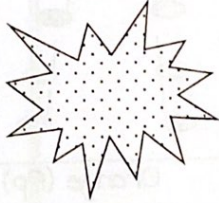
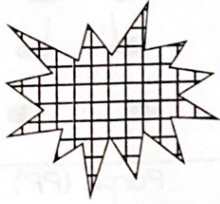
Drawing of Doochickey Bug

Doohickey Bug Trait Key

Body shape		
		
Round (RR)	Oval (Rr)	Thin (rr)

Antennae shape		
		
Arched (AA)	Looped (Aa)	Angled (aa)

Wing Shape		
		
Heart-shaped (HH)	Triangle-shaped (Hh)	Crescent-shaped (hh)

Wing Pattern		
		
Diagonal (DD)	Polka Dot (Dd)	Grid (dd)

Wing Color



Violet (VV)



Aqua (Vv)



Silver (vv)

Body Color



Blue (BB)



Green (Bb)



Yellow (bb)

Eye Size



Large (LL)

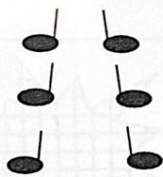


Medium (Ll)

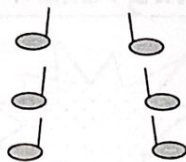


Small (ll)

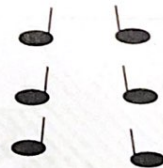
Feet Color



Purple (PP)



Orange (Pp)



Red (pp)