

UNIT III - ANIMALS IN SOCIETY

Lesson 1: The Importance of Animals

Competency/Objective: Describe the importance of animals.

Study Questions

1. **Why are animals important to us?**
2. **What are the major types of production animals in agriculture?**
3. **What are the major types of companion and specialty animals in agriculture?**

References

1. *Exploring Agriculture in America* (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 2000, Unit III.
2. Transparency Masters
TM 1.1 Livestock in Missouri
TM 1.2 Animal Terminology
3. Activity Sheets
AS 1.1 Animal Industry Terms
AS 1.2 Services and Products

UNIT III - ANIMALS IN SOCIETY

Lesson 1: The Importance of Animals

TEACHING PROCEDURES

A. **Introduction**

Animals and the products and services they provide are essential to humans. Early man hunted animals for food, used their hides for clothes, used their bones for tools, and used them to provide a means of transportation and service. Animals were domesticated and continue to provide food, clothing, medicine, and many valuable products.

B. **Motivation**

Break the class into small groups of three or four and have them brainstorm the following statements. After 10-15 minutes, have the groups report their ideas to the class as a whole and generate a discussion on the importance of animals.

- List all of the ways animals are important in your everyday lives.
- List all of the ways your lives would change if people could not use animals for food or have pets as companions.

C. **Assignment**

D. **Supervised Study**

E. **Discussion**

Q1. Why are animals important to us?

A1. People need animals for food, clothing, and a variety of products.

Animal agriculture, along with being essential to civilized humanity, also contributes to the agricultural economy. Show TM 1.1 to show students the importance of animals in Missouri agriculture.

- a) **Food**
- b) **Clothing**
- c) **By-products**
- d) **Medicine/medical research**
- e) **Recreation/companionship**
- f) **Specialized services for the disabled and for law enforcement**

Discuss the services and products animals provide and have students complete AS 1.2. Have students think of as many animals and their uses as possible to expand the list, stressing the point that animals are valuable to society in a variety of ways.

Q2. What are the major types of production animals in agriculture?

A2.

- a) **Beef cattle**
- b) **Dairy cattle**
- c) **Sheep**
- d) **Swine**
- e) **Poultry**
- f) **Goats**

- g) **Ostrich and emu**
- h) **Bison**
- i) **Fish**
- j) **Bees**

Show TM 1.2 to discuss types of animals in agriculture. Have students complete AS 1.1. It is important for people studying animal science to be familiar with the terms used in animal agriculture.

Q3. What are the major types of companion and/or specialty animals in agriculture?

A3.

- a) **Horses**
- b) **Dogs**
- c) **Cats**
- d) **Birds**
- e) **Rabbits**

F. *Other Activities*

1. Have students prepare a report on one of the following topics:
 - The domestication of animals
 - The functions of animals
 - Animal by-products and their uses
2. Have students choose a species of animal and create a poster illustrating the products and services provided by that species.

G. *Conclusion*

Whether through food, clothing, by-products, medical research, or recreation, animals improve society and the agricultural economy in a variety of ways. Important production animals include beef and dairy cattle, sheep, swine, poultry, goats, ostrich and emu, bison, fish, and bees. Important companion and specialty animals include horses, dogs, cats, birds, and rabbits. The domestication of animals made it possible for early man to settle and develop from basic hunters into the civilized society of today.

H. *Answers to Activity Sheets*

AS 1.1 Animal Industry Terms

- 1. J
- 2. E
- 3. A
- 4. D
- 5. H
- 6. B
- 7. G
- 8. I
- 9. C
- 10. F

AS 1.2 Services and Products

The instructor should determine if the answers are appropriate. Suggested answers are listed below.

Animal	Use	Product
Beef	Food	Beef
Dairy	Food	Milk, cheese
Swine	Food	Pork
Sheep	Product	Wool
Poultry	Food	Eggs, chicken, turkey
Goats	Food	Goat milk, goat cheese
Bison	Food	Bison meat
Ostrich	Food	Ostrich meat
Fish	Food	Fish meat, fish oils
Bees	Product	Beeswax, honey

I. ***Evaluation***

A unit test is provided at the end of this unit. If a lesson quiz is needed, use questions pertaining to this lesson from the unit test.

Livestock in Missouri

(1999 Value)

	Total Value
All Cattle and Calves	\$2,420,000,000
All Hogs and Pigs	\$ 158,400,000
All Sheep and Lambs	\$ 7,650,000

Animal Terminology

CATEGORY	CATTLE	SHEEP	SWINE	CHICKEN	TURKEY	HORSE
Mature male	Bull	Ram	Boar	Rooster	Tom	Stallion
Mature female	Cow	Ewe	Sow	Hen	Hen	Mare
Young male	Bull	Ram Lamb	Shoat	Cockerel	Poult	Colt
Young female	Heifer	Ewe Lamb	Gilt	Pullet	Hen Poult	Filly
Castrated male	Steer	Wether	Barrow	Capon	Capon	Gelding
Group	Herd	Flock	Herd	Flock	Flock	Herd
Young Animal	Calf	Lamb	Pig	Chick	Poult	Foal

Lesson 1: The Importance of Animals

Name _____

Animal Industry Terms**Objective:** Students will become familiar with animal industry terms.**Directions:** Place the letter in the blank that correctly matches its definition.

- | | |
|--|-------------|
| 1. ____ A male chicken of breeding age | A. Herd |
| 2. ____ A male beef animal castrated for meat purposes | B. Bull |
| 3. ____ A group of beef or dairy cattle | C. Gelding |
| 4. ____ A male sheep of breeding age | D. Ram |
| 5. ____ A female swine who has given birth | E. Steer |
| 6. ____ A male beef animal of breeding age | F. Stallion |
| 7. ____ A male swine of breeding age | G. Boar |
| 8. ____ A mature female sheep | H. Sow |
| 9. ____ A castrated male horse | I. Ewe |
| 10. ____ A male horse of breeding age | J. Rooster |

Lesson 1: The Importance of Animals

Name _____

Services and Products

Objective: Students will identify animals that are important to people in a variety of ways.

Directions: Beside the use for each animal, list one appropriate product provided.

Animal	Use	Product
Beef	Food	
Dairy	Food	
Swine	Food	
Sheep	Product	
Poultry	Food	
Goats	Food	
Bison	Food	
Ostrich	Food	
Fish	Food	
Bees	Product	

UNIT III - ANIMALS IN SOCIETY

Lesson 2: The Responsibilities of Animal Ownership

Competency/Objective: Describe the responsibilities of animal ownership.

Study Questions

- 1. What are the responsibilities of animal ownership?**
- 2. What is meant by the term “animal welfare” vs. “animal rights”?**
- 3. What are the purposes of animal control regulations?**

References

1. *Exploring Agriculture in America* (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 2000, Unit III.
2. Activity Sheets
AS 2.1 Animal Care Requirements
AS 2.2 Pet Journal

UNIT III - ANIMALS IN SOCIETY

Lesson 2: Responsibilities of Animal Ownership

TEACHING PROCEDURES

A. **Review**

Lesson 1 described the importance of animals, including the products and services they provide. This lesson will discuss the responsibilities of owning and caring for animals.

B. **Motivation**

Write the word “dog” on the board. Have the class brainstorm a list of responsibilities, daily activities, resources, and costs involved in raising the dog. Then discuss whether all of the items on the list are required to raise the dog in a humane manner. Have students discuss what is included in proper care.

C. **Assignment**

D. **Supervised Study**

E. **Discussion**

Q1. What are the responsibilities of animal ownership?

A1. Animal owners should provide for these needs properly.

- a) Food
- b) Health care
- c) Shelter
- d) Knowledge of purchase and maintenance costs

Different animals require different types of food, shelter, health care, and attention costs. Have students complete AS 2.1 and discuss differences among types of animals. Then have students complete AS 2.2, tracking the care of their own pet or a pet of a friend or relative. Discuss the responsibilities of pet ownership.

Q2. What is meant by the term “animal welfare” versus “animal rights”?

A2. Animal welfare is providing proper care to ensure the health and well-being of an animal. Animal rights refers to the belief that animals should be treated in the same manner as humans and have the same rights.

Animal welfare and animal rights are topics that mean different things to different groups of people. Conduct a debate on animal welfare vs. animal rights. Divide the class into two teams and select a position for each side. Allow time for students for research their position. The first team debates for 10 minutes with a 5-minute rebuttal from the opposite side. The first team then can refute the rebuttal for 5 minutes. The second team then presents its case for 10 minutes with 5 minutes for rebuttal and 5 minutes to refute the rebuttal.

Q3. What are the purposes of animal control regulations?

A3.

- a) Fencing, caging, and leash laws protect people and other animals from harm.

- b) **Health regulations prevent the spread of disease.**
- c) **Identification regulations prove animal ownership.**
- d) **Abuse ordinances protect animals from cruel treatment.**
- e) **Fishing and hunting regulations control type and amount killed.**

Animal control regulations provide protection for animals from people as well as for people from animals. Discuss various regulations that are essential.

F. ***Other Activities***

1. Have a local veterinarian speak to the class regarding the proper care, attention, and maintenance of pets and livestock.
2. Divide the class into groups to debate the ethics of showing an animal in a championship contest.
3. Visit a local animal control facility and have an animal control officer speak to the class on the importance of animal control regulations.
4. View the video, *Cattlemen Care About Animal Welfare*, Ag Video 188, available from the Missouri Resource Center for Career & Technical Education (MRCCTE), University of Missouri-Columbia.

G. ***Conclusion***

Animal ownership is a responsibility to be taken very seriously. Owners of animals should provide proper food, shelter, and medical care to ensure the welfare of animals under their care. The term “animal welfare” means providing the proper care to ensure the well-being of an animal. The term “animal rights” refers to the belief that animals should be treated in the same manner, with the same rights as humans. Animal control laws and regulations are designed to protect humans and animals.

H. ***Answers to Activity Sheets***

AS 2.1 Animal Care Requirements

The answers to this activity will vary.

AS 2.2 Pet Journal

The answers to this activity will vary.

I. ***Evaluation***

A unit test is provided at the end of this unit. If a lesson quiz is needed, use questions pertaining to this lesson from the unit test.

Animal Care Requirements

Objective: Students will identify how animal care requirements differ according to animal species.

Directions: Assume that you plan to purchase a basset hound. Under each category in the table below, list the appropriate supplies necessary to care for this animal. Make additional entries for a cat, a goldfish, and a rabbit.

<p style="text-align: center;">FOOD</p>	<p style="text-align: center;">SHELTER</p>
<p style="text-align: center;">HEALTH CARE</p>	<p style="text-align: center;">KNOWLEDGE OF PURCHASE AND MAINTENANCE NEEDS</p>

Pet Journal

Objective: Students will identify how time is spent on daily pet care.

Directions: Record all pet responsibilities accomplished for a pet of your choice each day for a week.

	FOOD	WATER	EXERCISE & PLAY	CLEANING, BRUSHING, BATHING, OR CLEANING PEN	OTHER
Day 1					
Day 2					
Day 3					
Day 4					
Day 5					
Day 6					
Day 7					

UNIT III - ANIMALS IN SOCIETY

Lesson 3: Selecting an Animal

Competency/Objective: Identify factors in selecting an animal.

Study Questions

1. **What facilities and resources are needed to raise animals?**
2. **What factors should be considered in selecting a pet?**
3. **What are the sources of pets?**
4. **What factors should be considered in selecting a livestock and fish species?**
5. **What are the sources of livestock and fish?**

References

1. *Exploring Agriculture in America* (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 2000, Unit III.
2. Transparency Master
TM 3.1 Pet Concerns
3. Activity Sheets
AS 3.1 Animal Budget – Can You Afford a Pet?
AS 3.2 Pet Sources
AS 3.3 Livestock Concerns

UNIT III - ANIMALS IN SOCIETY

Lesson 3: Selecting an Animal

TEACHING PROCEDURES

A. **Review**

Lesson 2 discussed various responsibilities of owning animals, addressed issues concerning animal welfare, and illustrated animal control regulations. This lesson discusses components in selecting animals such as purpose, costs, facilities and resources, selection criteria, and sources of animals.

B. **Motivation**

List on the board several different types of animals. These should include common pets, farm animals, and exotic animals. Have students provide positive and negative aspects that each animal might present. Explain to students that in this unit they will learn factors to consider when selecting animals.

C. **Assignment**

D. **Supervised Study**

E. **Discussion**

Q1. What facilities and resources are needed to raise animals?

A1. These facilities and resources are needed.

- a) Food and water supply
- b) Shelter
- c) Cleaning supplies
- d) Bathing and grooming supplies or equipment
- e) Exercise and recreation equipment
- f) Medical equipment and supplies
- g) Start-up and maintenance costs

Discuss the costs involved and the resources needed to raise animals, then have students complete AS 3.1.

Q2. What factors should be considered when selecting a pet?

A2.

- a) Purpose
- b) Cost
- c) Maintenance
- d) Space
- e) Time

Use TM 3.1 to help describe the considerations involved in the selection of a pet.

Q3. What are the sources of pets?

A3.

- a) Animal shelters
- b) Seedstock producers

- c) **Newspaper advertising**
- d) **Pet stores**

Discuss sources where people can purchase or receive pets for free. Use AS 3.2 to have students investigate the advantages and disadvantages of each source.

Q4. What factors should be considered when selecting a livestock and fish species?

A4.

- a) **Owner's goals**
- b) **Money**
- c) **Space**
- d) **Time**

Discuss the considerations of each factor and how it varies between livestock species. Have the students complete AS 3.3 to better illustrate factors that affect the type of livestock people choose to raise.

Q5. What are the sources of livestock and fish?

A5.

- a) **Seedstock producers**
- b) **Sale barns**
- c) **Commercial feeders**
- d) **Independent advertisers**
- e) **Fish hatcheries**

Discuss the sources of livestock and emphasize that the source of purchase is largely affected by the purpose of the animal.

F. *Other Activities*

1. Have a local pet store owner speak to the class about different types of pets.
2. Visit a local livestock or small animal breeder to learn about the operation and facilities, or invite that person to speak to the class regarding the resources needed to raise a specific animal.
3. Have students create a poster or collage showing an animal of their choice and the equipment and resources needed to raise it properly.

G. *Conclusion*

Livestock and pets require money, time, and a multitude of resources for proper maintenance. The consumer should think carefully about time, equipment, space, and money concerns when selecting an animal that best fits those resources. Pets can be obtained from a variety of sources, such as animal shelters, seedstock producers, or from advertisements in the newspaper. Selecting livestock entails identifying one's goals and assessing how much money, space, and time can be devoted to the species. Livestock can be obtained from seedstock producers, sale barns, and commercial feeders, as well as independent advertisers.

H. *Answers to Activity Sheets*

AS 3.1 Animal Budget – Can You Afford a Pet?

Answers will vary.

AS 3.2 Pet Sources

Suggested answers are as follows:

Source	Advantages	Disadvantages
Animal Shelter	Pets are free or low cost. Adoption for displaced pets	Pet history is unknown.
Breeders	Registered, purebred pets Health regimen is followed.	Can be expensive
Pet Stores	History is known. Can purchase supplies Can find exotic/rare breeds	Can be expensive
Newspaper Ads	Pets are free or low cost.	Pet may not be registered.

AS 3.2 Animal Budget – Can You Afford a Pet?

Answers will vary.

AS 3.3 Livestock Concerns

Answers will vary.

I. **Evaluation**

A unit test is provided at the end of this unit. If a lesson quiz is needed, use questions pertaining to this lesson from the unit test.

Pet Concerns

What Do You Want from a Pet?

Do you like exotic pets?

Do you like affectionate pets?

Do you want a low- or a high-maintenance pet?

What Is Your Budget?

How much does the pet cost?

How much are food & other ongoing supplies?

Can you afford to maintain the pet?

Where Do You Live?

Are pets allowed?

Will the pet be inside or outside?

How much space is available for the pet?

How Much Time Can You Spend?

Will the pet need to be exercised?

Does the pet & the cage require cleaning & upkeep?

Does the pet require a great deal of attention?

Which Type of Pet Is Best for You?

Lesson 3: Selecting an Animal

Name _____

Animal Budget - Can You Afford a Pet?

Objective: Students will determine a budget for a pet.

Directions: Complete the following budget for the animal of your choice.

Animal _____

	START-UP COSTS (\$)
Purchase price	
Registration	
Neutering	
Vaccinations	
House/shelter	
Lot/pasture	
Equipment	
Toys/leash	
Bath supplies	
1 bag of food	
Vitamins	
Dishes	
Fencing	
Other	
TOTAL	

Ongoing Expenses:

Bag food \$ ____ x ____ bags/month x 12 months/year = A. _____

Monthly Cleaning \$ ____ x 12 months/year = E. _____

Supplements \$ ____ x ____ /month x 12 months/year = B. _____

Monthly lot rent \$ ____ x 12 months/year = F. _____

Registration Fees or Annual Dues
C. _____

Other
H. _____

Yearly Vaccination/ Veterinarian Fees
D. _____

Total Yearly Maintenance: _____

Pet Sources

Objective: Students will investigate sources for obtaining a pet and determine the advantages and disadvantages of each.

Directions: Use various resources (interviews, Internet, reference books, etc.) to determine the advantages and disadvantages of each source for obtaining a pet. Put the information in the chart below.

Source	Advantages	Disadvantages
Animal Shelter		
Breeders		
Pet Stores		
Newspaper Ads		

Livestock Concerns

Objective: Students will select livestock to raise, explain why this animal was chosen, and describe what the animal will need.

Directions: Assume that you have a choice between raising beef cattle, dairy cattle, goats, poultry, swine, bison, bees, or ostriches. Research the following questions and write your answers in the space provided.

Key Questions:

1. Which animal would you like to raise? Why?
2. What kind of equipment/food is needed to care for the animal?
3. How much space will be needed to raise the animal?
4. For what purpose will you raise the animal?
5. Considering where you live and your personal resources, can you realistically care for this animal? Why or why not?
6. Select three different types of animals and compare their needs and your ability to care for them.

UNIT III - ANIMALS IN SOCIETY

Lesson 4: Current and Emerging Technologies

Competency/Objective: Identify current and emerging technologies in animal agriculture.

Study Questions

1. **What is natural mating in animal reproduction?**
2. **What are alternative reproductive practices?**
3. **What are the effects of emerging technology in animal agriculture?**

References

1. *Exploring Agriculture in America* (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 2000, Unit III.
2. Transparency Master
TM 4.1 Alternative Reproductive Practices
3. Activity Sheet
AS 4.1 Alternative Reproduction Technologies

UNIT III - ANIMALS IN SOCIETY

Lesson 4: Current and Emerging Technologies

TEACHING PROCEDURES

A. **Review**

The previous lesson discussed the factors involved in selecting animals, resources needed, and sources of animals. This lesson introduces advancements that have changed and continue to change the nature of animal agriculture.

B. **Motivation**

Have students brainstorm and discuss recent advancements in agriculture that have improved the care and production of animals or animal products.

C. **Assignment**

D. **Supervised Study**

E. **Discussion**

Q1. What is natural mating in animal reproduction?

A1. Natural mating allows animals to breed by copulation without human assistance.

Explain the basics of natural mating so that the students will be able to see a contrast to the following study question on alternative reproductive practices.

Q2. What are alternative reproductive practices?

A2.

- a) **Artificial insemination**
- b) **Cloning**
- c) **Embryo transfer**
- d) **Genetic engineering - genetically modified organisms (GMOs)**
- e) **Hand-mating**

Display TM 4.1 and discuss alternative reproductive practices that have improved animal agriculture. Then have students complete AS 4.1 and discuss their research findings of an alternative reproductive technology. The students can be assigned this project on an individual basis or it can be assigned to student groups. The information should be presented orally to the whole class.

Q3. What are the effects of emerging technology in animal agriculture?

A3.

- a) **Animal needs can be monitored by computers.**
- b) **Management decisions are made by computer readings.**
- c) **Automated systems have reduced amount of manual labor involved in caring for animals.**
- d) **Large production units manage several thousand head of animals.**
- e) **Advanced breeding can select superior genetic traits.**
- f) **Alternative animal markets are developed.**

- g) **Animals are identified so that they can be tracked from produce to processing.**
- h) **Totally controlled environments are created in animal facilities.**
 - 1) **Environment is totally controlled.**
 - 2) **Timing devices reduce manual labor hours and reduce wasted food.**
 - 3) **Self-cleaning systems remove animal wastes.**

Technology provided by automated systems has decreased the amount of manual labor to run successful livestock operations. Today, just one person can manage thousands of animals correctly and efficiently.

F. *Other Activities*

1. Assign students to topics in emerging agricultural technology such as cloning, biotechnology, etc. Have them present reports on their findings.
2. Have a local veterinarian speak or demonstrate artificial insemination or embryo transfer.
3. Have students debate arguments for or against genetic engineering.

G. *Conclusion*

Natural reproduction allows animals to breed without human assistance. Technological advances in animal production and breeding have allowed agriculture to evolve into a precision business geared on creating superior products for the consumer. Advancements will continue to decrease manual labor as well as produce genetically superior animals resistant to disease with maximum production capabilities. There are several alternatives to reproduction practices, such as artificial insemination, cloning, and embryo transfer, to name a few.

H. *Answers to Activity Sheet*

The instructor should determine if the answers are appropriate.

I. *Answers to Evaluation*

1. c
2. d
3. c
4. Any two of the following: food, clothing, by-products
5. Any four of the following: beef cattle, dairy cattle, sheep, swine, poultry, horses
6. Any three of the following: recreation/companionship, food, clothing, by-products, medical research, special services to disabled or law enforcement
7. Any two of the following:
 - a. Protect people and other animals from harm
 - b. Prevent spread of disease
 - c. Protect animals from cruel treatment
 - d. Control populations
 - e. Provide proof of ownership
8. Any three of the following: food and water, shelter, cleaning supplies, bath and grooming supplies, exercise and recreation, medical supplies
9. Any two of the following: purpose, cost, maintenance, space, time
10. Any two of the following: animal shelter, purebred breeder, pet store, newspaper
11. One of the following: money, space, owner's goal
12. One of the following: purebred breeders, sale barn, commercial feeders

13. Any two of the following:
 - a. Monitor animals by computer
 - b. Management decisions made by computer
 - c. Reduced labor
 - d. Larger operations
 - e. Alternative markets
 - d. Advanced breeding that results in superior genetic traits
14. Any two of the following:
 - a. Artificial insemination
 - b. Cloning
 - c. Embryo transfer
 - d. Genetic engineering
 - e. Hand-mating

Alternative Reproductive Practices

Artificial Insemination

Placing of sperm in the female reproductive tract by other than natural means

Cloning

A process through which genetically identical organisms are produced

Embryo Transfer

Process of flushing the embryos from the reproductive tracts of superior, donor females and implanting them in other females

Genetic Engineering

Alteration of the genes of animals by human intervention

UNIT EVALUATION

Circle the letter that corresponds to the best answer.

1. One important responsibility of animal ownership would include _____.
 - a. Becoming an animal rights activist
 - b. Owning as many animals as possible
 - c. Providing proper food, health care, and shelter
 - d. Finding a home for a stray

2. What is the general definition of animal welfare?
 - a. Eating only animal products
 - b. Setting all animals free to roam
 - c. Living with as many animals as possible
 - d. Provide proper care necessary to ensure the well-being of animals

3. Select the term that best describes natural mating in animal reproduction.
 - a. Artificial insemination
 - b. Embryo transfer
 - c. Copulation
 - d. Cloning

Complete the following short answer questions.

4. List two ways that animals in agriculture are important to humans.
 - a.
 - b.

5. List four types of animals in agriculture.
 - a.
 - b.
 - c.
 - d.

6. List three services or products provided by animals.
 - a.
 - b.
 - c.

7. List two purposes of animal control regulations.
 - a.
 - b.
8. List three resources needed to raise a pet in a small fenced lot in town.
 - a.
 - b.
 - c.
9. List two factors to consider before purchasing the pet in question 8.
 - a.
 - b.
10. List two resources that could be used to purchase a pet.
 - a.
 - b.
11. List one factor that should be considered when selecting livestock to raise on a small farm.
12. List one resource where livestock can be purchased.
13. List two positive effects of emerging technology in animal agriculture.
 - a.
 - b.
14. List two alternative reproductive practices.
 - a.
 - b.