



4-H Grab & Go Animal Science Guide



WASHINGTON STATE
 UNIVERSITY
EXTENSION

Brought to you by the WSU Extension 4-H
team in Clark, Skamania, & Klickitat Counties

Livestock Kit Contents

Activity Guide
Thumb drive with resources
Stamp Pad
Rubberbands
Foam Paint Brush
Glue stick
Markers
Deck of cards
Sticky Notes
Blank Puzzle
Playdoh
Pipe Cleaners
Beads



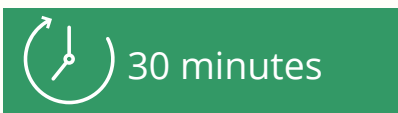
Look for these symbols throughout the Guide:



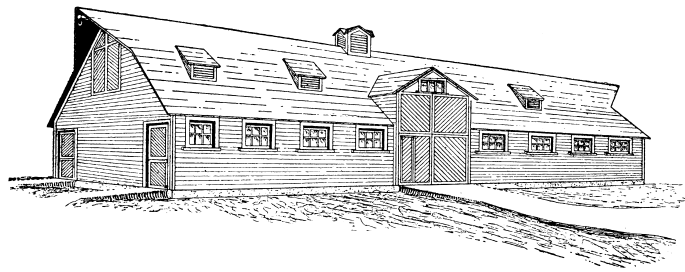
We have provided most (if not all) of the supplies necessary for each activity, and if additional supplies from around your home are necessary it will be noted with this symbol.



The guide will cover the basic background information you need to be successful with the hands-on activities, but there is an incredible amount of information out there for those who wish to learn more. We have included more information, organized by project, on the thumb drive included in this kit.



Each activity includes an estimate of the amount of time it should take to complete. Times will vary by age, independence level, and amount of support. Note: The estimate includes hands-on time with the project only.



About this Project Kit

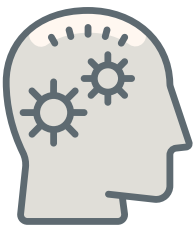
4-H is all about helping kids develop into productive, successful adults through fun and meaningful activities. We have compiled six hands-on projects and the necessary supplies for kids of any age to enjoy. Consider sharing them with others, or saving them to enter at the fair!

Essential Elements



4-H is driven by four essential elements- belonging, generosity, independence, and mastery. We encourage you to think about how you can connect with these elements as you work through these activities. Talk to your 4-H leader and ask if you can lead one of these activities with your 4-H club virtually or teach one of your siblings something new that you learned. If one of these projects is difficult for you, how can you challenge yourself to master the skills and become independent? As you work through each one, we hope you'll think about the 4-H Essential Elements!

Experiential Learning



In 4-H, we know that one of the best ways to learn a new skill is through experiential learning. We take a Do-Reflect-Apply approach in everything we do. As you work through this guide, we encourage you to jump right in and do the activities, reflecting as you go on what works well and what is challenging. How can this apply to other areas of your life? Talk about any lessons learned or ideas for next time with your friends and family.

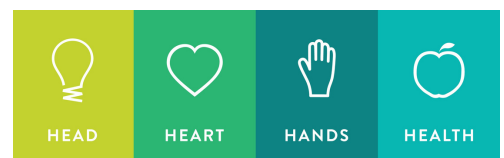
Selected Activities

Every project featured in this guide should be appropriate for children ages 5-18. Younger children may need support with some activities, while older children may enjoy finding creative ways to take their projects to the next level.

The activities that we have selected to include in this kit are inspired and adapted from a multitude of 4-H, agricultural, and educational resources for the purpose of hands-on, independent learning. We encourage families to look through the guide together, discuss the reflect and apply questions, and look for opportunities to learn new things and reinforce previous knowledge. We also provide a "Level Up" page for older 4-H'ers looking for a challenge!

To learn more about 4-H

Get involved with Washington State 4-H by visiting <https://extension.wsu.edu/4h/> or by contacting your county's extension office.





30 minutes

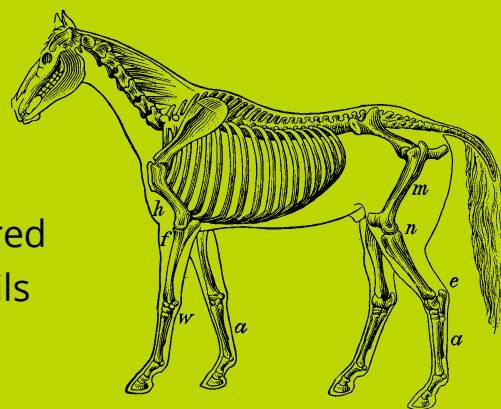
Spines of Many Kinds



Description Construct an animal spine for the animal of your choice!

Supplies

- Pipe Cleaners
- Pony Beads
- Colored Pencils




Instructions

1. Begin by reading the definitions below of the common bones paying close attention to the different areas of the spine.
2. Compare and contrast the human spine with that of the different animals listed.
3. Make a Model!



Learn More

 www.canr.msu.edu/resources/4-h-animal-science-anywhere-locating-common-bones



Investigate

- What are the names of the bones that allow us to move our head up and down (C1), or left and right (C2)?
- What section of the spine do the ribs extend from?
- How many pairs of ribs does your favorite animal have compared to you?
- What is the main job of the ribs?



Reflect & Apply Questions

- What does the animal's spine do?
- Who helps care for animals' or humans' spines?
- Why is it important to have a healthy spine?
- Why would veterinarians check the intervertebral discs?
- Where can you learn more about caring for animals' spines and bone structure?

Spines of Many Kinds



30 minutes

Definitions

Ribs – These are curved arches of bone extending from the spine toward the sternum. Most animals have 13 or more pairs of ribs (humans only have 12).

Spine – The spine is made up of bones called “vertebra” (the plural is “vertebrae”) and has five distinct regions:

Cervical – The vertebrae of the neck region.

a. Atlas – Often called “C1,” this is the first cervical vertebra. It forms the joint that lets you nod “yes.”

b. Axis – Often called “C2,” this is the second cervical vertebra. It forms the joint that lets you shake your head “no.”

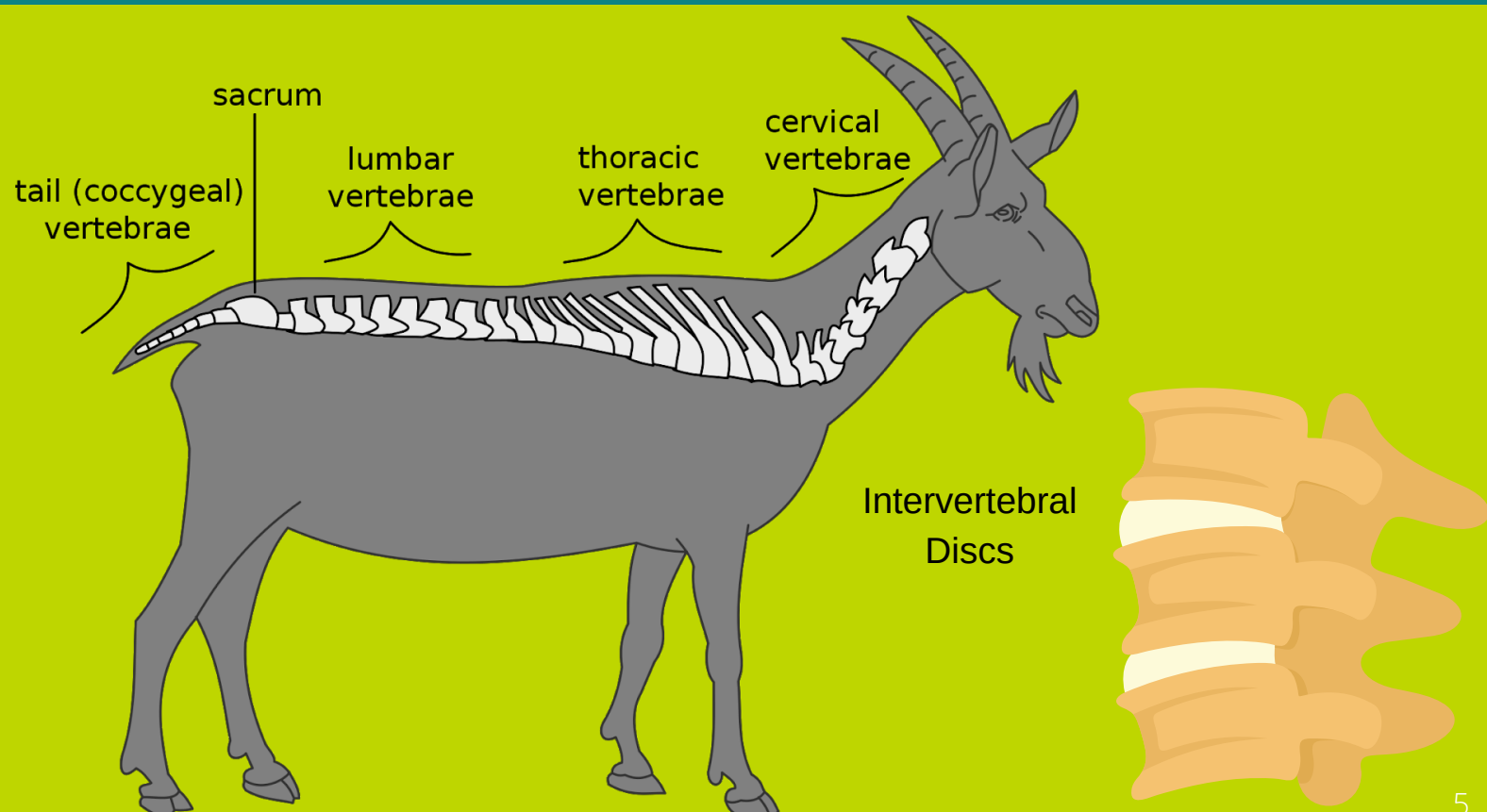
Thoracic – The vertebrae of the body region that always have a rib attached to them and vertebrae on top of them.

Lumbar – The vertebrae of the lower back.

Sacral – The vertebrae of the pelvic region.

Coccygeal – The vertebrae of the tail region. Many animals use them for balance.

Intervertebral Discs - This provides a cushion between the vertebrae and absorbs pressure put on the spine. These discs are usually only found in the first three sections of the spine.





Spines of Many Kinds

Instructions

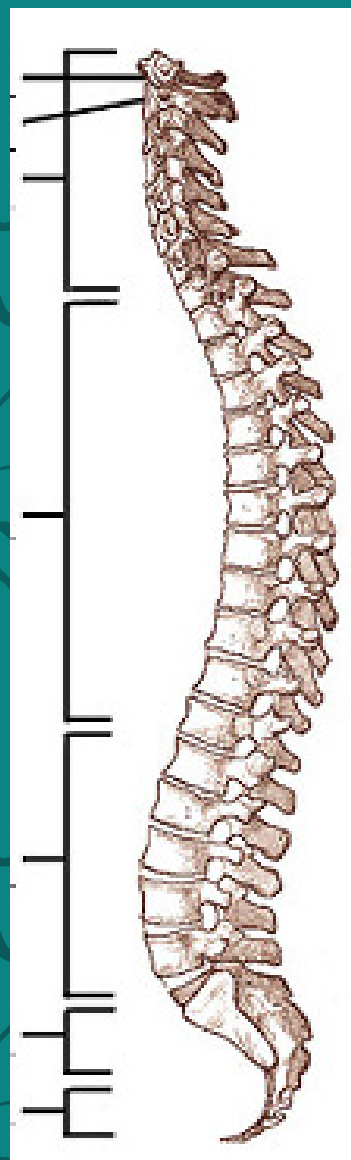
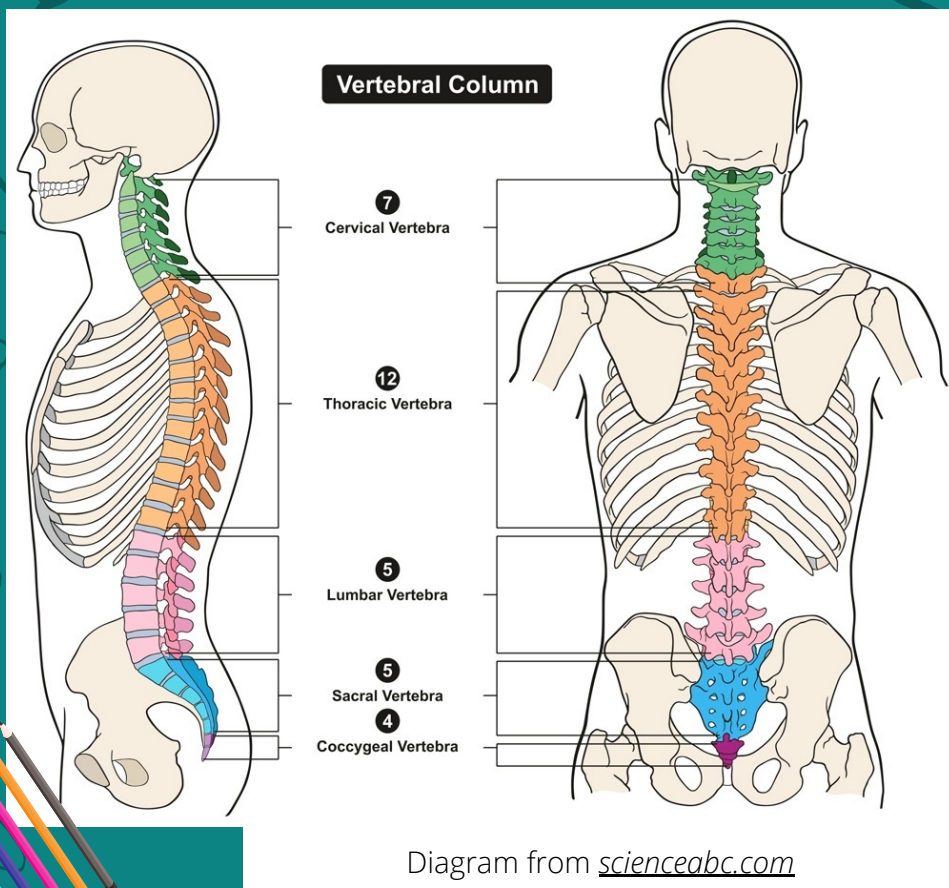
Using the pipe cleaner as your spinal cord, place the appropriate beads and cartilage (white beads) to form the different sections of the spine.

Number of Vertebra per species

	Red	Green	Blue	Yellow	Purple	White
	Cervical	Thoracic	Lumbar	Sacral	Coccygeal	Intervertebral Disks
Horse	7	18	5-6	5	18	1 between each vertebra
Cow	7	13	6	5	18-20	1 between each vertebra
Pork	7	13-17	5-7	4	20-23	1 between each vertebra
Lamb	7	13-14	6-7	4	16-18	1 between each vertebra

Instructions

Using the picture below, label and color each section of the spine to match your beads.



Animal Identification



90 minutes

Description

Match animals to how they can be identified.

Supplies

- Pens or Pencil
- *Optional* Highlighter



Instructions

Complete the following matching activity to test your knowledge about styles of animal identification.

How can you learn more?



You can plug in your thumb drive and look in the folder marked "Animal Identification" or you can read the following story.



Andy's Barnyard Visit

Visiting Mr. Rancher's Barnyard was a special treat for Andy, the cattledog. His collar reflected the early morning sun as he jumped down into the yard from the truck and ran over to his friend, Benny the Rooster. Benny always knew the latest news on the farm. Benny was scratching in the dirt when Andy reached him. "Benny, how are things at the Farm?" asked Andy. Benny caught a bug that had crawled up his leg and was trying to hide in his metal leg band and then said "Carrie had her piglets three days ago. The vet is stopping by today. Diego the goat is strutting his stuff after winning a blue ribbon at the Fair last week. That's all I think." "Wow!" Andy exclaimed. "Sounds like things are busy. I think I will go see Diego's ribbon." Turning to go to the barn Andy stopped to sniff the house cat, Fern, who had come outside.



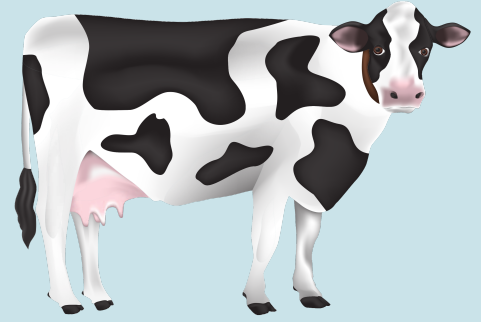
He was surprised to see that Fern was not wearing her usual green collar. "Did you lose your collar, Fern?" "I don't have to wear it anymore," said Fern. "I got microchipped last week, and Mrs. Rancher says now she doesn't have to worry about my collar getting caught on anything." "Did it hurt?" asked Andy. "No", meowed Fern. "It was just like getting my shots when I was a kitten." "What are you doing here, Andy?" "Visiting. I heard Diego has a new ribbon! Want to come to see it with me?" Andy offered. "No, thanks," said Fern as she began washing her paws. Andy continued into the barn, smiling at the farm's horse, Ginny. Ginny was getting groomed by one of the Rancher's children and her brand stood out from her shiny coat. "Hello, Andy!" Said

Harvey from the next stall. Harvey was a retired racehorse. "Hello, Harvey," said Andy, "how is the mash today?" Harvey opened his mouth and showed off his green teeth and lip tattoo, "delicious!" "Aren't you going to say hi to me?" asked a voice from across the barn aisle...



Andy's Barnyard Visit Continued

Andy turned to see Ivy, the dairy cow, in her milking stall. "I'm happy to say hi, Ivy," said Andy. "Why are you out here? Isn't it a little late in the morning for milking?" It is, but I'm waiting for the vet to give me a new ear tag," replied Ivy. "Jack, the sheep is also getting a tag today." Andy continued walking into the barn following the sounds of squealing piglets to Carrie's pen.

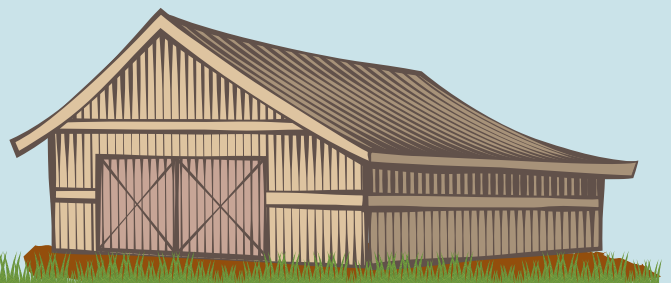


"Congratulations!" said Andy. Carrie lifted up her head, causing her red ear tag to swing, and said

"thanks! All 9 of them are healthy and they just got their ears notched yesterday." Andy stopped to sniff one of the curious piglets before rounding the corner to Diego's pen. There, hanging from the door, was a bright, shiny, blue ribbon.



Diego stuck his head through the slotted door and Baa'd, his goat breath right in Andy's face. "Hi Andy, did you see my ribbon?" he asked. Andy backed up a step and said, "Hi Diego, I just saw it. What did you win that for?" Diego had a tattoo in one ear and a tag in the other and while he was talking a fly landed on his ear with the tattoo. "I won it for top Dairy Goat Buck in North County. You should also see Kandy's ribbon she won last month." Andy knew that Kandy was the rabbit that lived outside of the barn. "Thanks, Diego. I'll go see Kandy and Miko too." Heading back to the front of the barn Andy saw Jack the sheep standing in the milking stall now being held still while the vet gave him his new tag. Continuing outside Andy turned left and saw the large rabbit hutch and smaller coop that held Kandy the bunny and Miko the Guinea Pig. "Squee, Squee, Squee! Andy came to say hi" said Miko. Miko had black hair and black eyes, and the only thing Andy could see moving in the coop from the barn door was the silver of the metal tag in Miko's ear. Kandy turned her head, showing off her ear tattoo, and said "Hi Andy! Did you see the new piglets? They have been making a lot of noise today." "Yes," said Andy, "I saw them. I also saw Diego's new ribbon and he said you had one from your last show." Kandy thumped her legs in excitement, "yes, I got one for being the prettiest white rabbit at the regional rabbit show last month. That was nice of Diego to mention." Andy saw Mr. Rancher leading Nalla, the Angus cow, into the yard. Hurrying over he asked her how she was. "I am a little nervous," said Nalla. "I have my ears tagged already from my last shot, but the vet is checking that my Radio Frequency Identification (RFID) Tag is still working." "I'm sure it will work," said Andy hoping to reassure his friend. Just then his owner started up his truck and Andy knew it was time to go. He looked forward to his next trip to The Rancher's Farm and the chance to see all his friends again.

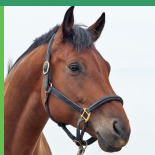


Which ID For Me?

 30 minutes

Instructions

Read Andy's Barnyard Visit on the previous pages or look on your Thumb Drive for more information. Draw a line from each method of Identification to the species of animal that it is used on. There may be some duplication. Try your best and learn the rest!



HORSE



BEEF CATTLE



DAIRY CATTLE



SHEEP



RABBIT



SWINE



POULTRY



GOAT



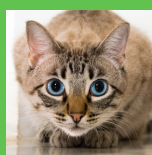
DAIRY GOAT



DOG



CAVY



CAT

Microchip

DNA Testing

Leg Band

Hot Iron Brand

Scrapie Tag

Collar Tag

Wing Band

Vaccination Tag

Dairy Green Tag

Microchip

Radio Frequency--

-- Identification (RFID) Tag

Registration Tattoo

Ear Notch

Identification Tag

Freeze Branding

Mandatory Scrapie Tag

Trichomoniasis Tag

Metal Ear Tag

Identification Tattoo

Freeze Brand

RFID Tube

Brand Stamps

 40 minutes



Description

Design your own unique brand!

Supplies

- Rubber Bands
- Glue Sticks

Supplies from Home

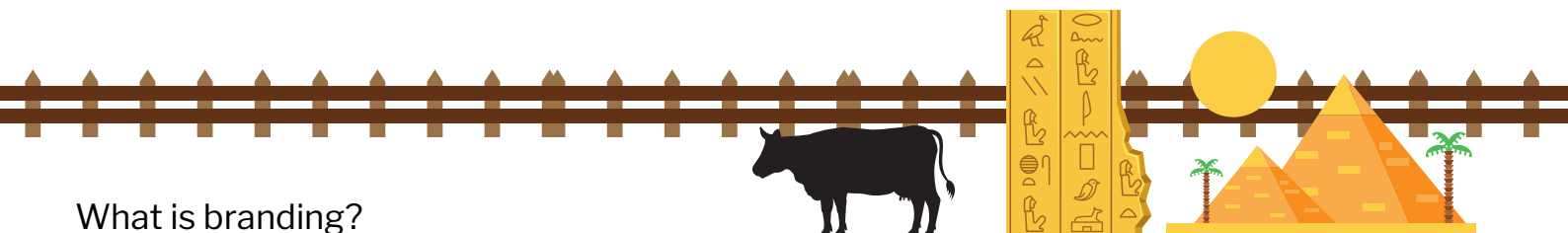


- Cardboard
- Scissors

Different Species of Animals use different forms of identification just like we have school id cards or driver's licenses to show other people who we are. In the Animal Identification "Which ID for Me" activity, we looked at the many different ways animals are identified by their owners.



For many years before we had microchips, before we had phones, before we had cars, before we had highways, many parts of the country did not have fences. That meant that animals, like cows, could roam and graze wherever they wanted. It was up to cowboys to go find the cows that belonged to their ranch and gather them up. Brands on the animals helped identify who a cow belonged to so that people didn't accidentally take someone else's animal. When people stole cattle, law enforcement would look at the brands on the cows to prove animal ownership. This wasn't just limited to the American old west. We know that people branded animals as in Ancient Egypt as long ago as **2700 BC**.



What is branding?

A hot iron applied to the skin creates a permanent mark quickly on the skin of an animal. Branding is still the #1 method of identification because it is permanent, cattle cannot lose it like they could possibly lose a tag.



Animals still go missing today and it is important to prove who the animal belongs to so it can go home. If a fence breaks and a cow gets out into the road someone has to call the rancher to make sure they save the cow from getting hit by a car! Cows are also mischievous and can get out of fields and get lost. A brand, or other forms of identification, helps people identify cows. Here in Washington, there are people who track registered brands and can look up whom an animal belongs to based on the brand. If a cow gets stolen then that person can help read the brand.

Make a Brand

What makes a good brand?

Brands are made of simple letters, numbers, characters, and symbols. Like an emoji or character that you might text. <3 :) Letters can be sideways, or upside down. Brands are read from Left to Right. Your brand represents the name of your family or ranch. It can share something that is important to you or that you care about. Brands can be funny like the first brand below.

"Sample Historic Brand"
For More Examples!



You can take a letter, such as the first letter of your first name, and use that in your brand in different ways.



2-Lazy 2-P



Crazy A
Flying A
Lazy A
Walking A



Photo from Smithsonian Magazine

Instructions

Look at the samples of brands and choose a design to represent your herd (your family or maybe any animals you are raising). You can combine designs or include other symbols not seen.

Key Advice: try to use as little detail as possible.

1. Draw a sample of your brand onto the cardboard.
2. When you like your finished design, Rub glue all over the drawing
3. Cut your rubber bands and place them on the outline of your drawing. You can use short and long pieces of rubber bands to complete your brand.
4. Let dry.
5. Stamp!



Learn More



Reading a Brand, from Garfield
County Agriculture Museum
www.co.garfield.wa.us



Reflect & Apply Questions

- What symbols can you identify around you?
- Why did you choose the things that you used in your brand?
- How do you label things that belong to you or your family?
- If your animal gets lost how do people know to contact you?



Swine Ear Notching



30 minutes

Description

Learn how to read Swine Ear Notching!
Prove your understanding by solving a simple math problem and making a yummy treat!

Supplies • Pens or Pencil



Background

When animals have large litters it can be hard to tell baby animals apart. Different species of animals are marked in different ways to help tell one animal from another. When piglets are small their ears are often notched allowing the farmer/producer to remember who the mother of the piglet is and to identify each individual piglet. This is important because it lets the owner of the pig tell the piglets apart to track the weight gains and health of each animal.

Different sections of the pig ear is assigned a value according to the Universal Numbering System. A notch in one area has one value, and a notch in another corner has a different value. Once we know what each value is we “read” the ear by doing simple additions!

We “read” a pig’s ear notches from Right to Left (that is the Pig’s Right to the Pig’s Left).

The Pig’s right ear is used for the Litter Mark. This helps the breeder know what mother, sow, and father, boar, produced the babies. Think of this number as the last name. Some farms have numerous litters each year requiring them to have many different litter numbers.

The Pig’s left ear is used for notches to show the individual pig’s number. Think of these notches as a first name.

Instructions Let’s read some pig ears! Look at the division of the pig’s ears for the Universal Notching System.

Universal Numbering System

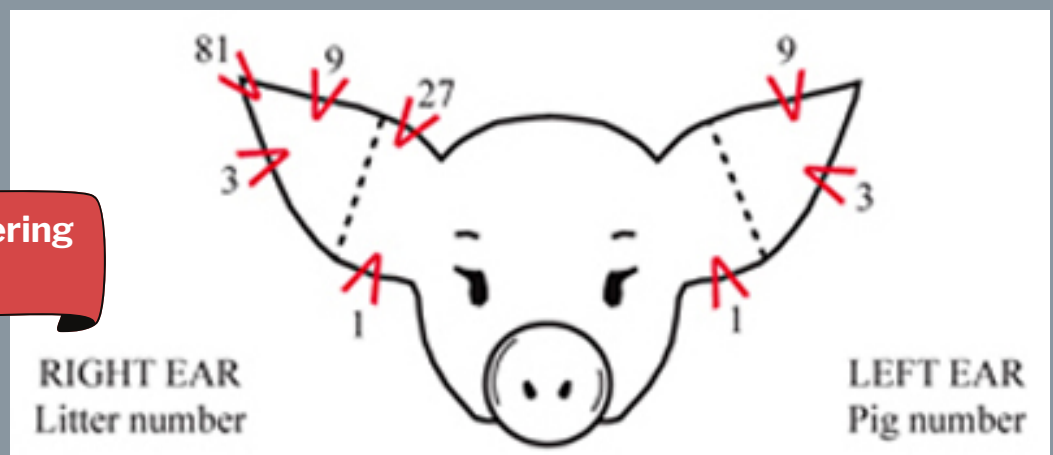
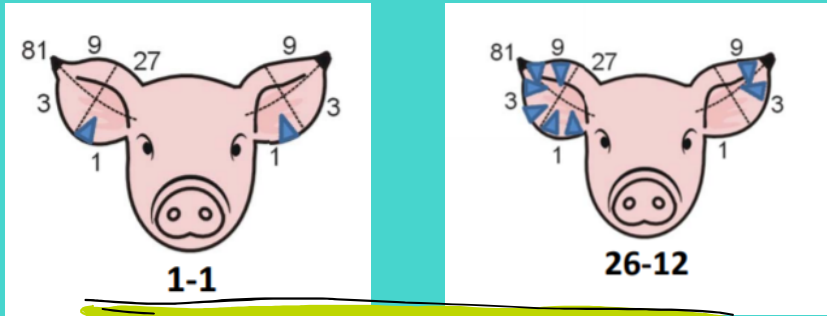


Photo from University of Nebraska-Lincoln

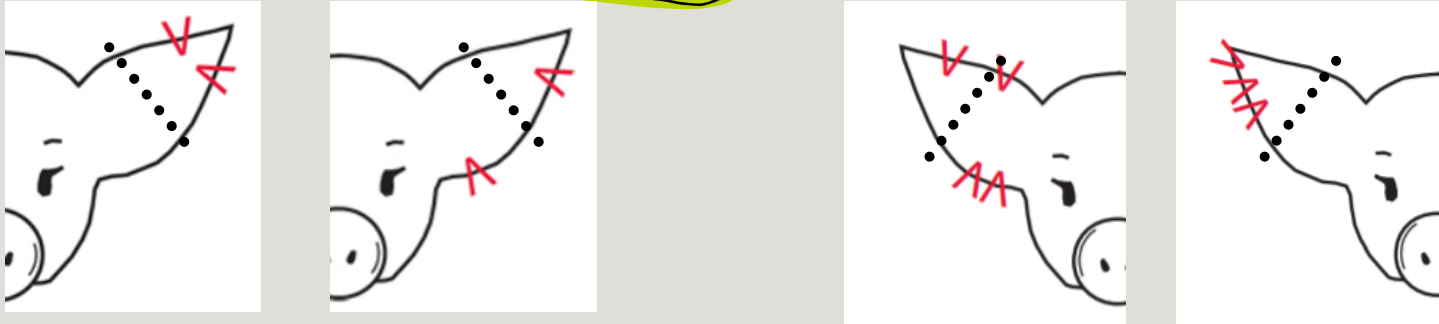
Swine Ear Notching



Now, look at the example photos and write down what number each pig is. See bottom of the page for the answers.



Note how many notches a swine would have if they were 1-1 or 26-12.



Pig's Left Ears

Pig's Right Ears

Now that you can read ear notches complete the following math problem to learn what you should notch your pig's Right Ear.

$$12 \div 2 + 4 = \underline{\hspace{2cm}}$$

Now that you can read ear notches complete the following math problem to learn what you should notch your pig's Left Ear.

$$38 - 12 + 4 = \underline{\hspace{2cm}}$$

Swine Ear Notching

Eat the Lesson!

Make a Quesadilla and cut it in quarters. Notch two quesadilla quarters with the numbers you learned when you solved the math problems.

Take a photo and send it to your WSU Extension 4-H Office to be entered into a prize drawing!



Reflect & Apply Questions

- What was easy about reading pig ears?
- What was hard?
- When do you need to know if something is yours or someone else's?
- How do you tell things apart?
- What other ways have you seen animals identified?
- Why would a farmer want to know which baby came from which mother?
- Your piglet 3 is sick and you give it a scours oral drench. A second dose is given after two days. How do you know which of your 9 piglets gets the vaccine? Draw what the pig's ear would look like



Learn More

Identify Pigs by Ear Notching

New Mexico State University
aces.nmsu.edu



Are you thinking about making an exhibit about Swine Ear Notching for the county or state fair?

Make model pig's ears out of clay or playdoh and notch them.

Record a presentation teaching someone else about ear notching. Make a poster and use a paper plate to demonstrate where the notches are located on a pig's ear.



You can plug in your thumb drive and look in the folder marked "Animal Identification."

Quesadilla Swine Ears



Ingredients

- (2) 8" whole wheat tortillas
- 2/3 cup shredded low-fat Monterey Jack Cheese
- 4 teaspoons vegetable oil



Cooking Equipment

Cutting Board
10" nonstick skillet
tongs
chef's knife



Instructions

Step 1. Lay tortillas on the cutting board. Sprinkle half of cheese over half of first tortilla. Fold tortilla in half, forming a half-moon shape with cheese inside, and press to flatten. Repeat with second tortilla and remaining cheese.

Step 2. Brush top of each quesadilla with 1 teaspoon oil. Place in 10" nonstick skillet oiled sides down. Brush second side of each quesadilla with another 1 teaspoon oil.

Step 3. Heat skillet over medium heat and cook until bottoms of quesadillas are crisp and well browned 2 to 3 minutes.

Step 4. Use tongs to flip quesadillas and cook until second sides are crisp and browned for 1 to 2 minutes. Turn off heat.

Step 5. Slide quesadillas out of skillet and onto cutting board. Let cool for 2 minutes. Cut each quesadilla in half. Serve warm.

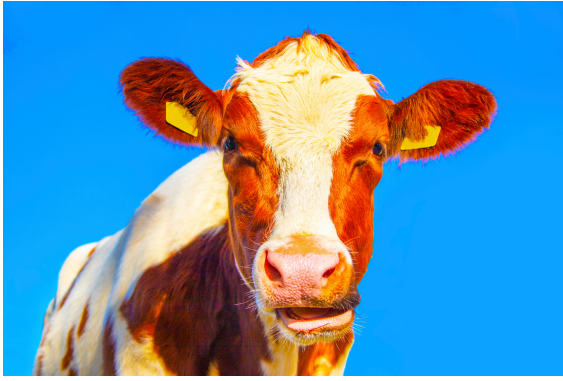
Optional Add-Ins-

2 tablespoons of any of these add-ins: chopped tomatoes, chopped ham, chopped scallions, drained black beans, chopped cilantro, minced pickled jalapenos, canned chopped green chiles, or event leftover cooked chicken. Sprinkle your ingredients over on half of each tortilla after you sprinkle cheese in.

Ruminant Digestion



90 minutes



Description

Construct a ruminant digestive system display using Playdoh.

Supplies

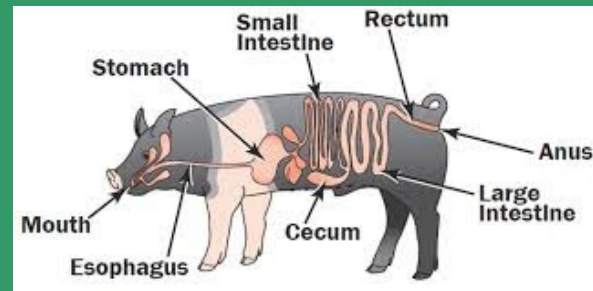
- Playdoh
- The Cardboard Kit box
- Marker/Pen
- Digestive System diagram
- Glue (optional)

Background

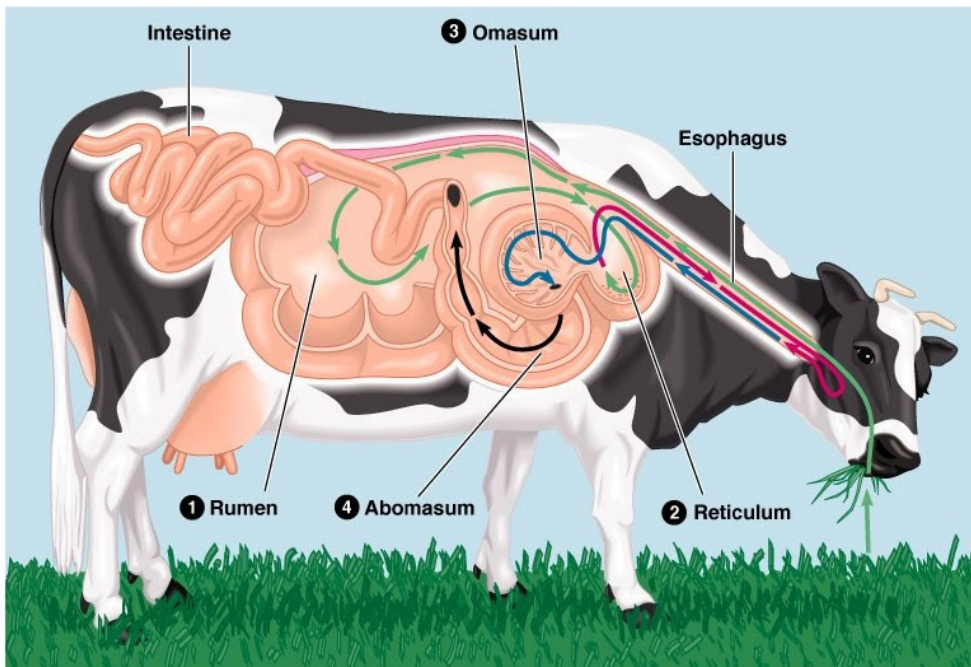
Do you like to eat? Of course you do! Every form of life likes to eat — well, has to eat to live. But do we all eat the same things? Animals eat what their stomach compartments can digest. Animal digestion differs with each species because their digestive systems are not all the same.

For example, the pig is a simple-stomached animal called a **monogastric**. The pig's digestive system is very similar to our own single-stomach compartment design. Both swine and humans start digesting their food in the mouth when they take in food, and digestion continues once food is swallowed into the stomach. So why can cows, goats, and sheep eat grass and other farm animals like pigs can't?

Monogastric:



The answer lies in the difference in their digestive systems. These animals are called **ruminants**. Rather than a simple stomach like you have, ruminants have a very large stomach with four compartments called the rumen, reticulum, omasum and abomasum. Each of these four compartments is responsible for helping digest feedstuffs such as grass, hay, corn, and soybeans. The digestion processes that occur in these compartments is different from what happens in your simple stomach.



©1999 Addison Wesley Longman, Inc.



Ruminant:

Cows, sheep, goats

Monogastric:

Pigs, horses, humans

Hindgut fermentation:
Rabbits

Ruminant Digestion Continued...

Ruminant Digestive System Functions

- Food intake
- Storage
- Digestion
- Absorption
- Elimination of waste

Ruminant Digestive System Parts

- Mouth
- Esophagus
- Reticulum
- Rumen
- Omasum
- Abomasum
- Small Intestine
- Large Intestine

As food moves through the digestive tract, it is broken down into smaller and smaller units so it can be used or eliminated. The mouth is the first part of the digestive system using mechanical breakdown (chewing) to make the food smaller and add enzymes and liquid to the feed. Then, the breakdown continues in the ruminant's stomach by microbes (bacteria, protozoa, fungi) in the ruminant's stomach. Normally about three to four days are required for feedstuffs to pass through the ruminant digestive tract.

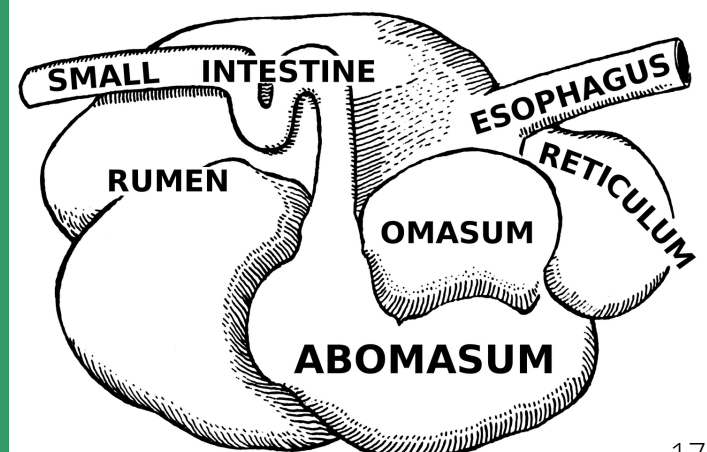
Here are the four compartments of the ruminant's stomach and what they each do:

1. **Reticulum** – Called the hardware stomach or honeycomb because of its honeycomb-like walls. This compartment helps retain large particles and foreign materials that could injure the digestive system. The reticulum functions are similar to the rumen.
2. **Rumen** – Called the large vat. It functions as a storage area for food. In addition, the rumen aids in breakdown of coarse particles through bacterial action. The cow's rumen can hold up to 40 gallons of liquid (think of 40 one gallon milk jugs).
3. **Omasum** – Called the manyplies because of its resemblance to pages in a book. This compartment helps to remove liquid from the feed by muscle contractions. In addition, it helps to break up coarse particles in feed.
4. **Abomasum** - Called the true stomach because of its smooth lining structure and because it contains digestive juices including hydrochloric acid, pepsin, rennin, and lipase. This compartment helps to break down food, and its actions are similar to that of a single-stomach animal like a human.



For more information, watch this short video about how the ruminant digestive system functions

<https://www.youtube.com/watch?v=vhWpTcFqz6o>



Ruminant Digestion Continued

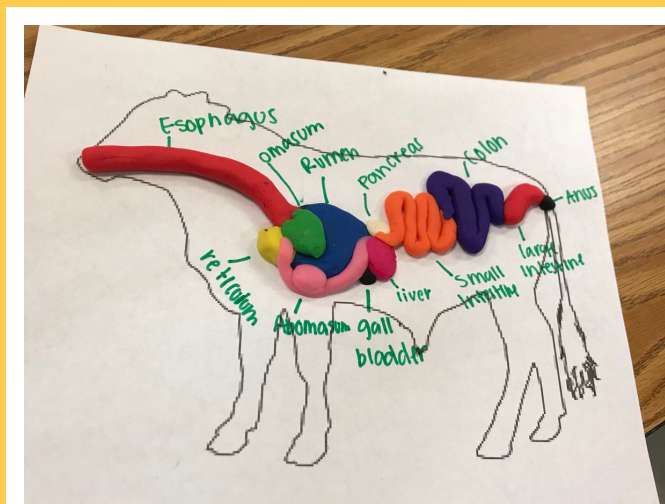


Photo from One Less Thing

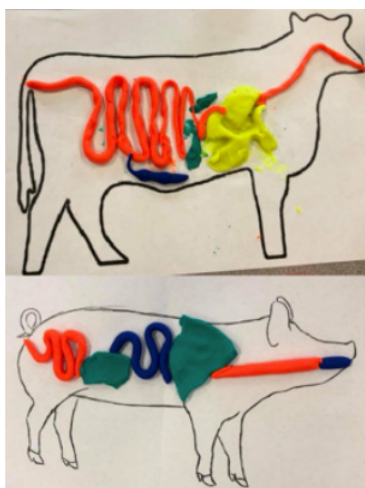


Photo from UAE Extension



Animal outlines
are available on
your thumb
drive!

Activity Directions:

Using the cardboard box the Animal Science Grab and Go Kit was distributed in and the resources included in the kit, construct and label the parts of a ruminant's digestive system.

1. Decide how you would like to display the ruminant digestive system. Would you like to include the outline of the animal or would you just like to construct the digestive system? Begin by creating an outline of your image on the inside of your box.
2. Now, choose the colors of Playdoh that you would like to represent the parts of the ruminant digestive system. You can mix different colors of Playdoh together to create more colors to use in your display.
3. Construct the parts of the ruminant digestive system using Playdoh and attach the digestive system parts to the box. You may choose to use a strong craft glue or hot glue when assembling your display.
4. After you have constructed your ruminant digestive system you may want to add details to the display such as the setting that the animal is in, such as a pasture or a barn. Let your imagination run wild!



Reflect & Apply Questions

- What are the differences between a ruminant and monogastric digestive system?
- Why can a cow eat large amounts of hay and a pig can't?
- Why do ruminant animals need four different parts for their stomach?

Adapted from:

[https://extension.umd.edu/sites/extension.umd.edu/files/_docs/programs/agexploration/Lessons_editi
on3/4%20Animal%20Digestion.pdf](https://extension.umd.edu/sites/extension.umd.edu/files/_docs/programs/agexploration/Lessons_editi%20on3/4%20Animal%20Digestion.pdf)



Biosecurity



60 minutes

Background

Biosecurity refers to management practices that are taken by those who own and care for animals to prevent the spread of harmful organisms and infectious diseases. Biosecurity is complex, and can feel overwhelming to try to understand and manage. Just like human health, animal health can be very fragile, and that is why it is so important to understand all of the building blocks that come together to keep animals and the homes they live in clean and healthy.



One of the things that can make biosecurity so challenging is that some breeds of animals are more susceptible to diseases/illness than others and some pathogens are more harmful than others. Just like humans, each breed can experience sickness in different ways, and the close proximity animals and humans often have with each other means diseases can spread very quickly and even wipe out a whole farm.

In 4-H, we learn about being responsible animal owners. Nothing is more important than caring for your animal's health and safety. It is important to take biosecurity very seriously, and as you work through this activity we encourage you to really think about how each of these building blocks of good health is maintained with your own animal projects.

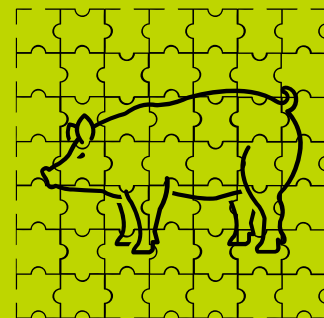
Activity #1: Puzzle

Description

Create a puzzle that shows the interconnectivity of the basic building blocks of good health for animal projects.

Supplies

- Cardboard Puzzle
- Markers
- Optional Resources (on thumb drive)



Directions

Turn the puzzle upside down, and with a marker write one of the following words on each piece. If you have puzzle pieces without writing, try to come up with additional things you can do to keep your animal healthy. When you have your words written, turn the puzzle over and draw an animal that this would apply to. You can color and decorate the puzzle in any way you see fit!



Building Blocks



Good nutrition
Clean Environment
Fresh Air

Enough space
Clean Water
Shelter
Rest

Parasite Control
Manure Removal
Vaccinations



Activity #2: House of Cards

Description

Use playing cards to explore the basic building blocks of biosecurity and the risks animals face when moved.

Supplies

- Deck of Cards
- Sticky Notes
- Pen or Pencil



More info about protective factors are on your thumb drive in the "Biosecurity" folder

Directions

On your sticky notes, write the building blocks of good health that are listed in Activity 1. Stick one note to each card, and if you can think of additional factors that are important to the health of your animal/farm feel free to add those. Then, using your cards with the notes, try to stack them up into a house. Put the things that you think are the most important on the bottom for a strong foundation. See how high a house of cards you can build with these "building blocks" of health, and think about how the cards connect to biosecurity precautions!



Reflect & Apply Questions

- What are the connections between an actual house of cards and the biosecurity at a farm or an event with animals?
- If all biosecurity practices are in place (stacked like a house of cards), what would happen if you removed the nutrition card from the bottom?
- Are some biosecurity practices more important than others? If yes, why? (in an actual stack of cards, the top one is less important than the bottoms, but is this true for the actual biosecurity of an animal facility?).

Activity #3: Old Maid- Animal Safety Edition

Description

Play a card game of Old Maid with your family with this fun spin!

Supplies

- Deck of Cards



For more information about how to play the card game OLD MAID, watch this short video:

<https://www.youtube.com/watch?v=mk7usolG20k>



Directions

With your deck of cards, you are going to play a game of Old Maid. Old Maid is a simple card game that is appropriate for 2-8 players. Using a standard deck of cards with the Joker and Instruction cards kept in, players try to get rid of all of the cards in their hand before their opponents do. The goal is to get rid of all of your cards first by drawing from your opponents hands and discarding pairs until all of your cards are gone. The player left holding the joker or the instruction card is the "Old Maid".



Start with your full deck, and add back to the deck one Joker card this is your "Traveling Animal". Add back the Rule Card this is your "Livestock Certification" needed for crossing state lines.

Shuffle and deal out all of the cards in the deck. Players should sort through their cards, make as many pairs as possible, and place each pair face-up on the table in front of them. Starting with the dealer, each player takes a turn fanning out their cards so that the player to their left can draw a card from their hand without seeing what card they are drawing. Play continues and players discard all pairs. The first player to successfully discard all of the cards in their hands, wins. For this adaptation, if you have the Traveling Animal at the end of the game you lose. If you have the Traveling Animal and you pick up the "Livestock Certification" you can have your animal travel to another state (give the card to another player) and the certification card is discarded from play.

The Traveling Animal crosses state lines illegally when one player grabs that card from your hand and can cross state lines multiple times during the play of the game.



Reflect & Apply Questions

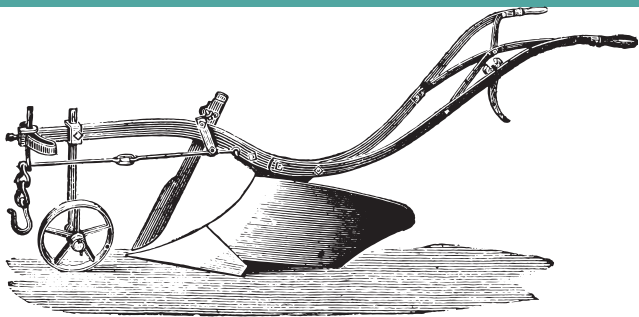
- When have you had to travel with your animal?
- Why would an animal need to cross state lines?
- What are three biosecurity risks your animal faces when they travel off of their home property?
- What can you do to minimize the biosecurity risks for your animal when traveling with your animal?
- Provide some reasons that it is important to keep an animal healthy.

Adapted from:

<https://www.healthyagriculture.org/training/youth-4h-ffa/biosecurity-learning-modules/lm2-infection-transmission/>



More info about transporting animals safely, as well as the various rules that apply to traveling across state lines can be found on your thumb drive in the "Biosecurity" folder



Heroes in Ag!

Learn about these inspirational
Agriculture Scientists!

Temple Grandin

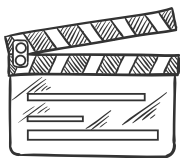
templegrandin.com 



How to Build a Hug: Temple Grandin and Her Amazing Squeeze Machine by Amy Guglielmo

Who is Temple Grandin? by Patricia Brennan Demuth

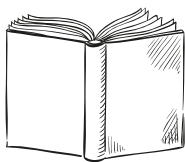
The Girl Who Thought in Pictures: The Story of Dr. Temple Grandin by
Julia Finley Mosca and Daniel Rieley



Temple Grandin Movie Streaming on Hulu

Temple Grandin on Her Search Engine / Blank on Blank
youtube.com/watch?v=lfsh6sojAvg

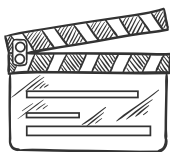
George Washington Carver



George Washington Carver for Kids: His Life and Discoveries, with 21 Activities by Penny Thomas

In the Garden with Dr. Carver by Susan Grigsby

Advanced: Farming While Black by Leah Penniman



A Lesson in History: George Washington Carver | Sho Baraka
youtube.com/watch?v=S55xdzMsuNs

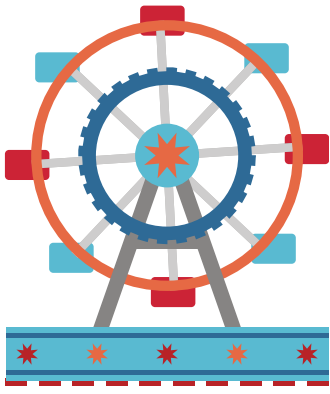
Winona LaDuke

Winona LaDuke is an environmentalist, economist and writer who supports Native American rights. In addition, LaDuke believes in not damaging nature. For this cause, she started the White Earth Land Recovery Project. She currently lives on the White Earth Reservation.

https://kids.kiddle.co/Winona_LaDuke

<https://www.youtube.com/watch?v=pHNlel72eQc>





Fair Entries

Share your work!



Klickitat County Fair

klickitatcountyfair.com

Clark County Fair

www.clarkcofair.com/

Skamania County Fair

skamania-county-fair-and-timber-carnival

WA State 4-H Fair

extension.wsu.edu/4h/fairs/state-4-h-fair/

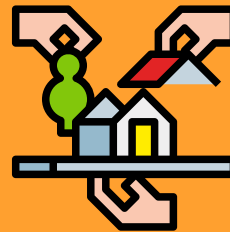
Enter a Class!



Enter a Display!



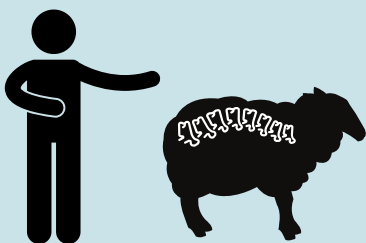
Make a Model!



Create a Video!



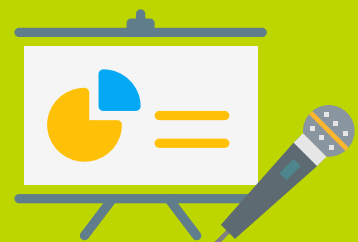
Give a demonstration!



Make a Poster!



Give a Presentation



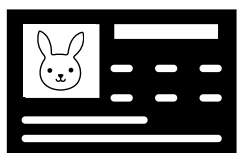
Each fair has different requirements, deadlines, and contests. Be sure to read the premium book for the fair you are interested in!



Level Up



Here are some suggestions for 4-H Intermediates and Seniors who are looking to increase their knowledge and skills. When possible, we encourage older members in 4-H clubs to take a leadership role in demonstrating skills for younger club members!



Animal Identification

Look up historic brands in the annual Washington State Livestock Brand Book. You can buy this book from WSDA or check it out from your local library. Look for brands like the one you designed.

OR

Fill out your own Brand Application like you were requesting your own brand



Animal Anatomy

Prepare a presentation how feed moves through each species digestive system. Include a brief description of what happens as the feed moves through each part. Check the thumb drive or follow this link to make a mock rumen and learn about fermentation <https://extension.tennessee.edu/publications/Documents/W897.pdf>



Biosecurity

Develop a guide for traveling with a specific species of animal in Washington State. What are all of the considerations the animal owner must take into consideration? What should be done before, during, and after travel to manage risks? Consider giving a presentation or demonstration on this topic.

References

Michigan State University. (2020, June 10). 4-H animal science anywhere: Locating common bones. MSU Extension 4-H Animal Science. <https://www.canr.msu.edu/resources/4-h-animal-science-anywhere-locating-common-bones>

University of Maryland Extension. (2016). Animal digestion. [https://extension.umd.edu/sites/extension.umd.edu/files/_docs/programs/agsploration/Lessons_edition 3/4%20Animal%20Digestion.pdf](https://extension.umd.edu/sites/extension.umd.edu/files/_docs/programs/agsploration/Lessons_edition%203/4%20Animal%20Digestion.pdf)

United States Department of Agriculture. (n.d.). Healthy farms healthy agriculture. <https://www.healthyagriculture.org/training/youth-4h-ffa/biosecurity-learning-modules/lm2-infection-transmission/>



4-H 

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**Do Not Print This or
Next Page**

Which ID For Me?

30 minutes

Instructions

Read Andy's Barnyard Visit or look on your Thumb Drive.

Draw a line from each method of Identification to the species of animal that it is used on. There may be some duplication.

Try your best and learn the rest!

