

Ag Fact!

- Cattle have _____ stomach(s); the largest compartment is the rumen and is _____ gallons!

Ag Fact!



- Cattle have 1 stomach(s); the largest compartment is the rumen and is 55 gallons!

CASE

*Curriculum for Agricultural
Science Education*

Principles of Agricultural Science – Animal

Principles of Agricultural Science – Animal

Animals in Our Lives

Unit 1 – Lesson 1.2 Animal Planet

From Industry to Products



- Career opportunities in animal production are seemingly endless.
- What will you produce if you pursue one of these careers?

Animal Uses



Animal Uses

- Food
 - Meat
 - Milk
 - Eggs



Animal Uses

- By-products
 - Edible
 - Non-edible



- Fiber/Hide
 - Wool
 - Leather
 - Hair

Animal Uses

- Work
 - Draft
 - Service
 - Herding
 - Pulling
- Companionship
 - Pets
 - Friends



Animal Uses

- Research
 - Pharmaceuticals
 - Cosmetics
- Entertainment and Recreation
 - Racing
 - Rodeo
 - Riding
 - Fishing



References



Gillespie, J.R., & Flanders, F.B. (2010).
Modern livestock and poultry production
(8th ed.). Clifton Park, NY: Delmar.

History of the Animal Science Industry



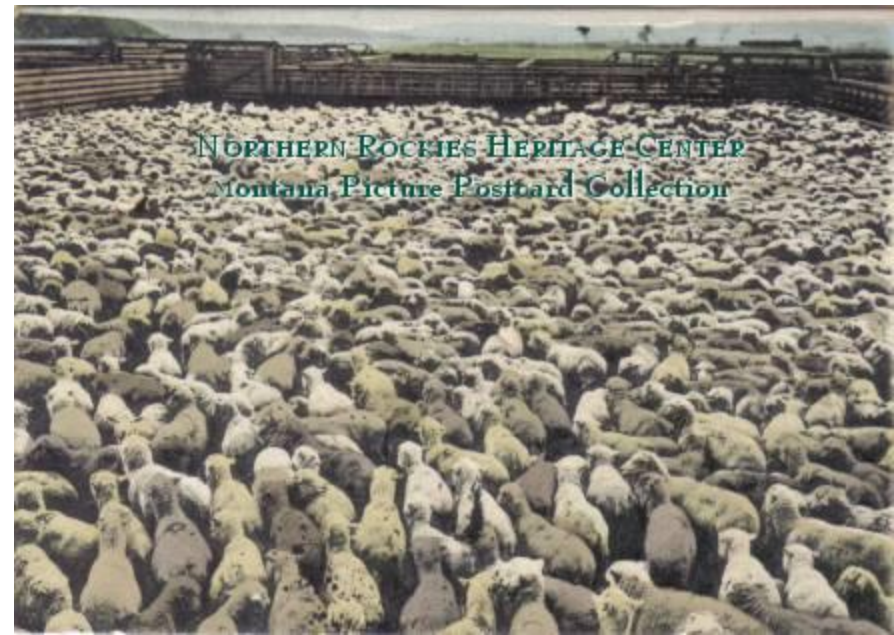
Early Domestication

- Humans began domesticating animals more than 10,000 years ago beginning with dogs.
- Ruminants (cattle, sheep and goats) were the first food animals to be domesticated followed by pigs, possibly to dispose of table scraps and waste products.



Early Domestication

- Horses and cattle were domesticated primarily for transportation and draft work purposes.
- Early people found animals that form large herds or flocks and eat a wide variety of feeds are easier to domesticate.



NORTHERN ROCKIES HERITAGE CENTER
Montana Picture Postcard Collection

Early Domestication

Domestication involves more than simply taming. Animals are considered to be domesticated when:

- they are kept for a distinct purpose
- humans control their breeding
- their survival depends on humans
- they develop traits that are not found in the wild



Domestication

Domestication allowed humans to

- Contain animals with the right temperament
- Have a steady food supply
- Use animals for companionship, religious purposes and draft work

In return, the animals received protection and a constant food supply.

Selective breeding occurred as humans got rid of animals with undesirable traits, not allowing them to reproduce.



Which of these animals was domesticated first?

List them in the order you think they were domesticated on the bottom of your notes page.

Cattle?

Goats?

Pigs?

Sheep?

Horses?

Chickens?

Turkeys?



What's your guess?

Sheep: Domesticated 11,000-15,000 years ago

- Domesticated in the mountains of Southeast Europe and Central/Southwest Asia. These areas include the countries of: Greece, Kazakhstan, Turkey, Hungary, Uzbekistan, Syria, Yugoslavia, Turkmenistan, Iraq, Romania, Tajikistan, Bulgaria, Afghanistan and Iran
- Favorable because of their wool and meat for which they are still used and bred today.
- Because of selective breeding for traits and other results of domestication, sheep are the only species of livestock that would be unable to return to the wild.



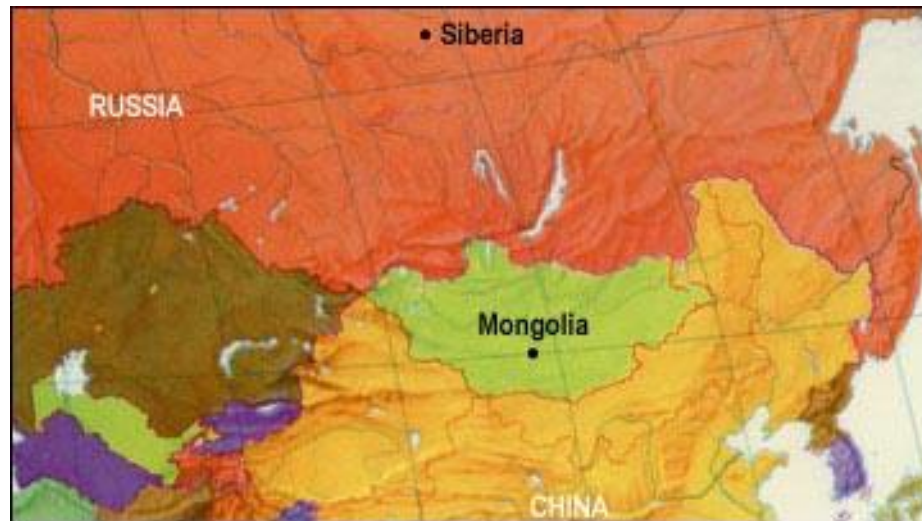
Cattle: Domesticated 10,000-15,000 years ago

- Domesticated near the boundary of Europe and Asia and/or Southwest Asia
- This area includes the countries of: Russia, Turkey, Ukraine, Syria, Moldavia, Turkmenistan, Iran, Iraq
- In the beginning, cattle were used mainly for meat, milk and labor but eventually were replaced by horses in most of the draft work.



Horses: Domesticated approx. 5,000 years ago

- Horses were domesticated in Eastern Europe and Western Asia. This area includes the countries of Mongolia and Siberia.
- Originally, horses were used for meat and milk, but eventually became useful as pack and draft animals.



Pigs: Domesticated 5,000 - 9,000 years ago

- Pigs were first domesticated in the Middle East (Mesopotamia) in countries such as Syria, Iraq and Turkey and then spread across Asia, Europe and Africa.
- Pigs were utilized more in settled farming communities than in nomadic groups because they are difficult to move for long distances.



Animal Domestication

Goats

- The goat was among the earliest animals to be domesticated, around 6000 - 7000 B.C. in Western Asia.
- The goat could easily revert to its wild state.

Chickens

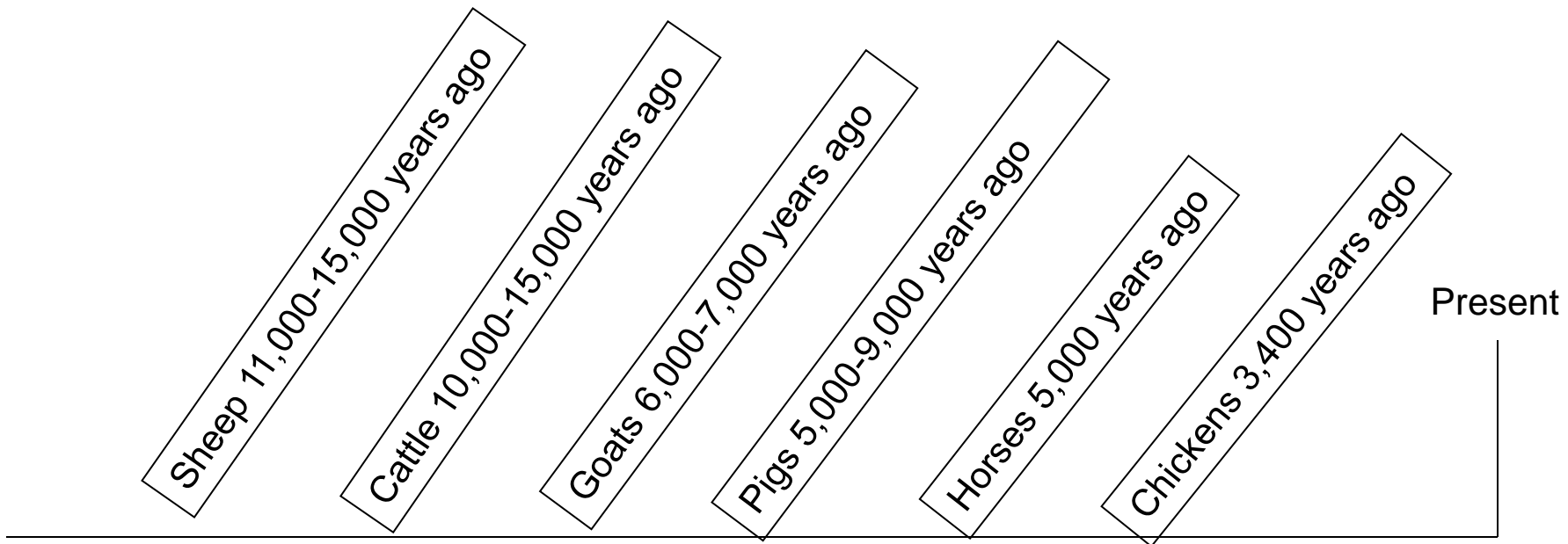
- Chickens were known in China more than 3,400 years ago and also in Southeast Asia (China, Laos, Vietnam, Cambodia, Thailand, Indonesia, Malaysia, Philippines, Burma)

Turkeys

- The turkey is the only North American domestic animal and was domesticated in middle North America.

Use the information . . .

Use the notes we just took to draw a simple timeline on your worksheet illustrating the order in which animals were domesticated. It might look something like this.



What is animal **science**?


- ***Animal husbandry*** is the art of working with farm animals.
- ***Animal science*** is the scientific study of farm animals.
- ***Biology*** is the study of life that seeks to provide an understanding of the natural world.



What is animal science?

- [Genetics](#)
- [Embryology](#)
- [Zoology](#)
- [Botany](#)
- [Agronomy](#)
- [Anatomy](#)
- [Physiology](#)
- [Chemistry](#)
- [Nutrition](#)
- [Pathology](#)
- [Parasitology](#)
- [Entomology](#)
- [Bacteriology](#)
- [Economics](#)
- [Computer Science](#)
- [Ethology](#)
- [Ecology](#)
- [Communications](#)
- [Finance](#)
- [Political Science](#)
- [Law](#)
- [Engineering](#)
- [Microbiology](#)

Timeline of US Animal Agriculture



- Match the date with the event!

History of Animal Agriculture in the United States

- 1493 Columbus brought livestock to the West Indies
- 1519 Cortez brought cattle and sheep to Mexico
- 1539 DeSoto brought horses and hogs to Florida
- 1641 William Pynchon, Massachusetts, was first meat packer exporting salt pork
- 1760 Robert Bakewell, England, began breeding animals for a purpose, created different types.

History of Animal Ag in U.S.

1861-1865 Changes occurred during the Civil War

- Railroads decreased need for horses and mules and for stock to be raised where they are consumed
- Refrigeration in box cars allowed shipping of carcasses to population centers
 - Now animals could be raised in one place, sold at another and consumed at yet another.
- Change in tastes – beef became most popular.
 - Before the war, pork was the most popular meat (mainly due to ease of storage), but beef became the most popular meat after the war because of refrigeration.

History of Animal Ag in U.S.



- 1862 Land Grant Act provides public lands for universities to teach agriculture
- 1872 Hatch Act establishes experiment stations
- 1914 Smith Lever Act establishes cooperative extension service

Animal Contributions to Society



Food

- Mutton and chevon are eaten by more people than any other meat
- Beef is eaten in larger quantities than any other meat.
- Certain religions restrict beef and pork consumption
 - Hindus do not eat beef.
 - Muslim, Hind, and Orthodox Jews do not eat pork
- Many people eat horsemeat
- Goats, ewes, cattle, mares, sows, llamas, camels, reindeer and yaks provide milk and milk products.

Animal Contributions to Society

Clothing

- Wool, hair, hides (leather), and pelts have commonly been used for clothing.
- Even today, in more than 100 countries, ruminant fibers such as hair and wool are used in the manufacture of clothing, bedding, housing and carpets.



Animal Contributions to Society

Shelter

- Hair and hides provide material for shelter. For example, hides are used in teepees, while hair is used in plaster (horsehair plaster).

Tools

- Early man relied on bones and hides for tools.

Utensils

- Bladders, horns, catgut and dynamite are animal products that are commonly used.

Personal Items

- Humans use animal products or by-products for jewelry and perfume.

Animal Contributions to Society

Power

- Animals have always been important throughout history for draft work, packing and transporting humans. In the 1920s, more than 25 million horses were used primarily for draft purposes.
- Today, in developing countries, animals provide as much as 99% of the power used in agriculture while 20% of the world's populations depend on animals for moving goods.
 - India has more than 200 million cattle and buffalo, but because cattle are sacred in India, they are not slaughtered for meat. These animals are used to provide power for field work.



Animal Contributions to Society

War

- Animals were used in war for transportation and power

Religion

- Some societies worship animals.

Recreation

- Companionship and hobbies or sports such as horseback riding

Health

- Laboratory animals are commonly used for research.
- Miniature pigs have been used in laboratory research because they closely resemble humans in their pulmonary, cardiac, dental and even pre-natal brain development.
- Cattle and sheep have been used to test artificial organs before use in humans.
- Humans also use animal products and by-products in pharmaceuticals.