

UNTOLD SECRETS OF BEHAVIORS

Instinct vs. Learned Behavior

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Tennessee 4-H Youth Development

Untold Secrets of Behaviors

Instinct versus Learned Behavior

Skill Level

Beginner

Learner Outcomes

The learner will be able to:

- Identify animal responses as learned or inherited behaviors

Educational Standard(s) Supported

- 5.LS1.1

Success Indicator

Learners will be successful if they:

- can use their own words to define a behavior
- can apply the definition of learned or inherited and label an animal response

Time Needed

- 30-45 minutes

Materials List

pencils
behavior handout
envelopes
animal behavior sheets
chart labeled learned vs inherited

Introduction to Content

This lesson will expand upon the 4-H science textbook on the topic of behaviors. Within the subject area, students will gather new animal behaviors and explore them as learned or inherited. Lots of opportunities for critical thinking and decision making skills.

Introduction Methodology

This lesson uses student participation as a means of listing personal behaviors and exploring the animal science context as learned or inherited. Students will have lots of enagemnet by moving out of their seats, working in groups, and reflecting upon their own actions.

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Terms and Concepts Introduction

Behavior: An action an animal completes, like blinking, eating, etc.

Learned Behavior: behavior that is learned over time and experiences gained in their lifetime or gathered through senses, processed, and stored as memories to guide future actions

Inherited Behavior: characteristics passed from parents, fixed on a pattern of behavior based on instinct

Setting the Stage and Opening Questions

Ask students: **What is the definition of behavior?**

Distribute the behavior handout and ask students to list behaviors they have completed today leading up to this lesson. You may have to help spark ideas (brush teeth, turn in homework, go to the bathroom, blinking). Only have them list their behaviors in the house looking boxes and ignore the smaller boxes within the house (you will come back to those smaller boxes).

After a couple of minutes, lead a discussion on learned and inherited behaviors.

Say, **“The left side of the room will represent learned behavior and the right side of the room will represent inherited behavior. When I make a statement, decide if the behavior is learned or inherited and move to the side of the room that corresponds.”** Read the example statements listed below.

Examples:

- Raccoon opening a trash can (Learned)
- Dog sits on command (Learned)
- Baby crying (Inherited)
- Blinking your eyes (Inherited)
- Using sign language to communicate (Learned)
- Face cringes when you eat sour candy (Inherited)
- Using a spoon to eat soup (Learned)
- The act of eating (Inherited)

Have students return to their seats to mark on their behavior sheets if the behavior they wrote is learned or inherited. Instruct them to write L for learned or I for inherited in the smaller box of their sheet. You may have to go through and help some of the students in their thought process to ensure they have the correct answers. Randomly select some students to share their behaviors and how they labeled them.

Experience

Divide students into small groups of three or four, with a maximum of eight groups. Each small group will receive an animal and list of their behaviors in an envelope. The students should decide if the behavior is learned or inherited. They will move the slip of paper on the chart. They do not need to write the behavior on the chart. Some behaviors will require some critical thinking and may be a little bit of both learned or inherited. After each group is finished, give each group a chance to share a few of their behaviors and how they classified them.

Tips for Engagement

4-H projects can help youth become more engaged outside of the lesson and can serve as a chance to learn more about the subject area.

- Animal Science
- Companion Animals
- Vet Science
- Wildlife

The animal sheets need to be printed and cut into strips and then placed into an envelope. It is helpful to include the picture of the animal as some students may not know what that animal is.

Share

How did you determine if the behavior was learned or inherited?
What makes the behavior difficult to label as learned or inherited?
What has surprised you about the different animal behaviors?

Process

Why is it important to learn the difference between learned or inherited behaviors?
What challenges did you face working in your group?

Generalize

What are some key points you would give a friend to remember the difference between learned or inherited?
Why are inherited behaviors important to consider?
How do you think animal scientists use this knowledge?

Apply

Closure/Review Activity – Talent showcase

Divide the class into pairs. Explain to students they will be teaching their partner a trick or talent only using what is on their body or what is within their reach. Once they teach their neighbor they will label that talent as learned or inherited. Pick a few groups and demonstrate the trick they learned and have class decide if it's a learned or inherited behavior.

Some examples of talents if they need help thinking of some:

- Making a four leaf clover with their tongue
- Making a paper airplane
- Making a shape with their fingers

Can anyone name a behavior their companion does and label it as learned or inherited?

Life Skills from TIPPs for 4-H:

5th grade

- Participate in 4-H club meetings by saying pledges, completing activities, and being engaged. (Head)
- Communicate information learned from a specific project area to the larger 4-H club. (Head)
- When reading, consider ideas, thoughts, information, or messages that have been written. (Heart)
- Speak clearly and effectively in group settings. (Hands)

Supplemental Information

Educational Standards Met

5.LS1.1 : Compare and contrast animal responses that are instinctual versus those that are gathered through senses, processed, and stored as memories to guide their actions.

Resources:

http://bioweb.uwlax.edu/bio203/s2009/brown_kris/Kristin_Browns_Goat_Website/Adaptations.html

<https://www.livescience.com/52540-goat-facts.html>

https://www.famu.edu/cesta/main/assets/File/coop_extension/small%20ruminant/goat%20pubs/Facts%20About%20Goats.pdf

http://www.publish.csiro.au/ebook/chapter/9781486301614_Chapter4

<https://www.merckvetmanual.com/behavior/normal-social-behavior-and-behavioral-problems-of-domestic-animals/social-behavior-of-cattle>

[https://extension.tennessee.edu/Sullivan/Documents/Ag%20Documents/Master%20Beef%20Producer%20Lessons/Chapter%2009%20-%20Cattle%20Behavior%20\[Read-Only\]%20\[Compatibility%20Mode\].pdf](https://extension.tennessee.edu/Sullivan/Documents/Ag%20Documents/Master%20Beef%20Producer%20Lessons/Chapter%2009%20-%20Cattle%20Behavior%20[Read-Only]%20[Compatibility%20Mode].pdf)

<http://www.poultryhub.org/production/husbandry-management/poultry-behaviour/>

<https://www.nwf.org/Educational-Resources/Wildlife-Guide/Mammals/Snowshoe-Hare>

https://www.capitalhumanesociety.org/file_download

<https://www.habitatforhorses.org/horsemanship/behavior/>

<https://4-h.org/wp-content/uploads/2016/02/UnderstandingHorseBehavior.pdf>

<https://www.nwf.org/Educational-Resources/Wildlife-Guide/Mammals/American-Bison>

<https://www.wonderopolis.org/wonder/why-do-pigs-like-mud>

<https://www.farmhealthonline.com/US/health-welfare/pigs/pig-behaviour/>

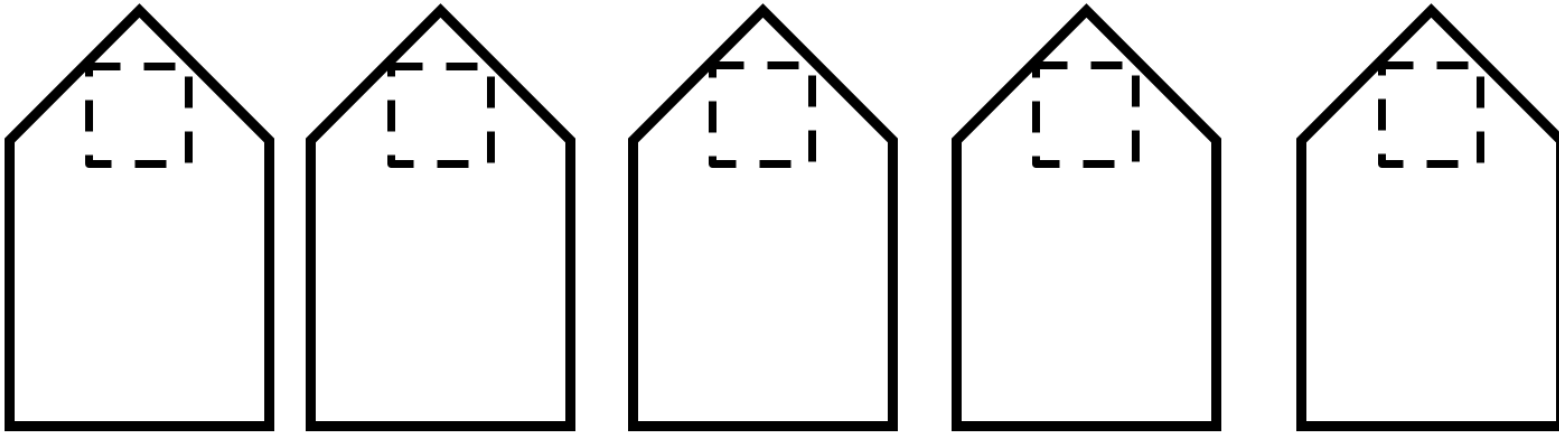
<https://www.animalbehaviour.net/pigs/>

<https://www.livescience.com/52668-alpacas.html>

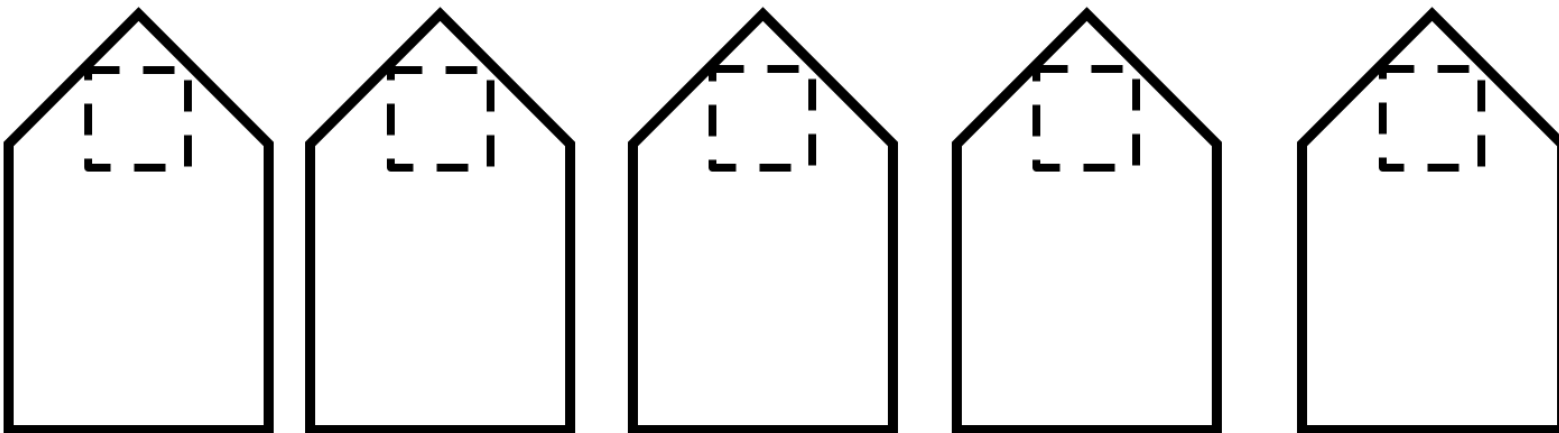
Behavior Handout:



A behavior is anything an animal does involving an action



A behavior is anything an animal does involving an action



Organization Chart:

**Learned
Behavior**

**Inherited
Behavior**

Goat



Peripheral vision helps goats have a greater sense of awareness of their surroundings and easily detect predators.

Goats are herbivores.

Goats grab food with their lips and bring it into their mouths. The upper jaw is wider than the lower jaw so they can only use one side of their mouths to grind food. This causes the rotary movement that is seen when a goat is chewing.

The Tennessee Stiffleg goat, also known as the fainting goat, is native to the United States. When frightened this animal will experience extreme muscle stiffness causing extension of the neck and hind legs before it topples over onto the ground.

Kids or baby goats "explore their world" with their mouths just like human babies do; they have to use their mouths because they have no hands. They "chew" and "mouth" things to explore and learn. After eating a certain berry they get extremely sick and know to stay away from that certain berry.

Cattle



Cows use their tails to keep flies off their skin.

Cows have the ability to sweat. Only a few animals have this ability and it is very useful. With this distinct feature, cows can regulate their bodies by changing their respiration rate. A majority of a cow's sweat glands are in its nose.

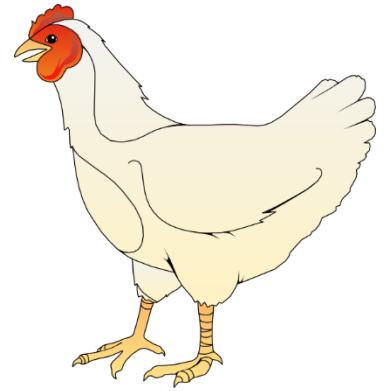
When cattle hear the horn of a pickup truck, they know it is time to come feed.

Drinking milk from a bucket.

Cattle are known to have several defense mechanisms like head butting and kicking.

When it runs into an electric fence it receives some shock and knows not to run into it again

Chickens



Chickens come to the owner when their pen door opens for feeding.

Individuals will copy others. When a bird sees another pecking at something, it will copy, thus learning what to eat, and where to find food and water.

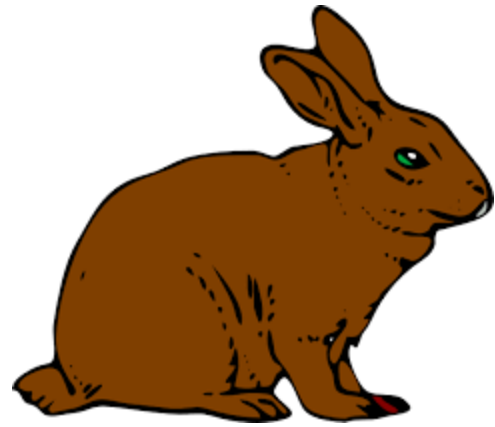
Chickens' beaks have adapted to their diets. They are short & strong pointed to allow the pickup of fruit, seeds, insects.

Chickens are omnivores, gobbling insects, seeds, grains and lizards.

Nail-like toes help chickens pick up and collect their food.

Hens will cluck after laying an egg and also use this vocalization to gather their chicks.

Rabbits



The color of their fur helps camouflage them with their surroundings. For example, arctic rabbits are white to help blend in with the snow, but they do change color to help blend in with the changing seasons.

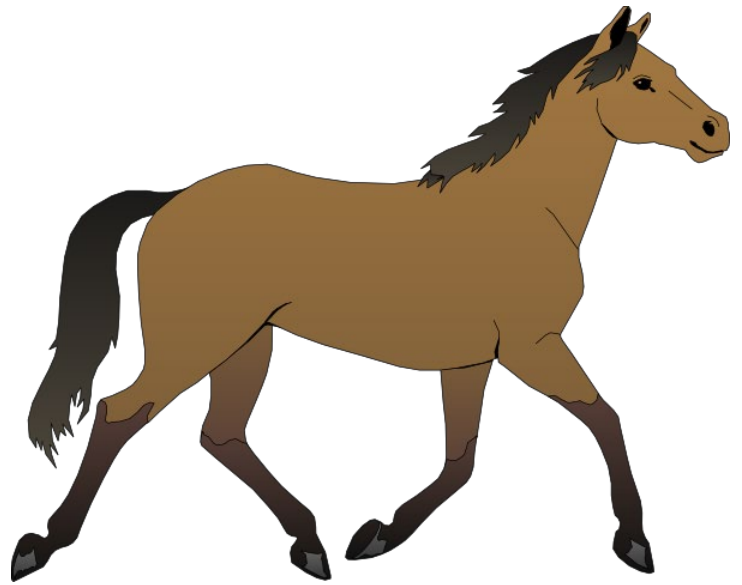
Rabbits have extremely long and strong hind (rear) limbs that help them hop very quickly and very far to help escape from danger.

By nature, rabbits choose one or a few places, usually corners, to deposit their urine and most of their droppings, also known as pills. Rabbits can be potty trained like other household pets.

Rabbits have an instinctive reaction to noises and fast movements.
This behavior is a survival trait common to most bunnies.

Opening the pen area signals to the rabbit that it is feeding time.

Horse



Hooves are a hard surface that allow the horse to walk on hard and soft surfaces. Hooves are sturdy and designed to allow the horse to move quickly and escape from predators.

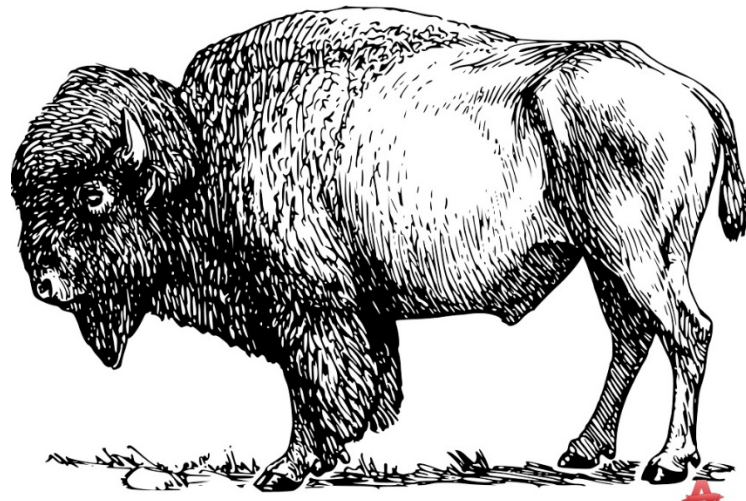
Horses lock their legs to avoid collapsing while sleeping standing up.

Horses know that when their owner walks in with a bucket, it means either water or food.

When a horse receives a squeeze from their rider's legs, they know to move forward.

A young horse taken to its first horse show may not stand quietly.
After some training it will begin to stand quietly when not in the show ring.

Bison



The front part of a bison's body is heavier than their back part.
This distribution allows the bison to pivot quickly.

Hooves are sharp, hard and strong.

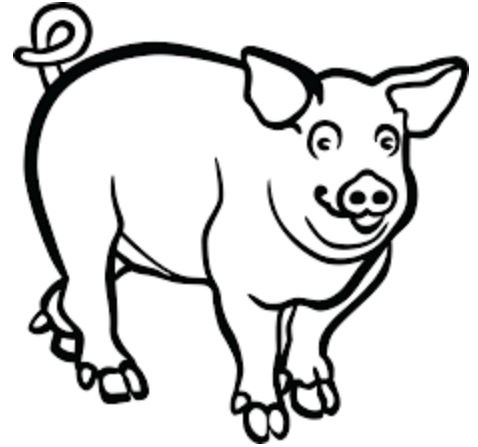
When farmers saddle up their horses and head in the direction of the bison,
they know it's time to move to another field.

Their tails have fringes, which are used to keep flies off of them.

Bison roll around in dirt to create depressions in the soil with their heavy weight.
This is also known as a dust bath.

When it runs into an electric fence it receives some shock and knows not to run into it again.

Swine/Hog/Pig



Pigs do not have sweat glands; pigs cool themselves in hot weather by rolling around in mud or water. Rolling in mud also prevents them from getting sunburned.

Pigs know that their owner brings food everyday at 4:30pm, so it expects food at 4:30pm.

Pigs' ears move as they hear or sense movement coming towards them.

If owners are working with their pigs for swine shows, the pigs know to move in a particular direction when they feel a tap from a swine show stick.

The majority of pigs are omnivores and eat mostly plant matter like worms and insects.

When it runs into an electric fence it receives some shock and knows not to run into it again.

Alpaca



They have padded feet that are beneficial for their environment.
The soft padding under their even-toed feet allows them to walk across the vegetation and not dig it up.

Owners bring in a pail around 8 a.m. every day with food and at 8 a.m. the alpaca looks forward to their daily food allotment

Alpacas spit when they are distressed or feel threatened. They will sometimes spit at each other when they are competing for food or trying to establish dominance, according to Switzer. They won't spit at people or bite unless they have been abused.

Alpacas will walk and jump through different toys on command.

When it runs into an electric fence it receives some shock and knows not to run into it again.