



National Agriculture in the Classroom

Relevancy and Engagement: agclassroom.org

Taming the Wild Aurochs

Grade Level(s)

6 - 8

Estimated Time

60 minutes

Purpose

Students will read about and research the domestication of animals to better understand why and how they are raised on a farm. They will create a timeline of animal domestication.

Materials

- *Student Worksheets A, B, & C*, 1 per student
- Internet access for student research

Essential Files (maps, charts, pictures, or documents)

- Student Worksheets A, B, and C.

[<http://naitc-api.usu.edu/media/uploads/2014/09/17/aurochs.pdf>]

Vocabulary

auroch: an extinct bovine mammal of northern Africa, Europe and western Asia, believed to be the forerunner of domestic cattle

breed: a group of animals descending from a common ancestry and possessing certain common characteristics which distinguish it from any other group

descendant: a person born into a particular family

domesticated animal: an animal that has many of its needs provided by humans

fertilizer: any of a large number of natural and synthetic materials, including manure and nitrogen, phosphorus, and potassium compounds, spread on or worked into soil to increase its capacity to support plant growth

herd: a group of cattle or other domestic animals of a single kind that are kept together for a specific use

manure: animal dung, compost or other decomposed organic material used to fertilize soil

predators: animals that live by preying on others

wild animal: an animal that provides for its own food, shelter, and other needs

selective breeding: selecting certain individual animals to be the parents of the next generation, based on desired characteristics

Interest Approach or Motivator

1. Ask students to brainstorm and make a list of items which are necessary for survival. Encourage students to list only the very basic items that provide food, clothing, water, and shelter.

2. Next, identify the source of each of these necessities. Natural resources provide our water supply, but likely in every other case, agriculture or farming provides all others. (food to eat, timber to build houses, etc.)
3. Ask students if our society has always relied on agriculture to provide our necessities of life. (*No*) Use student comments and ideas to guide your discussion. Point out that the implementation of farming changed the nature and practices of ancient civilizations.

Did you know? (Ag Facts)

- The domestication of farm animals dates back to the Neolithic period 9000 years ago.¹
- The domesticated dog is a subspecies of the gray wolf. It has been one of the most widely kept working and companion animals in human history.²
- Civilizations with domesticated plants and animals generally had more power and were able to spread their cultures and languages.³

Background - Agricultural Connections

All **domesticated animals** have their origins in wild ancestors, but it takes hundreds of years for an animal species to be completely domesticated. Humans had already been domesticating animals for thousands of years before anyone began recording history. The first domesticated animals were probably raised as pets, for sports, or for religious purposes. Archaeologists believe people did not begin to domesticate animals until they had settled into communities and established reliable food supplies through farming or fishing.

The dog was the first animal to be domesticated, probably 10,000 to 12,000 years ago. Sheep and goats came next, around 7,000 BC, in the Middle East and Central Asia. Cattle were domesticated in South Asia, the Middle East and Europe by 4,000 BC. Pigs were domesticated at about the same time. Present-day cattle derive from the wild **aurochs** (or-oks), a huge beast which sometimes stood five feet at the withers, had horns three feet long and weighed a ton.

The easiest animals to domesticate were **herd** animals. Herd animals follow the lead of a dominant member. They stay close together and move together. Early farmers could use surplus grains to attract hungry animals, especially in times of drought. They watched the animals and learned their food and water needs. They would lead them to suitable pasture and water and protect them from **predators**. The animals grew accustomed to having humans around and gradually became tame.

Although farmers would kill some of the tame animals for food, they would save the youngest and the tamest. The farmer would kill the animals that were most difficult to manage and save those that were more tame. The animals that ate the most would be killed as well. The smaller, tamer animals would reproduce, and eventually the entire herd would become smaller and more tame. This was the beginning of the practice we know now as **selective breeding**.

At first the tame animals were used only as an easy source of meat. Later the farmer noticed that crops grew better on plots where animals had grazed and realized the value of animal **manure** as **fertilizer**. Through more observation, the farmer realized the animals' milk could provide another food source.

Eventually humans discovered they could weave the hair of animals like sheep and goats to make cloth for clothing. The Sumerians were the first to develop sheep and goats with the woolly coats we use for making cloth today.

Sometime before 3300 BC, farmers in Sumer and nearby Egypt started using animals as beasts of burden. Wooden plows were invented and drawn by oxen or asses to turn over the irrigated fields. Farmers also found they could harness animals to haul carts loaded with the harvest, making it possible to move large amounts of grain to a storage point or canal boat for further transport. In the New World, the alpaca, llama, duck, turkey and dog were all domesticated by the time of the first European explorers. Early European settlers brought their domesticated animals with them when they came to the New World. These included cattle, sheep, goats, pigs and chickens. Horses were introduced to the New World by the Spanish in the 15th Century. Many of them escaped to form the wild mustang herds in the West.

In the past 100 years, farmers and ranchers have begun to domesticate some other species of **wild animals**. On the Great Plains of North America, the bison, a herd animal, had roamed the grasslands for thousands of years. Prehistoric humans living on the plains hunted the bison but did not make any serious efforts to domesticate them. In the late 1900s, when hunters threatened the bison with extinction, some ranchers and other conservationists began

rounding up small herds. Over the past 100 years these small herds have grown into large ones, and in some parts of the Great Plains, cattle ranchers have begun replacing their cattle with bison herds. Since the bison are native to the Great Plains they are better adapted than cattle to the conditions present there.

Procedures

Activity 1: Hunting and Gathering

1. Explain to your students that before human civilizations began to farm their land, all people were "hunter gatherers." Ask students to use the context clues found in these words to describe what a *hunter gatherer* is.
2. Use the following questions to help students visualize and understand a hunter gatherer society:
 - How would a civilization's geographic location have affected the availability of food?
 - *The climate and location of their civilization would indicate what food (from both plants and animals) was available. For example, if they lived near the sea, they may have fished. If they lived in the desert, they would have less available food than a civilization in a forested area with more moisture.*
 - Did hunter gatherers live in one place for long periods of time?
 - *No. Civilizations followed their source of food. When the resources in one area became depleted, they packed up and moved to the next area. These people were called nomads.*
 - What plant-based food would hunter gathers have consumed?
 - *Any edible plant that grew naturally in their surroundings. This could have included berries and fruits or edible plant roots. Generally, the more tropical the climate, the more they could rely on plant-based foods.*
 - What kind of animals did they hunt?
 - *It varied depending on the location. In general, they hunted wild game no larger than a deer or wild boar. Rabbits, and various bird species were also common.*
 - Were there gender roles in these societies?
 - *Yes, the women primarily did the gathering and the cooking. The men did the hunting.*
 - Could hunter gatherer societies consume a diet with a wide variety of foods? Did their diet change from season to season.
 - *No, compared to the average diet today, hunter gatherers consumed only a small variety of foods depending on their location. Yes, their diets changed with the seasons as food was available.*

Activity 2: Domestication Timeline

1. Read and discuss the vocabulary words as well as the information contained the *Background Agricultural Connections* portion of the lesson.
2. With your students, compare and contrast the characteristics of domestic animals and wild animals. Draw a line down the center of your board to list contrasting characteristics.
 - **Behavior:** Wild animals do not want to be around humans. Domestic animals are more tame.
 - **Reproduction:** Wild animals reproduce by the principle of "survival of the fittest." The reproduction of domestic animals is controlled by their caretaker who identifies ideal characteristics they would like in their offspring and selectively breeds animals with those characteristics.
 - **Feed:** Wild animals provide their own subsistence. Predators must hunt their own food, and foragers move to find suitable lands for grazing. Domestic animals rely on their caretaker to provide their feed.
 - **Appearance:** Domestic animals develop a different appearance than their wild ancestors. This takes place due to selective breeding. (For example a wild boar and domestic farm pig look similar in structure, but have changed significantly in domestication) Wild animals maintain the characteristics needed for survival.
3. Discuss the interdependence of humans and animals over the centuries. Why did some animals become domesticated while others did not?

- Optional: To further teach and illustrate this principle, show the video clip [Guns, Germs and Steel \(Part 5\)](#). The first four minutes of the video discusses the ideal characteristics for domesticated farm animals. The second half of the video clip discusses various civilizations around the world and the evidence of early farming practices.
4. Hand out *Student Worksheets A and B*. Instruct students to read the information on *Student Worksheet A* and use it to complete *Student Worksheet B*.
 5. Each student will select one of the domesticated animals mentioned on *Student Worksheet A* and use online search engines and library references to research the animal's history and use today.
 6. Hand out *Student Worksheet C*.
 7. Discuss the meanings of BC and AD in reference to ancient history. Discuss the fact that the 1990s took place in the 20th Century. Caution students to remember this as they complete the timeline on *Student Worksheet C*.
 8. Have the students use resource materials and online searches to find agricultural or historical events that were happening during the time period when each of the animals listed on the worksheet was being domesticated. Students should place these events on the timeline.
 9. On a world map, ask students to locate the places listed on *Student Worksheet A* where the following animals may have first been domesticated: sheep and goats; cattle; rabbits.
 10. As students complete the worksheet, ask them to research online what animals were domesticated on the North American continent pre-Columbus and what animals were later brought by European explorers and settlers.

Activity 3: Farming

1. Tie the lesson together by discussing and further comparing the benefits our society today enjoys due to farming versus those found through hunting and gathering. Use the following key points to direct the discussion:
 - Farming allows for a greater abundance of food. More food can be farmed on a given plot of land than could grow naturally.
 - Our food supply has a much greater variety of foods and food groups to obtain the nutrients we need and to enjoy the food we eat as well.
 - Our food supply is more stable and sustainable. While crop failures can occur in modern farming, they are less likely than they would be if we were relying on nature to provide our food.
 - The location of our communities and cities does not rely upon the local food sources. In most cases, food is grown in the ideal climate and region, then shipped all over the country and even world. Populations can have permanent residence rather than living as nomads.

Concept Elaboration and Evaluation

After conducting these activities, review and summarize the following key concepts:

- Civilizations changed in many ways as farming practices replaced hunting and gathering.
- The use of various plants and animals for food, clothing, shelter, and fuel changed through time. Farming practices increased after the European settlement of the United States.
- There are many advantages to farming rather than hunting and gathering. Farming provides a more abundant and stable food supply as well as a much larger variety of foods.

Enriching Activities

- **Additional Reading:**
 - *Stone Age Farmers Beside the Sea: Scotland's Prehistoric Villag eof Skara Brae*, by Caroline Arnold.
 - *Eyewitness: Horse*, by Juliet Clutton-Brock.
 - *Mystery of the Lascaux Cave*, by Dorothy Hinshaw Patent.
 - *Ancient Agriculture: From Foraging to Farming*, by Michael and Mary B. Woods
 - *Ancient Agricultural Technology: From Sickles to Plows*, by Michael and Mary B. Woods.

Suggested Companion Resources

- The Shepherd's Trail (Book)
[<http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=403>]
- From Fiber to Fabric... Wool's a Natural (Multimedia)
[<http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=404>]
- Sheep 101 (Website)
[<http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=409>]

Sources/Credits

- <http://www.encyclopedia.com/doc/1G2-3400500110.html>
- <http://www.caaa.co.za/info/domestic-animals>
- <http://animals.howstuffworks.com/animal-facts/animal-domestication2.htm>

Author(s)

Oklahoma Agriculture in the Classroom

Organization Affiliation

Oklahoma Agriculture in the Classroom

Curriculum Matrix: agclassroom.org/teacher/matrix