Taming the Wild Aurochs

Objective

Students will read about and research the domestication of animals. Students will create a timeline of the domestication of animals.

Background

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

Oklahoma Academic Standards

GRADE 6
Speaking and Listening: R.1,2,3; W.1,2. Reading and Writing Process: R.1,2,3. Critical Reading and Writing: R.6. Research: R.1,2,3; W.1,2,3,4
Life Science: 2-1,2

GRADE 7
Speaking and Listening: R.1,2,3; W.1,2. Reading and Writing Process: R.1,2,3. Critical Reading and Writing: R.6. Research: R.1,2,3; W.1,2,3,4
Life Science: 1-4; 3-2; 4-3,5,6

GRADE 8
Speaking and Listening: R.1,2,3; W.1,2. Reading and Writing Process: R.1,2,3. Critical Reading and Writing: R.6. Research: R.1,2,3; W.1,2,3,4

HIGH SCHOOL
Speaking and Listening: R.1,2,3; W.1,2. Reading and Writing Process: R.1,2. Critical Reading and Writing: R.6. Research: R.1,2,3; W.1,2,3,4
Biology I: LS2-8; 4.2,3,4
World Human Geography: R.1,3,4

Vocabulary

alpaca—a domesticated South American mammal related to the llama and having fine long wool
aurochs—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
dominant—most prominent
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
llama—South American animal related to the camel and raised for its soft wool and as a beast of burden
manure—animal dung, compost or other decomposed organic material used to fertilize soil
monk—a man who is a member of a brotherhood living in a monastery and devoted to a discipline prescribed by his order
predators—animals that live by preying on others
selective breeding— selecting certain individual animals to be the parents of the next generation, based on desired characteristics
surplus—an amount or a quantity in excess of what is needed
withers—the high part of the back of a horse or similar animal, located between the shoulder blades
wild animal—an animal that provides for its own food, shelter and other needs

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

1. Read and discuss background and vocabulary.
   —Students will list characteristics of domestic animals and wild animals.
   —Students will compare and contrast characteristics.
   —Discuss the interdependence of humans and animals over the centuries. Why did some animals become domesticated while others did not?
2. Hand out Student Worksheets A and B.
   —Students will read the information on Student Worksheet A and use it to complete Student Worksheet B.
3. 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.
4. Hand out Student Worksheet C.
   —Discuss the meanings of BC and AD in reference to

ancient history. Discuss the fact that the 1900s were in the 20th Century. Caution students to remember this as they complete the time line on Student Worksheet C.
—Students will use resource materials and online search engines 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 will place the events on the timeline.

5. On a world map, students will locate the places listed on Student Worksheet A where the following animals may have first been domesticated: sheep and goats; cattle; rabbits.
6. Students will research online to find what animals were domesticated on the North American continent pre-Columbus and what animals were brought by European explorers and settlers.

Extra Reading

Arnold, Caroline, *Stone Age Farmers Beside the Sea: Scotland's Prehistoric Village of Skara Brae*, Clarion, 1996.

Clutton-Brock, Juliet, *Eyewitness: Horse*, DK, 2000.

Patent, Dorothy Hinshaw, *Mystery of the Lascaux Cave*, Benchmark, 1998.

Woods, Michael, and Mary B. Woods, *Ancient Agriculture: From Foraging to Farming*, Runestone, 2000.

Woods, Michael, and Mary B. Woods, *Ancient Agricultural Technology: From Sickles to Plows (Technology in Ancient Cultures)*, 21st Century, 2011.

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Taming the Wild Aurochs A

The first domesticated animals were captured to raise as pets. Others were used for sport or in religious ceremonies.

The dog was the first animal to be domesticated, probably 12,000 years ago. Sheep and goats came next. They were domesticated around 7000 BC in the Middle East and Central Asia.

By 4000 BC cattle had been domesticated in South Asia, the Middle East and Europe. Cattle were descended from the wild aurochs, a massive, longhorned herd animal that lived in heavily-wooded areas. Pigs and horses were domesticated at about the same time as cattle. Rabbits were domesticated about the 6th Century Ad by French monks. In the New World the alpaca and llama may have been domesticated as early as 5500 BC.

Herd animals like the aurochs were the easiest animals to domesticate. Herd animals follow the lead of a dominant member. They stay close together and move together.

Early farmers could put out surplus grains to attract a few hungry members of the herd. If the farmer could attract a few herd members, the others were likely to follow.

The farmers watched the animals and learned their food and water needs. They would lead them to suitable pasture and water. They would protect them from predators. The animals grew accustomed to having humans around. After awhile, they become tame.

For many years tame herd animals were used only as an easy source of meat. Later the farmer noticed crops grew better on plots where the animals grazed. That was how they learned that animal manure was a valuable fertilizer.

Eventually the farmer discovered other uses for herd animals. The milk of some animals could be a valuable food source. The hair of herd animals like sheep and goats could be woven into cloth. Cattle, goats and horses could help with the farmer's work.

The animals that were domesticated gradually changed through selective breeding. Modern cattle are much smaller than their wild ancestors. That is because the smaller animals were easiest to capture and domesticate. Hunters killed the larger animals until there were no more. the smaller animals were protected and encouraged to breed.

Domesticated animals also changed according to their use to humans. A modern milk cow gives thousands of times more milk than its wild ancestors did. Domesticated hens lay 100 times more eggs than their wild ancestors. Modern sheep have wool that is heavier, finer and more uniform than that of the original wild sheep.

Some wild animals that have been domesticated in the past 100 years include the American bison, the alligator and the ostrich.

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Taming the Wild Aurochs B

Choose five words from the list at right to create idioms, analogies, metaphors, or similes. Share these examples through illustrations. (Use reference materials such as dictionaries and thesaurus.)

alpaca
aurochs
breed
descended
domesticated
dominant
fertilizer
herd
llama
manure
monks
predators
surplus
selective breeding

Complete an outline from the reading. Place the headings listed below in the correct sequence before listing the subheadings.

How to Tame Herd Animals
Characteristics of Herd Animals
Changes in Domesticated Animals
First Domesticated Animals
Uses for Domesticated Animals

I. _____
- A._____
- B. _____ and _____
- C. _____
- D. _____ and _____
- E. _____
- F. _____

II. _____
- A. _____
- B. _____

III. _____
- A. _____
- B. _____
- C. _____
- D. _____
- E. _____

IV. _____
- A. _____
- B. _____
- C. _____
- D. _____
- E. _____

V. _____
- A. _____
- B. _____

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Taming the Wild Aurochs (outline)

I. First Domesticated Animals
- A. Dog
- B. Sheep and Goats
- C. Cattle
- d. Pigs and Horses
- e. Rabbits
- F. Alpaca and llama

II. Characteristics of Herd Animals
- A. Follow lead of dominant member.
- B. Stay close together and move together.

III. How to Tame Herd Animals
- A. Use surplus grain to attract a few herd members so others will follow.
- B. Watch the animals and learn their food and water needs.
- C. Lead animals to suitable pasture and water.
- D. Protect animals from predators.
- E. Animals grow accustomed to having humans around and gradually become tame.

IV. Uses for Domesticated Animals
- A. Meat
- B. Fertilizer
- C. Milk
- D. Clothing
- E. Work

V. Changes in Domesticated Animals
- A. Change in size
- B. Change according to use

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Taming the Wild Aurochs C

Read the information on Student Worksheet A. Place these animals on the timeline below according to when they were first domesticated.

pig horse cow goat llama
sheep rabbit dog alpaca bison

10000 BC	9500 BC	9000 BC	8500 BC	8000 BC	7500 BC	7000 BC	6500 BC	6000 BC	5500 BC	5000 BC	4500 BC	4000 BC	3500 BC	3000 BC	2500 BC	2000 BC	1500 BC	1000 BC	500 BC	0	500 AD	1000 AD	1500 AD	2000 AD

Ancient farmers domesticated herd animals by following the steps listed below. Number the steps to place them in their proper order.

___The farmer led the herd to suitable pasture and water and protected the herd from predators.
___Farmers used grains to attract a few members of the herd.
___The animals became tame.
___Other herd members followed.
___The animals grew accustomed to being around humans.
___The farmer watched the animals to learn their food and water needs.
___Humans raised herd animals for their milk.
___Farmers used animal manure to fertilize their fields.
___Humans wove the hair of animals into cloth for clothing.
___Humans raised animals for their meat.
___Farmers kept animals to help with the work

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Taming the Wild Aurochs (answers) C

Read the information on Student Worksheet A. Place these animals on the timeline below according to when they were first domesticated.

pig horse cow goat llama
sheep rabbit dog alpaca bison

10000 BC	9500 BC	9000 BC	8500 BC	8000 BC	7500 BC	7000 BC	6500 BC	6000 BC	5500 BC	5000 BC	4500 BC	4000 BC	3500 BC	3000 BC	2500 BC	2000 BC	1500 BC	1000 BC	500 BC	0	500 AD	1000 AD	1500 AD	2000 AD
dog						sheep, goat			llama, alpaca			cow, pig, horse									rabbit			bison

Ancient farmers domesticated herd animals by following the steps listed below. Number the steps to place them in their proper order.

4 The farmer led the herd to suitable pasture and water and protected the herd from predators.

1 Farmers used grains to attract a few members of the herd.

6 The animals became tame.

2 Other herd members followed.

5 The animals grew accustomed to being around humans.

3 The farmer watched the animals to learn their food and water needs.

9 Humans raised herd animals for their milk.

8 Farmers used animal manure to fertilize their fields.

10 Humans wove the hair of animals into cloth for clothing.

7 Humans raised animals for their meat.

11 Farmers kept animals to help with the work

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World Map

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