



Name: _____ ODD Period: _____

Week: 33–34 Dates: 4/18–4/29 Unit: History of Animal Science and Swine

<i>MONDAY</i>	<i>TUESDAY</i>	<i>WEDNESDAY</i>	<i>THURSDAY</i>	<i>FRIDAY</i>
18 O *INTERSTELLAR MOVIE *HISTORY OF ANIMAL SCIENCE NOTES	19 E	20 O *SWINE NOTES *EAR NOTCHING LAB	21 E *CLEMENT GONE	22 O *PIG VIRUS ARTICLE *TEMPLE GRANDIN *MID 4TH QUARTER ENDS *LATE/ABSENT WORK DUE BY 2PM *CLEMENT GONE
25 E FLEX DAY *CLEMENT GONE	26 O *STUDY GUIDE *TEMPLE GRANDIN *CLEMENT GONE	27 E	28 O *QUIZ *PACKET DUE	29 E

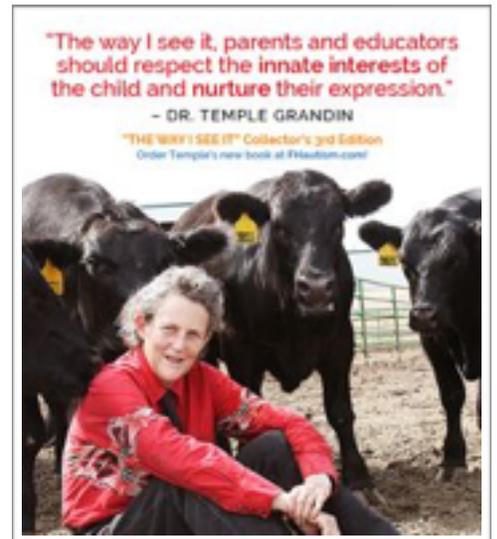
<i>ASSIGNMENT</i>	<i>YOUR SCORE</i>	<i>TOTAL POINTS POSSIBLE</i>
<i>TEMPLE GRANDIN MOVIE WORKSHEET</i>		50
<i>HISTORY OF ANIMAL SCIENCE NOTES</i>		60
<i>SWINE NOTES</i>		30
<i>SWINE EAR NOTCHING ACTIVITY</i>		30
<i>PIG VIRUS ARTICLE (PREREADING A SCIENCE BASED TEXT)</i>		15
<i>STUDY GUIDE</i>		60
TOTAL		245

AG EARTH SCIENCE FACT OF THE WEEK
<p>ACCORDING TO THE USDA, THE UNITED STATES IS THE WORLD'S SECOND-LARGEST PORK PRODUCER AND A MAJOR PLAYER IN THE WORLD PORK MARKET, RANKING SECOND AS BOTH AN IMPORTING AND EXPORTING COUNTRY.</p> <p>PRESIDENT HARRY TRUMAN SAID "NO MAN SHOULD BE ALLOWED TO BE PRESIDENT WHO DOES NOT UNDERSTAND HOGS."</p>

TEMPLE GRANDIN

DIRECTIONS: Read each question **BEFORE** you watch the film so that you can be prepared to answer the questions during the movie. Answer each question thoroughly, using complete sentences.

1. Who is Dr. Temple Grandin?
2. What did she study, specifically in college?
3. How has she made an impact in today's society of production agriculturalists?
4. Why does Dr. Grandin believe that curved livestock facilities work better for handling livestock?



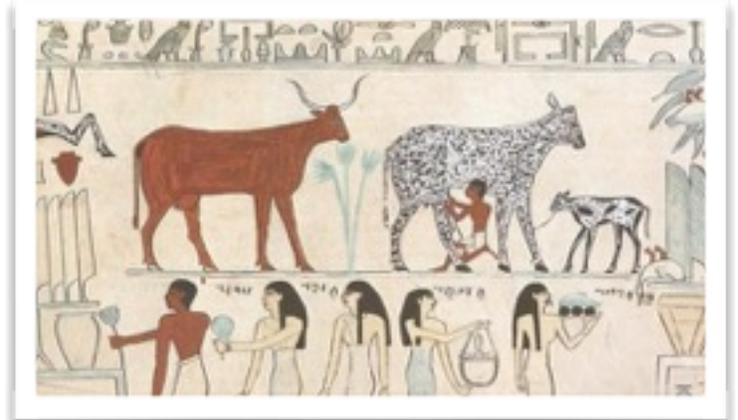
5. What are 5 facts about Dr. Grandin's animal facilities?

- 1.
- 2.
- 3.
- 4.
- 5.

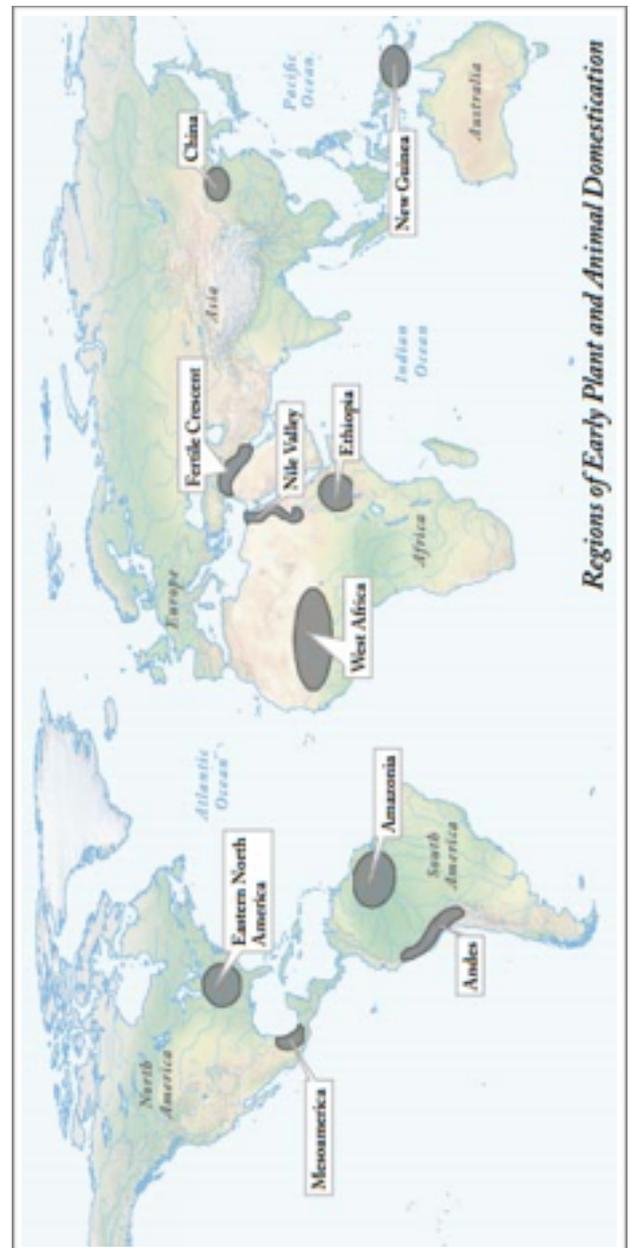


HISTORY OF THE ANIMAL SCIENCE INDUSTRY

Early Domestication



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



Domestication allowed humans to:

Which of these animals was domesticated first?

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

- Cattle? Horses?
- Goats? Chickens?
- Pigs? Turkeys?
- Sheep?

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____
- 7. _____



_____ : 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 :

•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.

_____ : 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:

_____ : 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:

But then horses were used for:

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

- Pigs were first domesticated in the _____ (Mesopotamia) in countries such as Syria, Iraq and Turkey and then spread across Asia, Europe and Africa.
- Pigs were utilized more in:

Goats

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

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.

What is animal science?

- _____ - is the art of working with farm animals.
- _____ - is the scientific study of farm animals.

Biology- is the study of _____ that seeks to provide an understanding of the natural world.

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



History of Animal Agriculture in the United States

1493 _____ brought livestock to the West Indies

1519 Cortez brought cattle and sheep to Mexico

1539 DeSoto brought horses and hogs to _____

1641 William Pynchon, Massachusetts, was first meat packer exporting _____

1760 Robert Bakewell, England, began _____ animals for a purpose, created different types.

1861-1865 Changes occurred during the Civil War

-Railroads _____ 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 _____ 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 _____ became the most popular meat after the war because of _____.

1862 Land Grant Act provides public lands for _____ to teach agriculture

1872 Hatch Act establishes experiment stations

1914 Smith Lever Act establishes cooperative extension service

Animal Contributions to Society -> Food

Animal Contributions to Society -> Clothing

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 _____ and hides for tools.

Utensils

Personal Items



EVERYTHING BUT THE OINK

No other animal provides society with a wider range of products than the hog.

By products from pigs play a vital, though less visible, role in maintaining and improving the quality of human life.

Products shown include:

- Phonograph records
- Bone China
- Violin Strings
- Drumheads
- Porcine Burn Dressings
- Pigskin footballs
- Cutting oils
- Glycerin for explosives and antifeeze
- Linoleum
- Pet food
- Gelatin for marshmallows and photographic film
- Industrial lubricants
- Stearin for making chewing gum and candles
- Hair for artist brushes
- Rennet for cheese making
- Hearts for xenotransplantation
- Gelatin for drug capsules
- Insulin and ingredients for other medicines
- Ingredients for surgical sutures
- Fatty acids and glycerin used for matches

Compiled by Alyssa Auer (2009)
Frohock, D., G. Bowman et al (2011) Swine Resource Handbook, The Ohio State University Extension.

Power

•Animals have always been important throughout history for draft work, packing and transporting humans. In the 1920s, more than _____ million horses were used primarily for draft purposes.

•Today, in developing countries, animals provide as much as _____ % of the power used in agriculture while 20% of the world's populations depend on animals for moving goods.

–India has more than _____ 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.



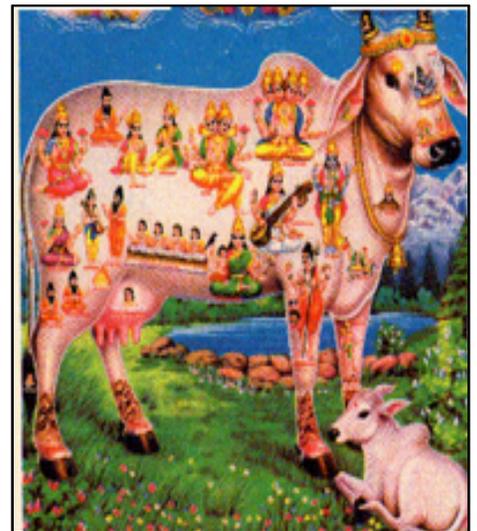
Animal Contributions to Society War

Religion

Recreation

•Companionship and hobbies or sports such as horseback riding

Health



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SWINE

Vocabulary

Castration – the removal of testicles from the male swine for the purpose of improving feed conversion, disposition and meat quality.

Boar– A male pig not castrated that is used for breeding purposes

_____ - A male pig that IS castrated that is entirely meant for pork production

Sow– A female pig that has already produced a litter of baby pigs

Gilt- A female pig that has NOT produced a litter of baby pigs

The Basics

Scientific Name

Porcine

Classifications

Boar

Sow

Gilt

Barrow



Major producers worldwide

_____, US, Brazil, Germany

61.2 million hogs in the United States as of Dec. 05

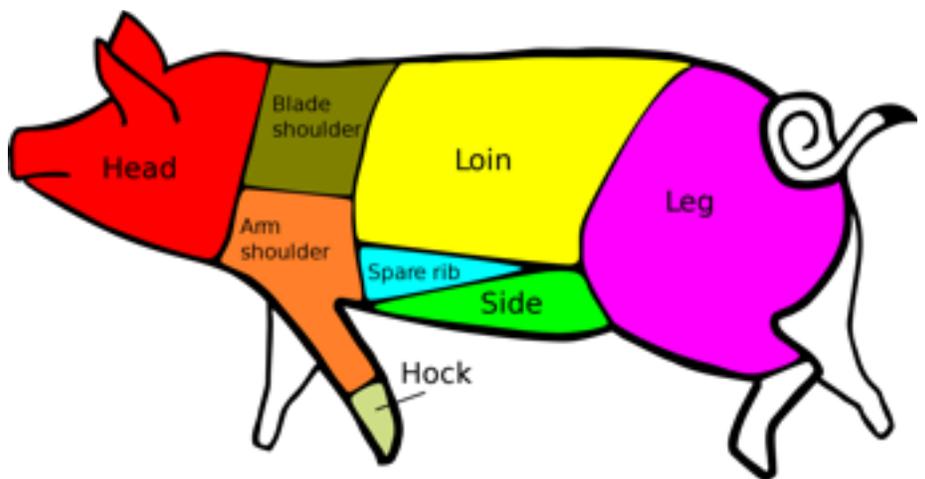
Iowa has the most with 14.4 million hogs

NC, MN, IL, MO, OK

Purpose = MEAT!

What makes a good carcass?

- 1.
- 2.
- 3.



What makes a good market hog?

- 1.
- 2.
- 3.

Breed Identifiers

- 1.
- 2.
- 3.

Stages of Production

Gestation
Farrowing

Feeder/Market Hog or Replacement

Breeding Season

May occur at any time of the year
Natural vs. AI (artificial insemination)

More common breeding method?

Estrous Cycle
_____ days

Breeding Management

Flushing- feeding the sows/gilts more before breeding to increase the number of eggs
_____.

Estrus Synchronization

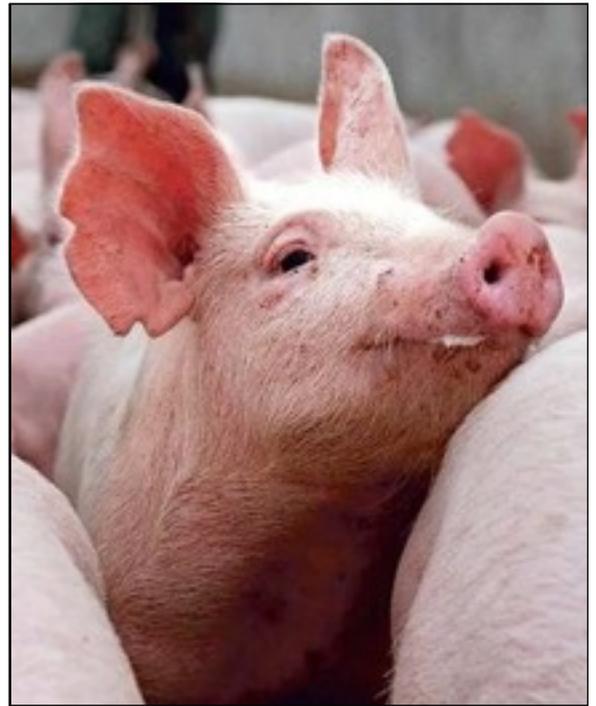
Giving _____ to induce estrus
Heat Detection
Very important!!!!
What are some signs of heat? _____

Gestation

_____ days (3 mo, 3 wks, 3 days)
Feed sow/gilts enough to maintain weight and BF (backfat)
(4-5#/day 1 & 2 trimester 5-7#/day 3rd trimester)

Farrowing

Farrowing crates
Litter size ~ _____ piglets
Birth Weight ~ 2-3 lbs
Grafting may be done if necessary
Sows will need to be fed more ~ 14-20#



Newborn Processing

Identification
Ear

Clip needle teeth
Dock tail
Give shots

Weaning

SEW System
Segregated Early

Weaning

Wean pigs less than 21
days old

They will usually be
moved to a nursery



Feeder/Market Hogs

Feeder pig
Weight ~ _____ lbs

Market hog
Weight ~ 250 lbs

Not a seasonal market



Replacement Gilts

Identify culls due to problems
Structure
EPDs
Underlines bad
Breed gilts at 5-6 mo of age

Other Management Practices

Vaccinations

All-in-all-out

Issues in the Swine Industry

Disease

PRRS (porcine reproductive and respiratory syndrome)

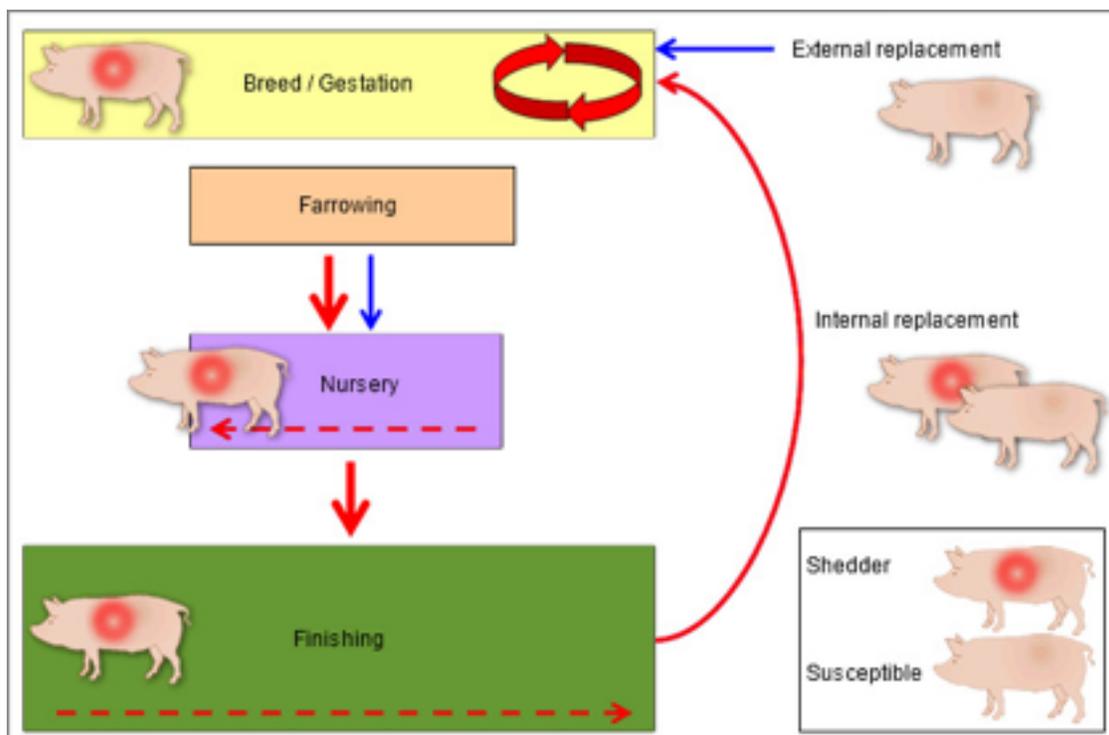
Causes abortions, mummified fetuses, stillborn

No treatment but can vaccinate

Can cause major losses in herd population and in income

Management

- Will always be a big problem for hog producers
- Causes problems with neighbors
- No real fix for this problem
- Animal Right Laws
- Laws may be passed regulating
- Gestation stalls
- Farrowing crates
- Vertical integration



Swine Ear Notching

Swine Earnotching Tutorial

Right Ear - Litter

Left Ear - Individual

The right ear is used for the litter ID. The left ear is used for the individual ID. Right and left are established as the pig's right and left.

Click each screen with your mouse to move to the next screen.

DIRECTIONS: Using the information given to you, create the correct ear notches for your pig.

YOU NEED TO:

- Find your similar breed group and color your pig according to it's breed
- Identify your correct litter number location(s) and notch your pig's ear
- Identify your correct individual number location(s) and notch your pig's ear
- Check with your group to make sure everyone has the correct litter and individual number.

Your Score	Points Possible	Criteria
	10	Correct Breed Coloring
	10	Correct Litter Number Notching
	10	Correct Individual Number Notching
	30	TOTAL

Pre-Reading and Predicting for a Science Based Text

Pre-reading

Before you read, engage in the following pre-reading exercises. Answer all relevant questions.

1. **Survey the text**, noting all available reading aids (bolded words, footnotes, chapter summaries, visuals, etc.) and get a feel for the overall length of the text.

What is the overall length of the text?

About how many paragraphs does the text have?

How is the text structured?

Are their headings and subheadings?

Prediction Sentence Starters

Use these sentence starters in your responses to make your prediction

- _____ (title of text) will be about...
- I predict that...
- Based on _____ (name a title, visual, or another text feature) I believe this is about...

2. **Scan the title** (and/ or subtitles) and make a prediction about the topic. What will this text be about? What do you know about the topic? Explain.

3. **Study visuals** (like maps, diagrams, charts, and photos) and make a new prediction. What new information did you learn from studying the visuals? Explain.

Defending/Supporting Your Prediction Sentence Starters
 Use these sentence starters in your responses to support your prediction

- My prediction is based on...
- I believe I have made a correct prediction because...
- I can support my prediction. First,...

5. Read the first and last paragraphs. What new information did you learn from reading the first and last paragraphs? Was your first prediction accurate? Explain.

PreReading and Predicting for a Science Based Text Scoring Rubric				
	Foundational (0-2 pts)	Developing (3-4 pts)	Proficient (5pts)	Score
Identifies Reading Aids and Text Features and Predicts the Type of Information Based on the Genre	Identifies only a few reading aids or reading features in the text. Does not predict or inaccurately predicts the type of information based on the genre.	Identifies most reading aids or reading features in the text. Predicts somewhat accurately the type of information based on the genre.	Identifies all available reading aids or reading features in the text. Predicts accurately the type of information based on the genre.	
Makes a Prediction	Makes a prediction but it may not be accurate or specific. Prediction may not help the student.	Prediction is somewhat accurate. It is specific enough to help the student.	Prediction is accurate and specific. The student will benefit from his/her prediction.	
Explains how Specific Reading Aids and Text Features Were Used to Make a Prediction	Weakly explains the reason or purpose for the prediction. Student does not demonstrate (through writing or speaking) how reading aids help with understanding.	Offers a few reasons or purposes for the prediction. Student is beginning to demonstrate (through writing or speaking) how reading aids help with understanding.	Clearly explains the reasons/ purposes for reading aids. Student demonstrates (through writing or speaking) how reading aids help with understanding.	
			TOTAL SCORE out of 15	

History of Animal Science and Swine Study Guide

The removal of the testicles from the male swine for the purpose of improving feed conversion, disposition and meat quality is called

- A Spaying
- B Circumcision
- C Castration

A female pig that has NOT produced a litter of baby pigs is called a

- A Barrow
- B Boar
- C Sow
- D Gilt

A male pig that IS castrated and used entirely for meat purposes is called a

- A Barrow
- B Boar
- C Sow
- D Gilt

This state has the most hogs with 14.4 million head of swine

- A Illinois
- B Iowa
- C Oklahoma
- D Idaho

What trait(s) make a good hog carcass?

- A Muscling
- B Trimness
- C Quality
- D All answers are correct

Maternal breeds of hogs are known for their

- A Meat quality
- B Mothering ability

Terminal breeds of hogs are known for their

- A Meat quality
- B Mothering ability

Swine can be naturally bred by a boar or artificially inseminated

- A TRUE
- B FALSE

The gestation period of a hog is

- A 3 months, 3 weeks, 3 days
- B 4 months, 4 weeks, 4 days
- C 21 days

When piglets are weaned from their mothers, they are usually _____ days old or younger.

- A 30
- B 21
- C 40

PRRS is a disease in swine known as

- A Porcine Radical Reproduction Symptoms
- B Porcine Reproductive and Respiratory Syndrome

The "All-in-all-out" system in the swine industry helps keep facilities

- A Away from the public eye
- B Biologically secure
- C Free of tourists

When notching a pig's ear, the right side of the pig's ear represents _____ and the left side represents the _____.

- A Individual Number, Litter Number
- B Litter number, Individual Number

The identification system most commonly used in the swine industry is called

- A Ear Tagging
- B Tattooing
- C Ear notching

This animal was the first to be domesticated in

- A Sheep
- B Horses
- C Turkeys
- D Cattle

The Civil War changed the livestock industry in many ways. Select the answer below that is NOT a change that happened due to the Civil War.

- A Beef became the most popular meat
- B Mutton became the most popular meat
- C Refrigeration in box cars allowed the shipping of carcasses
- D Railroads reduced the need for horses and mules

Animals contribute many things to society. Select the answer below that is a contribution.

- A All answers are correct
- B Food
- C Power
- D Health
- E Recreation

Temple Grandin is known for several accomplishments. What accomplishment is she NOT known for?

- A Changed how women are viewed
- B Changed how harvesting plants build their facilities
- C Revolutionized animal handling practices
- D Being the first person with autism to go to college
- E Being a spokesperson for autism

The scientific study of farm animals is known as

- A Animal Husbandry
- B Animal Science
- C Biology