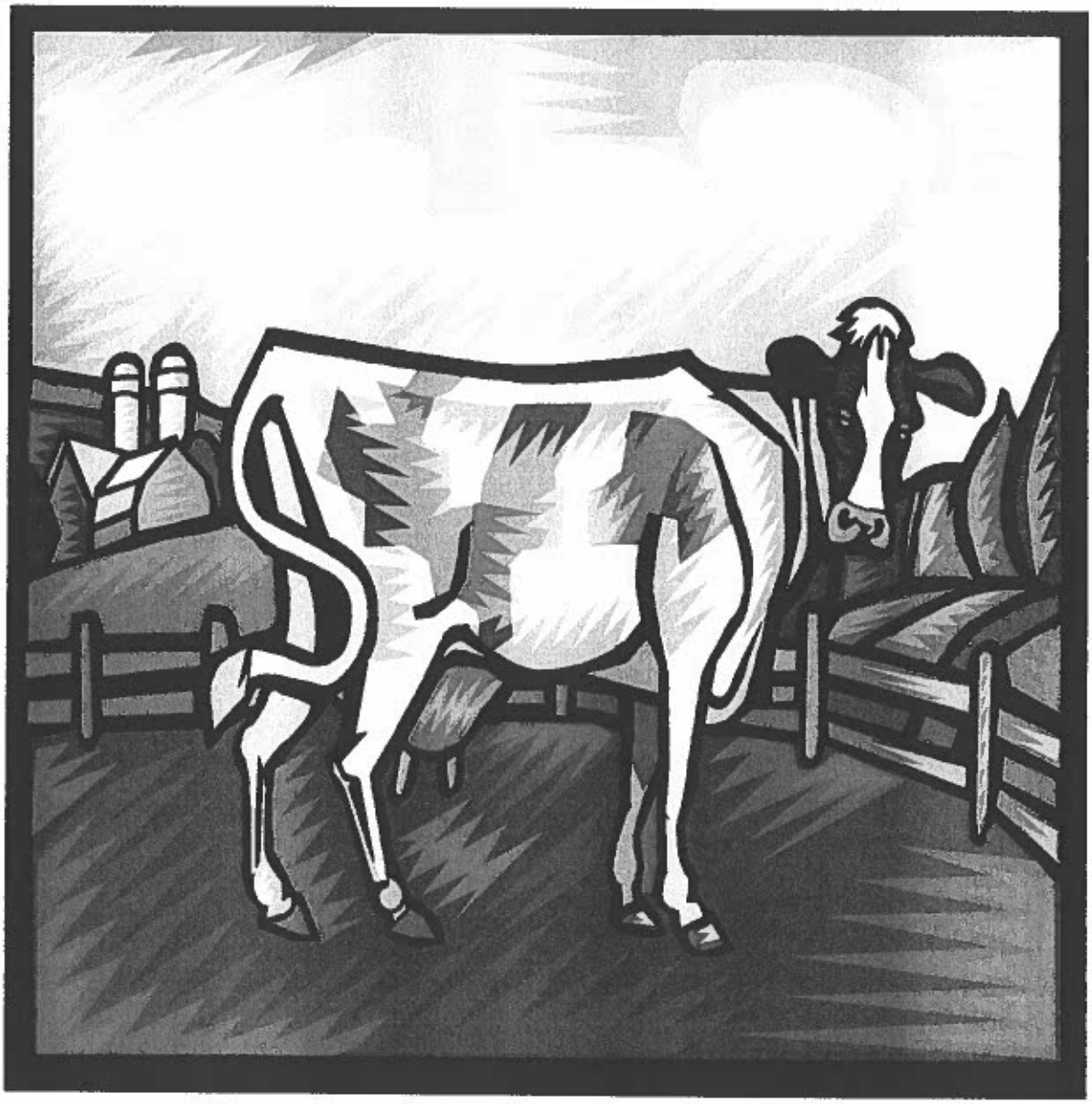
DAIRY



ONE

JEFFERSON COUNTY
SKILLATHON GUIDELINES
DAIRY

-Project #122 - Dairy Heifer Project and Record Book
#127R - Dairy Resource Handbook (an optional reference book)

-Project #126 - Dairy Cow Project and Record Book
#127R - Dairy Resource Handbook (an optional reference book)

STATIONS IN SKILLATHON - 4-H age is age as of January 1 of current year.

JUNIOR **(4-H Age 8, 9, 10, 11)**

Station 1: Nutrition- Participants will be required to match food items with the nutrients they provide.

Station 2: Parts- Participants will be required to match parts names with the corresponding picture.

Station 3: Medication Insert- Participants will be required to match items on the medication insert with their location on the sheet.

Station 4: Quality Assurance-T&F - Participants will be required to answer True and False questions.

INTERMEDIATE: (4-H Age 12, 13, 14)

ALL JUNIOR STATIONS LISTED ABOVE, PLUS

Station 5: Management Practices - In this **"REALITY"** Skillathon Station, you own a large farm and must move animals out of the barnyard to the truck to be transported and sold. You will do this station at home and bring it to Skillathon with you.

SENIOR: **(4-H Age 15 and over)**

ALL JUNIOR AND INTERMEDIATE STATIONS LISTED ABOVE, PLUS

Station 6: Meat Cuts-Wholesale - Participants will be required to match wholesale meat cut names with the corresponding pictures.

ALL AGES: **Additional Station:**

1.) **Trip Around the Fairgrounds** - At this Station (new in 2011), participants will be required to identify the names of different animals which can be seen at the county fair. A total of 20 animals will be pictured and members can name up to eight (8) of them. They will be scored at one (1) point each, for a possible total of up to eight (8) points.

2.) **Project Books Turned In** - All project books (new in 2011) must be turned in by the last Skillathon scheduled date. Books will be determined as "COMPLETE" or "INCOMPLETE". In order to attain Most Outstanding Skillathon Youth, books must be determined, "Complete". A "Completed" book will count as (twelve) 12 points and an "Incomplete" book will count as zero (0). **Books must be checked and signed by an Advisor.**

Station 1
Nutrition

Juniors, Intermediates & Seniors

Background Information
Feed Nutrient Categories

Feeds are divided into these categories: water, proteins, energy (carbohydrates and fats), minerals and vitamins, each of which are briefly explained here:

Water is the most essential nutrient and the nutrient to which livestock should always have access. A mature animal's body is about 75% water. Water comprises most of the blood, it is necessary for certain chemical reactions to occur, it acts as the body's cooling system and helps regulate body heat, and it acts as a lubricant for the body's organs. Any living thing can live longer without food than without water.

Proteins are complex chemical substances from which the body tissues are built. Proteins are made up of small units called amino acids. Each species of livestock can produce some amino acids within their bodies; others must be supplied through the feed. Proteins are used by the animal to produce muscle, bone, blood, skin, fur, hair, wool, hooves and horns. Feeds that contain protein include: cottonseed meal, soybean meal, linseed meal, corn gluten meal, distillers grains and fish meal. Urea can be used by ruminant animals to make protein.

Energy (carbohydrates and fats) are used as fuel to supply energy. It helps maintain body temperature and to produce body movement. Energy nutrients not used are stored as fat until needed. Energy-supplying feeds include: sugars, grains (such as wheat, oats and barley) and corn.

Vitamins are compounds which help the body absorb and use other nutrients. Vitamins are essential for growth and are needed in small amounts by the animal. Some animals make their own vitamins within their bodies, other species cannot. Because of that, a steer should not be fed the same vitamin pre-mix as a pig. Vitamins are generally supplied in animal feed in the form of a supplement or provided by consumption of green pasture.

Minerals are used to build bones and teeth. Examples of mineral supplements include bone meal, Dicalcium phosphate, salt, trace mineralized salt and limestone.

What's in Feed?

Feed makes your animal grow. But what is the difference between grass, oats, and corn?

Nutrients are compounds in feed that the animal converts into body growth and development. The major nutrients are:

1. Carbohydrates

Carbohydrates are the major energy source. There are many carbohydrates. Even the relatively simple ones are complicated chemical compounds. All carbohydrates are made up of carbon, hydrogen, and oxygen. Carbon is the key. There are thousands of possible combinations of carbon, hydrogen, and oxygen.

Sugars and starches are carbohydrates. They are relatively simple. Cellulose is one of the more complex carbohydrates that cows and sheep can use.

Sugars and starches are easy to digest. They have a high "feeding value" because very little of them pass through the body undigested. Grains such as corn and oats contain sugar and starch.

Cellulose makes up part of the fiber in plants. Grass, for example, has much cellulose. Cellulose is hard to digest. Cellulose has a low feeding value for most animals; however, cows and sheep can digest large amounts of cellulose with the aid of bacteria in the rumen.

2. Fats

Another group of energy nutrients include **fats** and **oils.** Fats and oils are chemically alike. However, fats are solid at body temperature; oils are liquid. Both are usually called **fats.**

Like carbohydrates, fats are made up of carbon, hydrogen, and oxygen. They, too, provide energy. Fats contain a higher percentage of carbon and hydrogen atoms than do carbohydrates. So the energy in fats is more concentrated. Fat has 2.25 times more energy value than carbohydrates.

Carbohydrates and fats are used for energy. They are chemically similar to fuels such as gasoline, oil, and coal. The animal "burns" the feed for energy to walk, breathe, grow, and live. At the same time, some energy is needed for body heat, especially in winter.

3. Proteins

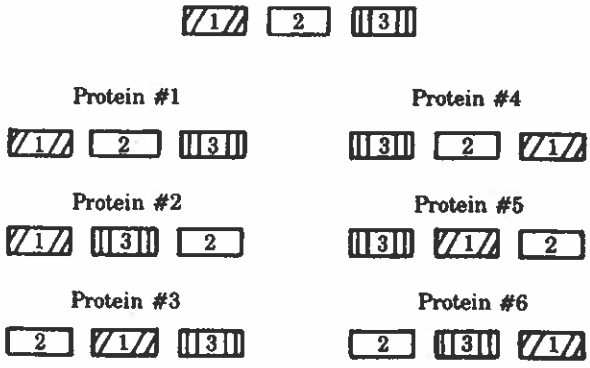
While carbohydrates and fats supply energy, **proteins** supply the material from which body tissue is made. They are the "bricks and mortar" from which bodies are built.

Proteins are highly complex. Proteins contain nitrogen in addition to carbon, hydrogen, and oxygen. Some proteins also contain sulfur. A few contain phosphorus and iron.

Like carbohydrates, nitrogen can be combined with other chemical elements in different ways. The various combinations result in many different proteins. Each protein is made up of several nitrogen compounds called **amino acids.** These amino acids are the "building blocks" from which proteins are made. The chemical arrangement of the amino acids determines the type of the protein.

Proteins are broken down into amino acids during digestion. These are absorbed from the intestine into the blood stream and carried to all parts of the animal's body. Then they are put back together to form body tissue.

Here is an example: The three amino acids (1, 2, 3) can be arranged in different orders and amounts of each to form different kinds of proteins.



Proteins can eventually become part of muscle, bone, and blood. Skin, fur, hair, wool, hooves, horns, and many other parts of the body are also made of protein. If extra protein is fed, the nitrogen part of the protein is separated in the animal's body and wasted in the urine. The animal can convert the remaining material into energy.

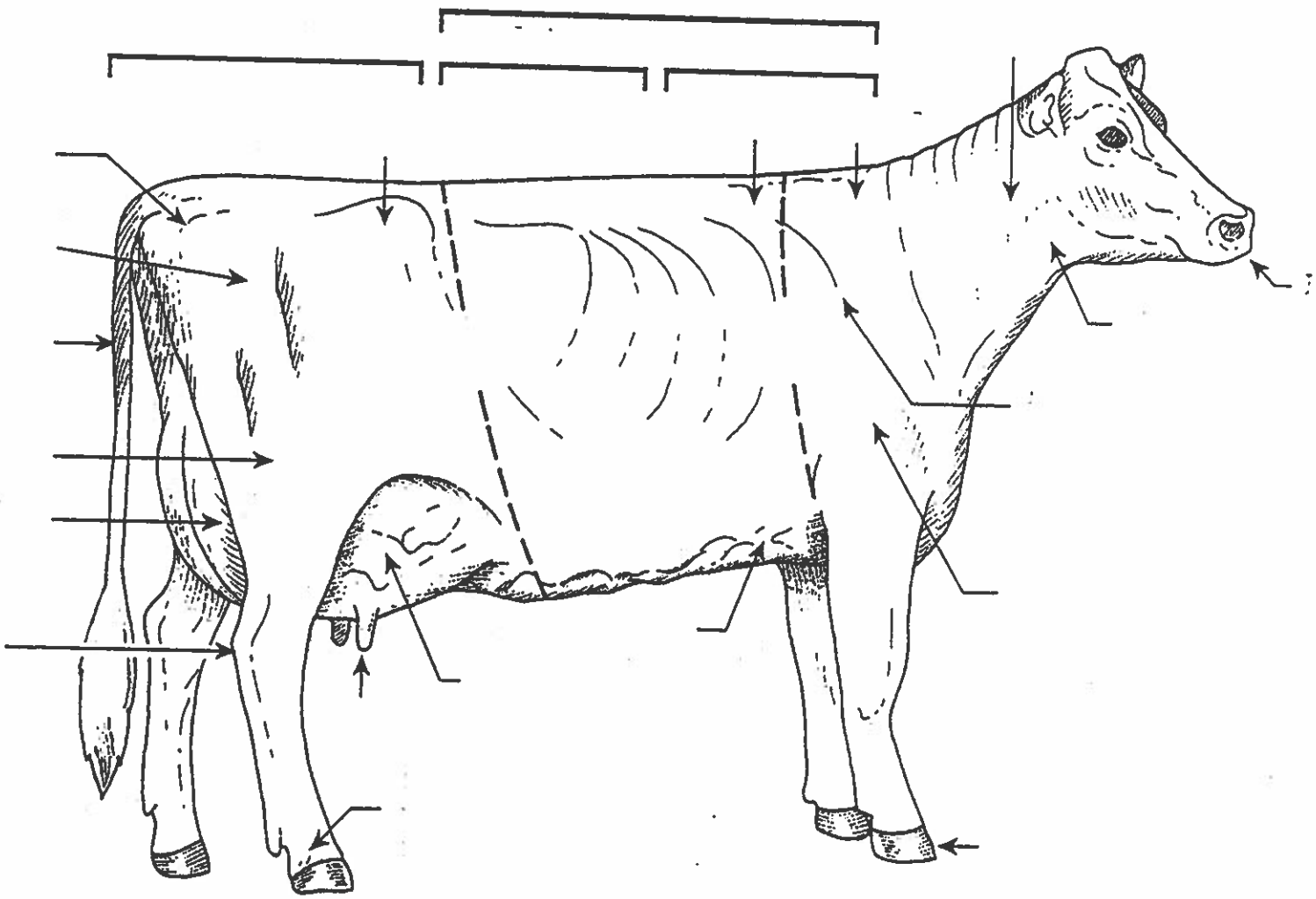
4. Vitamins

Animals need large amounts of both energy and proteins. Other nutrients are just as important, but

Station 2
Parts

Juniors, Intermediates & Seniors

Parts of a Dairy Cow



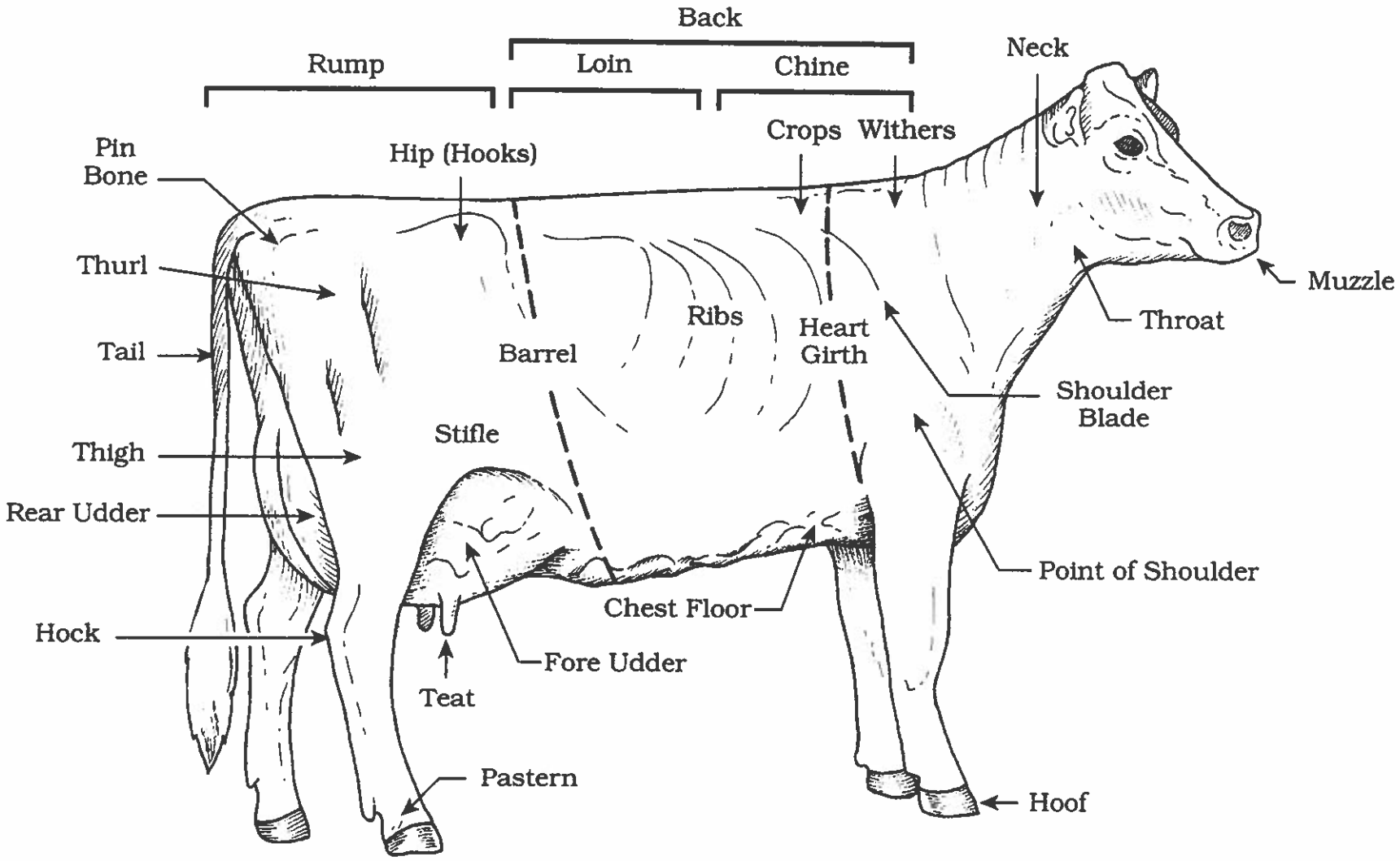
DAIRY LEARNING LABORATORY KIT

Quality Assurance and Animal Care: Youth Education Program
This material is based upon work supported by Extension Service, United States Department of Agriculture, under special project number 93-EFSQ-4096.
Product distribution through the Ohio Agricultural Education Curriculum Materials Service

Use this poster in conjunction with Body Structure - Match Names with Parts situation/task statement and/or Parts of a Dairy Cow Identification tags.

Charts and Diagrams

Parts of a Dairy Cow



DAIRY LEARNING LABORATORY KIT

Quality Assurance and Animal Care: Youth Education Program
This material is based upon work supported by Extension Service,
United States Department of Agriculture, under special project number 93-EFSQ-4096.
Product distribution through the Ohio Agricultural Education Curriculum Materials Service

Use this poster in conjunction with Body Structure - Match Names with Parts situation/task statement and/or Parts of a Dairy Cow identification tags.

Station 3
Medication Insert

Juniors, Intermediates & Seniors

Use this poster in conjunction with Quality Assurance Medication Label – Read and Match the Parts situation/task statement and the Medication Insert Parts identification tags.

Medication Insert

Name of Drug

UDDERFUSE

(Hydrocillin Sodium) — *Active Ingredients*

For Intramammary Infusions

Active Ingredients: Udderfuse is an antibiotic which possesses a wide range of antimicrobial preparation activity against Gram-positive and Gram-negative organisms. It is derived biosynthetically from 6-aminopharmaceutic acid.

Each 10 ml disposable syringe contains 200 mg of hydrocillin activity in a stable oil gel.

Approved Uses — *Species and Animal Class*

Indications: ***For Use in Lactating Cows Only***

For the Treatment of Bovine Mastitis

Udderfuse for intramammary infusion should be used at the first sign of inflammation, at the first indication of any alteration in the milk, or following culture of a susceptible pathogen from the milk.

Udderfuse for intramammary infusion has been shown to be efficacious in the treatment of mastitis in lactating cows caused by susceptible strains of ***Streptococcus agalactiae*** and ***Staphlyococcus aureus***.

Dosage

Recommended Dosage: Infuse the entire contents of one 10 ml syringe into each infected quarter after the quarter has been completely milked out. Repeat once only in twelve hours for a maximum of two treatments.

Directions for Use: Milk out udder completely. Carefully scrub the teat end and orifice with 70% alcohol, using a separate swab for each teat. Allow to dry. — *Route of Administration*

Insert syringe tip into the teat canal and expel the entire contents of one (1) syringe into each infected quarter. Gently withdraw the syringe and massage the quarter to distribute the suspension into the milk cistern. Do not milk out for twelve hours.

Cautions and Warnings

Caution: 1. Udderfuse should be administered with caution to subjects which have demonstrated some form of allergy, particularly to penicillin. Such reactions are rare. If they do occur, discontinue treatment and consult your veterinarian. 2. If definite improvement is not noted **48 hours** after last treatment, consult your veterinarian because causal organisms should be futher investigated. 3. Do not insert contents of syringe if protective cap is broken or damaged. 4. Store at room temperature: 59° to 86° F; avoid excessive heat. — *Storage Requirements*

Warning: Milk that has been taken from animals during treatment and for 96 hours (8 milkings) after the last treatment must not be used for food. 2. Treated animals must not be slaughtered for food until 4 days after the last treatment. 3. Administration of more than prescribed dose may lead to residue in milk for more than 96 hours. — *Withholding Times*

Sizes Available

Supply: Udderfuse is available in 10 ml syringes, and cartons containing twelve syringes.

DAIRY LEARNING LABORATORY KIT

Quality Assurance and Animal Care: Youth Education Program
This material is based upon work supported by Extension Service, United States Department of Agriculture, under special project number 93-EFSQ-4096.

Product distribution through the Ohio Agricultural Education Curriculum Materials Service

Station 4
Quality Assurance
True & False

Juniors, Intermediates & Seniors

GENERAL LIVESTOCK T/F
JUNIOR

1.) It is OK to mix animal health products if a vet tells you to.

2.) You should write down when you give your animal medication.

3.) You should use the same scoop when feeding medicated and non-medicated feeds.

4.) You do not need to know your animal's vet.

5.) A dose is the amount of medication you should give your animal and how often you should give it.

6.) Every medication bottle has a label that you should read.

7.) You need a prescription to buy OTC (over-the-counter) drugs.

8.) Drug residue means that some medication can still be found in the animal's body.

9.) You are too young to be considered the one responsible for taking care of your animal.

10.) If your animal is sick, it is OK to give him some medication you had when another animal was sick.

ANSWERS TO GENERAL LIVESTOCK T/F JUNIOR

1. T
2. T
3. F You should use different scoops for med and non-med feeds
4. F You should know your animal's vet
5. T
6. T
7. F You do not need a prescription for OTC drugs
8. T
9. F You ARE the one responsible for your animal's care
10. F You should not use medication left-over from another animal

GENERAL LIVESTOCK T/F
INTERMEDIATE

1.) It is OK to use medicine that is old and outdated.

2.) The first thing listed on a medication label is the name of the medicine.

3.) It is OK to keep medicated and non-medicated feeds together.

4.) Animal health records should be kept for at least one year.

5.) Prescription drugs require a vet's written permission to use.

6.) Poor animal identification could result in drug residue being found when you thought withdrawal time was over.

7.) You are not responsible if something goes wrong with your animal's medication.

8.) You should only use medication that is approved for your animal species and for the condition being treated.

9.) Many medications lose their potency when exposed to freezing or hot temperatures.

10.) The federal agency that is responsible for regulating medicated animal feed and most animal health products is the Ohio State Highway Patrol.

ANSWERS TO GENERAL LIVESTOCK T/F INTERMEDIATE

1.) F Medication should not be used after the expiration date

2.) T

3.) F They should be kept separate

4.) T

5.) T

6.) T

7.) F You ARE responsible for your project animal and its medication

8.) T

9.) T

10.) F The FDA (Food and Drug Administration) is responsible for regulating medicated animal feeds and animal health products

GENERAL LIVESTOCK T/F
SENIOR

1.) VCPR stands for Vets Can Prescribe Rx drugs.

2.) Off-label use of a drug means the vet tells you other ways to use the drug besides what is written on the labels.

3.) Withdrawal time is the period of time that must pass between the last treatment and the time the animal will be harvested or that milk or egg products could be used for human consumption.

4.) The USDA determines whether a drug is OTC or Rx.

5.) Producers, parents and 4-H members are all responsible to produce a safe, wholesome food product.

6.) Drug residue can be caused by not following medication label directions.

7.) If drug residue is found in an animal going to slaughter, the 4-H member could be subject to a fine.

8.) Your vet can recommend extra label use of medicated feeds.

9.) Some feed additives can be legally added to feed rations to promote the animal's growth.

10.) It is OK to store medications in syringes.

ANSWERS TO GENERAL LIVESTOCK T/F SENIOR

1.) F VCPR stands for Vet/Client/Patient Relationship

2.) F That would be "Extra label use"

3.) T

4.) F The FDA (Food and Drug Administration) makes that determination

5.) T

6.) T

7.) T

8.) F Extra label use of medicated feeds is NEVER allowed

9.) T

10.) F This is not a proper storage method

Station 5
Management Practice

Intermediates & Seniors

Reality TV has become quite popular so this is our first…

Reality Skillathon Station

At this station, you are the owner of a large farm. Your job is to take some of your animals to the sale barn. You must sort out and load four of your animals from the group of six which are in the lot.

On the next page, you will see an L-shaped lot adjacent to an implement building with gravel or some other improved surface suitable for parking trucks and trailers. The lot is surrounded by fence.

On the following page, you will see that you have been given a loading chute/ramp, numerous sections of fence and gates which are commonly used in an animal handling facility. You must herd the hogs, cattle, sheep, or goats from the lot, pen them up, and load them into the truck or trailer. You may place the fence sections, gates, or loading chute wherever you wish. Use only the structures provided- extra fences cost money to build.

You must also place yourself in the picture. Where would you stand while you are loading the four animals?

Please note that your animals are accustomed to people being in the lot daily to feed them. They are not, however, used to being handled. You may not entice them onto the truck by using feed.

Cut out and glue (or tape) all the pieces into the lot to show how you would complete this task.

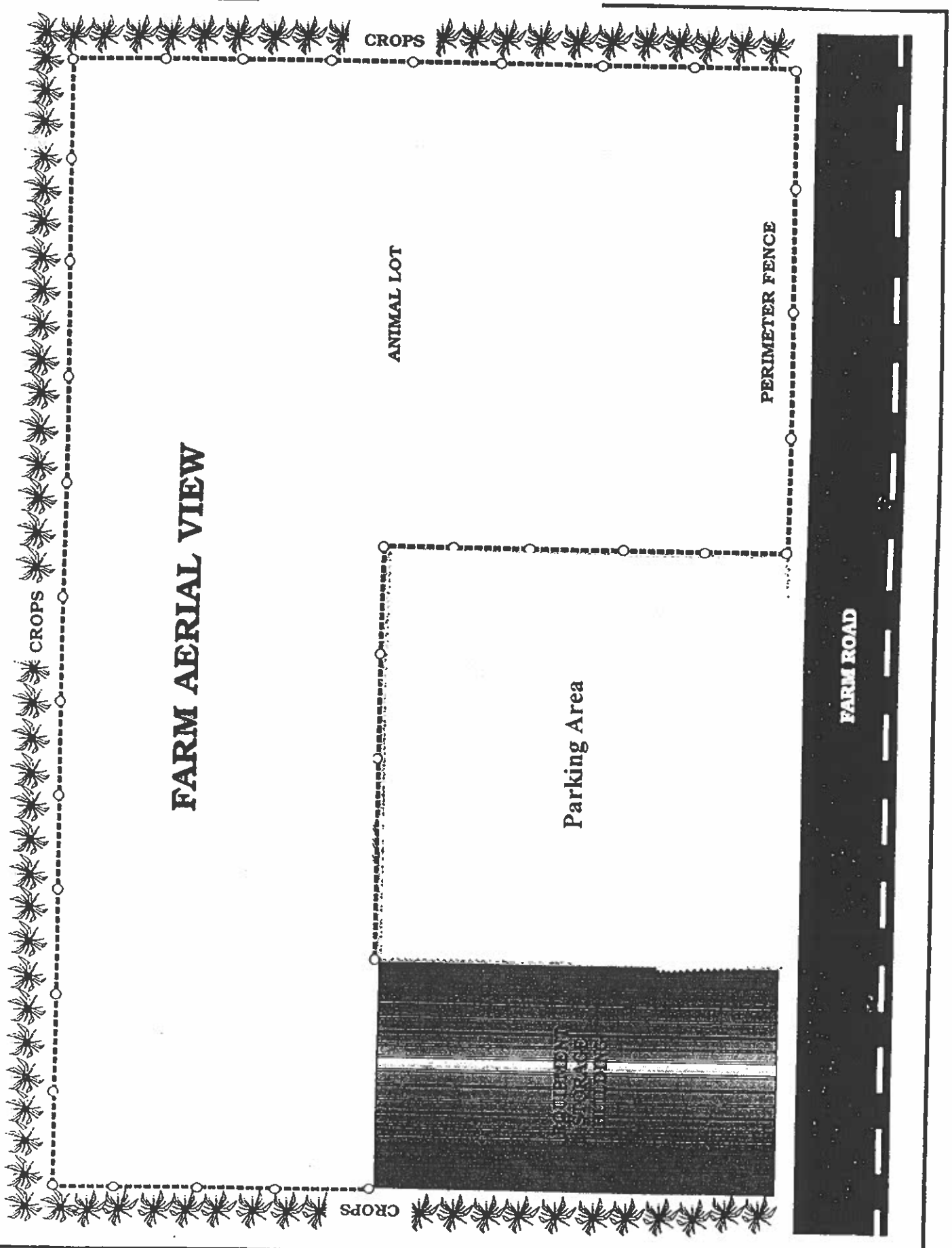
You must keep in mind that bruising of animals causes a loss of quality, and that excitement just prior to slaughter can cause undesirable changes in the meat. Of major importance is your own safety.

To make this station more fun, you will be allowed to complete it at home with the help of your parents. You must then bring the completed sheet to Skill-A-Thon when you attend.

Head 'em up and move 'em out!!!

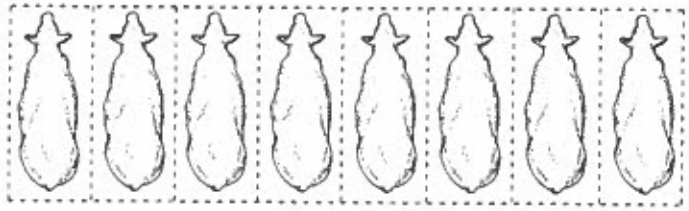
(This station is worth 20 points. There is not one correct answer so find the technique that you think would work the best.)

Do not remove these pages. Your advisor can provide you with a copy for practice.



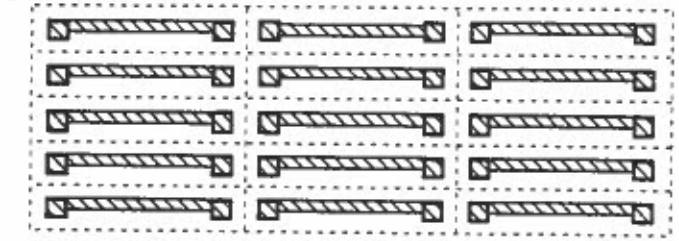
Safe Animal Handling

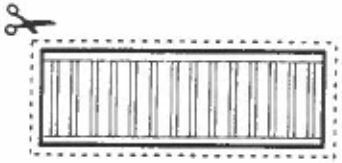
Cattle



Gates

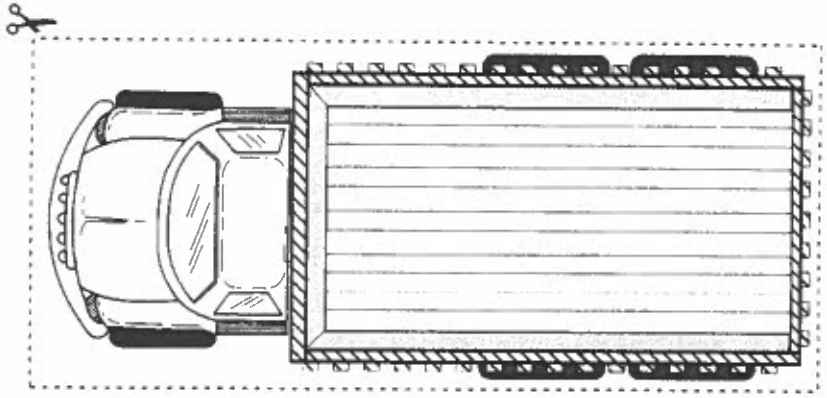
Fencing



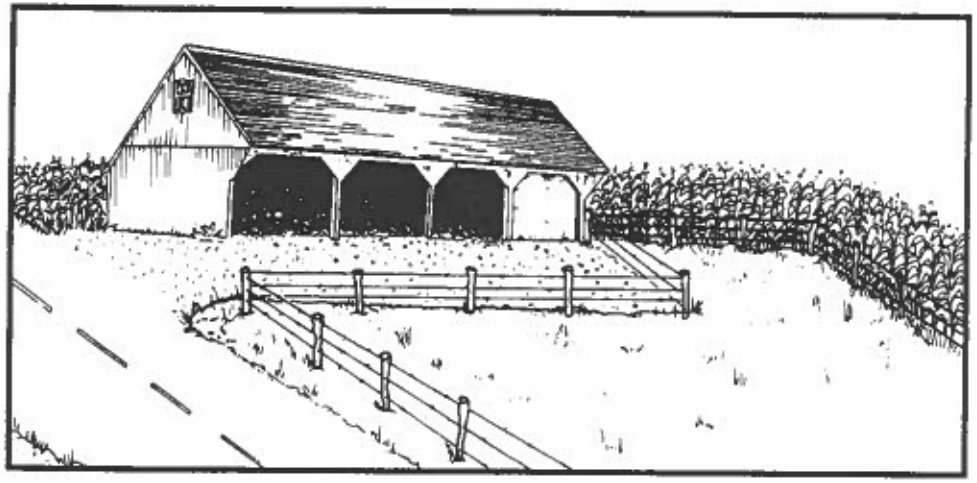


Loading Ramp or Chute

Person



Livestock Truck



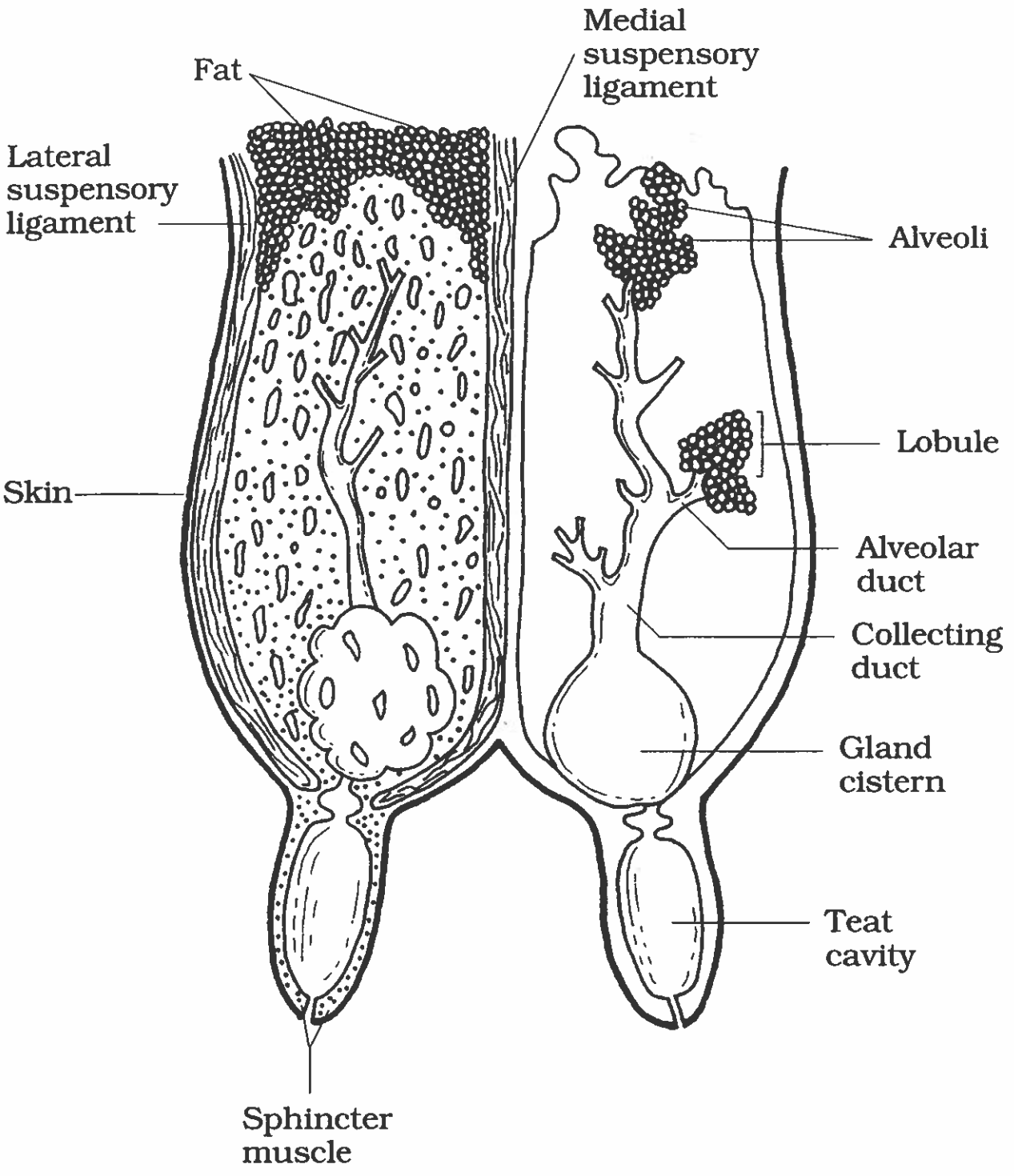
Drawing of Farm Setting

DIRECTIONS: Cut shapes from this sheet along the dotted lines. Arrange shapes on the enclosed Farm Aerial View according to the task described in the Animal Handling Guidelines.

Station 6
Mammary Anatomy
Seniors Only

Use this poster in conjunction with Infusion Syringe and Medication Label, Herd Mgt. Calendar, Udder Model, Teat Dip Cup, and/or Mammary Anatomy situation/task statement.

Mammary Anatomy



DAIRY LEARNING LABORATORY KIT

Quality Assurance and Animal Care: Youth Education Program
This material is based upon work supported by Extension Service, United States Department of Agriculture, under special project number 93-EFSQ-4096.
Product distribution through the Ohio Agricultural Education Curriculum Materials Service

Station 7
Trip Around the Fairgrounds & Turn in Book

All Ages

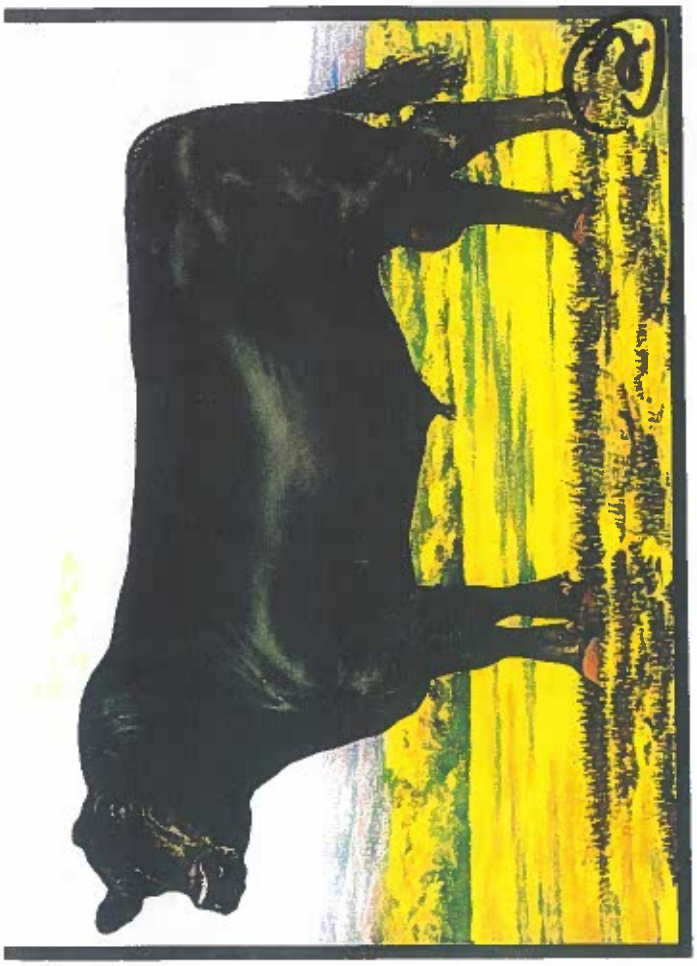
Trip Around the Fairgrounds

In this Skill-A-Thon station, you will be taking an imaginary walk around the Jefferson County Fair. On this walk, you will see many of the animals that you would actually see at the fair.

Your job is to identify eight of the animals you see. On your score sheet, you will have a list of 24 blank spaces. Identify the animal by putting the name of its breed on the correct number on the sheet.

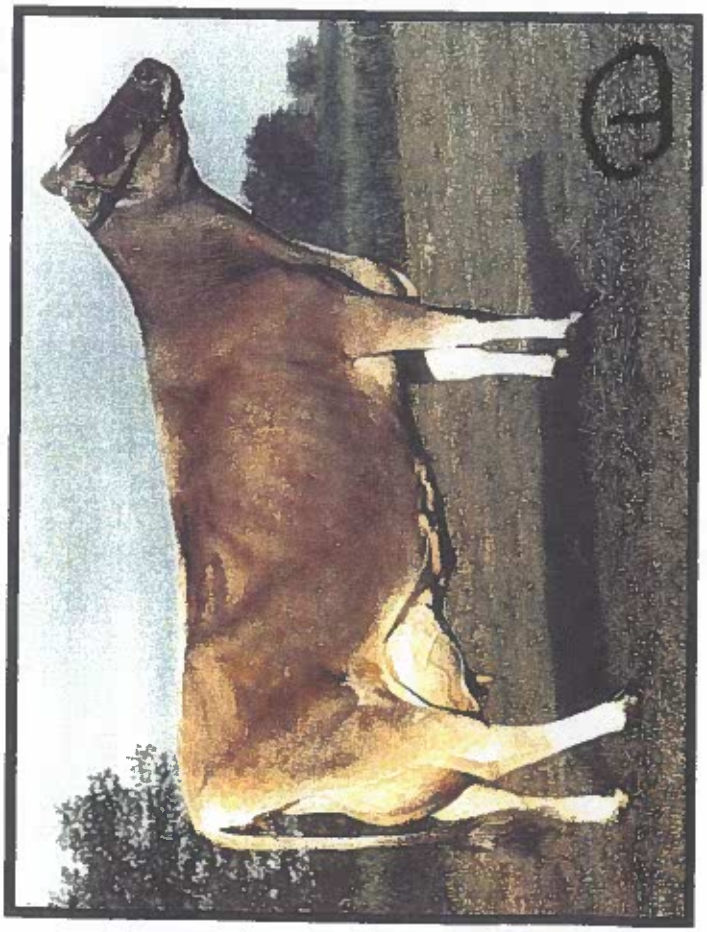
You can only identify eight and you won't get any extra credit if you name more.

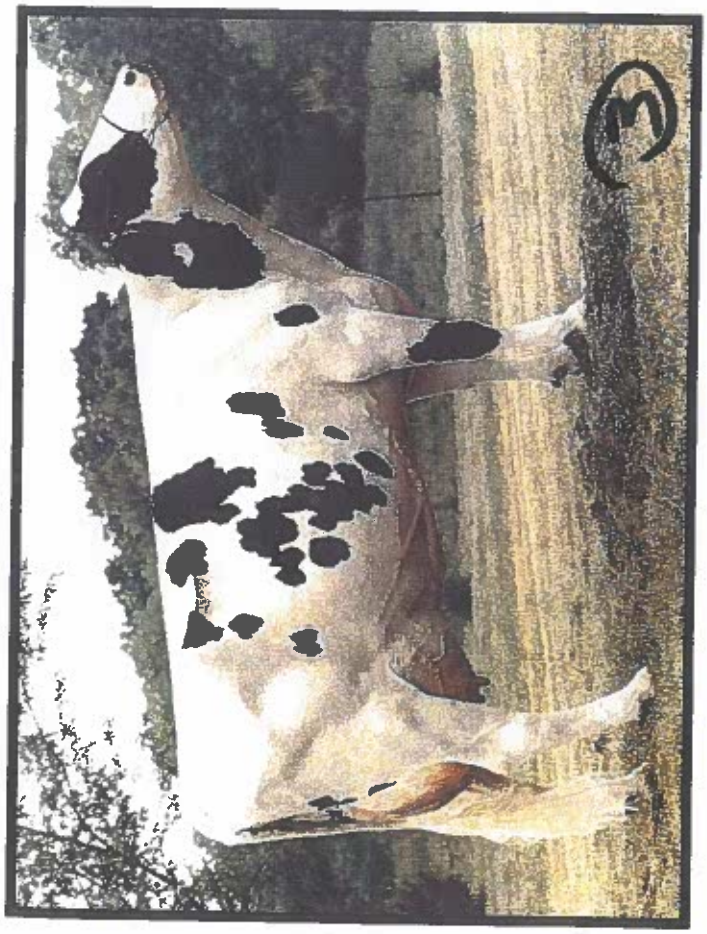
Good luck!



202

194





Holstein
This breed is the most popular of the dairy cows and also the largest. They are black and white, but may be red and white. They are known for producing the most milk of all the dairy breeds.

Hereford
This breed was developed in England and brought to the United States. They have red bodies with white faces.

Jersey
These dairy cows are the smallest cows in size and produce milk that is the highest in fat and protein. They are fawn colored with or without white markings.

Angus
This breed originated in Scotland. They are polled with a black, smooth coat.

259

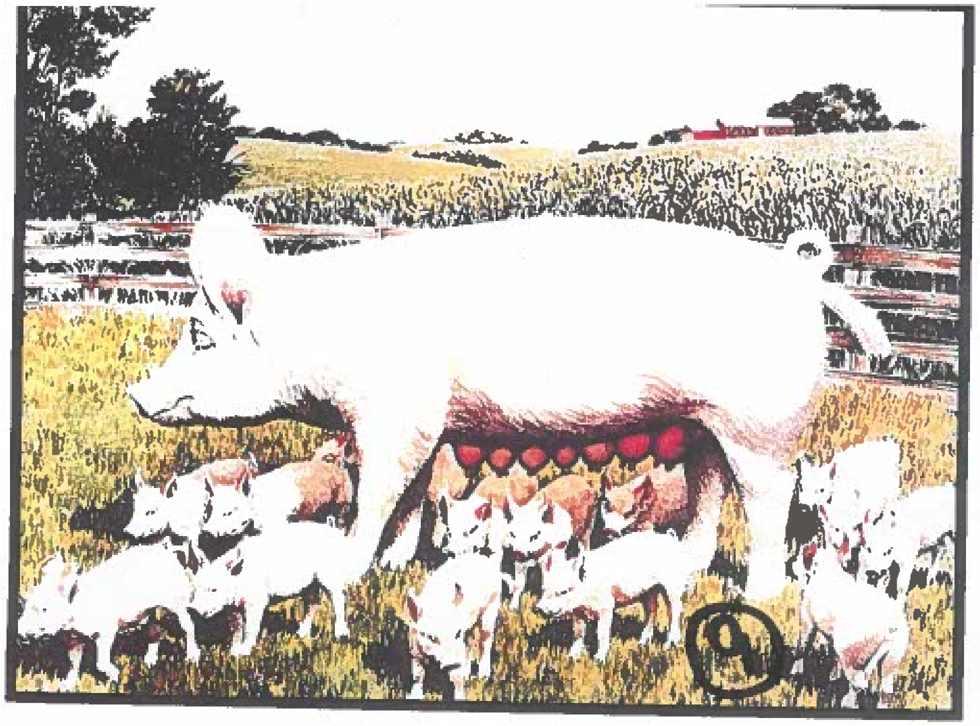
24

Suffolk
This polled breed with black head and legs has the most number of purebred registrations in the U.S. They grow quickly and are known for their meatiness.

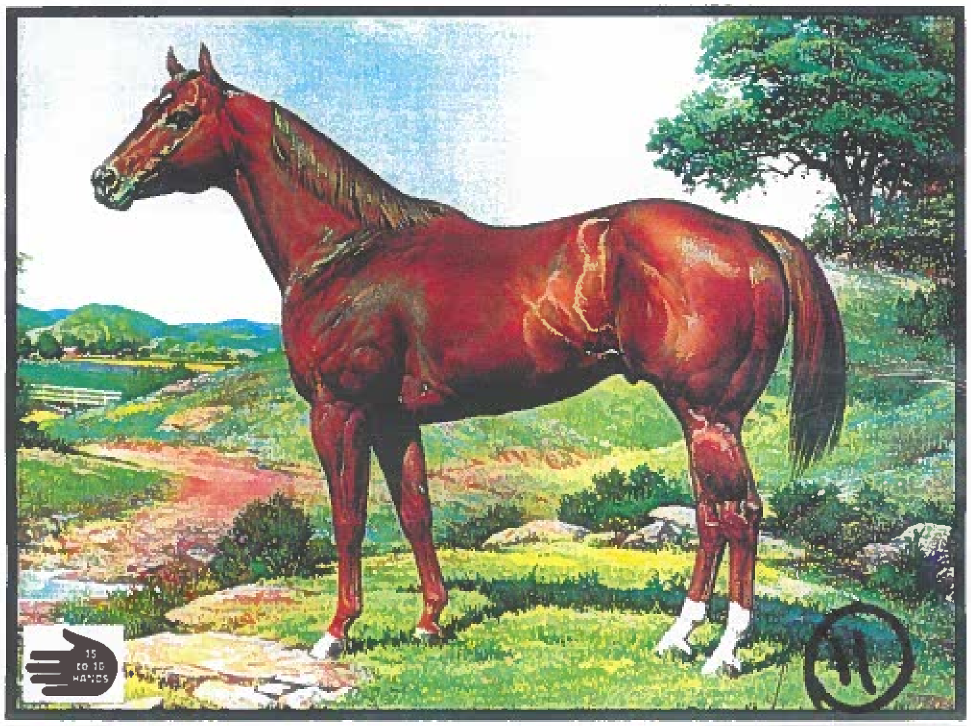
Boar
This breed is known because of their sturdy legs which allow them to move easily through rugged terrain and to withstand a wide range of climatic conditions.

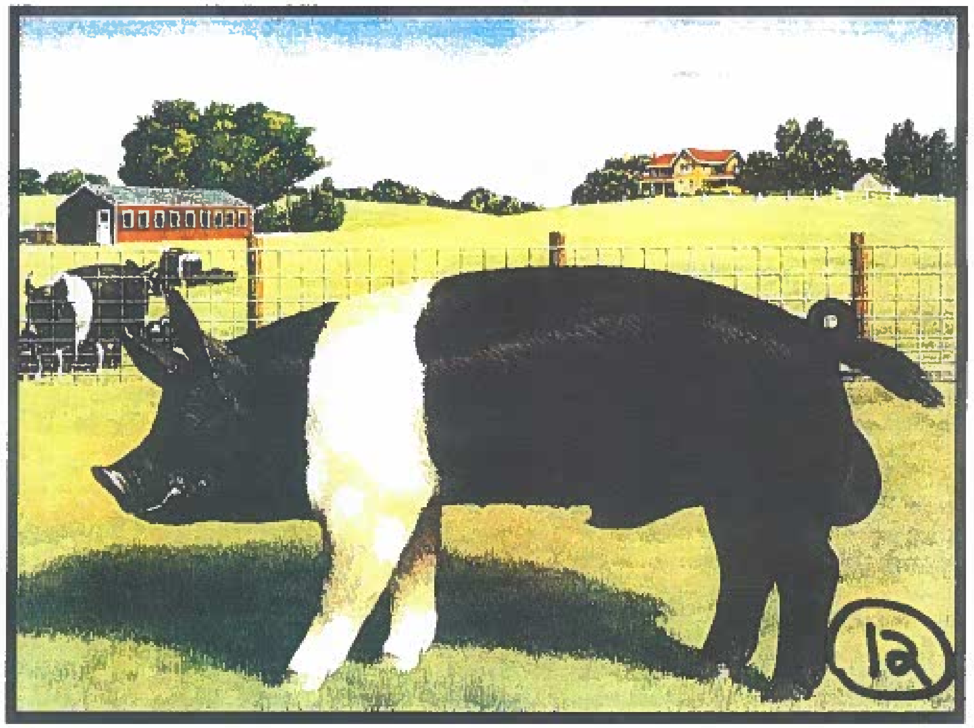
Paint
This breed of horse originated in the United States. The name refers to its spotted or two-tone pattern- white with one additional color. They are used as stock, pleasure, race, or show horses.

Pygmy
This dwarf breed of goat originated in Africa and the Caribbean. They are only 16-22 inches tall. They can be white caramel, caramel, gray agouti, black agouti, and charcoal agouti.


9


10


11


12

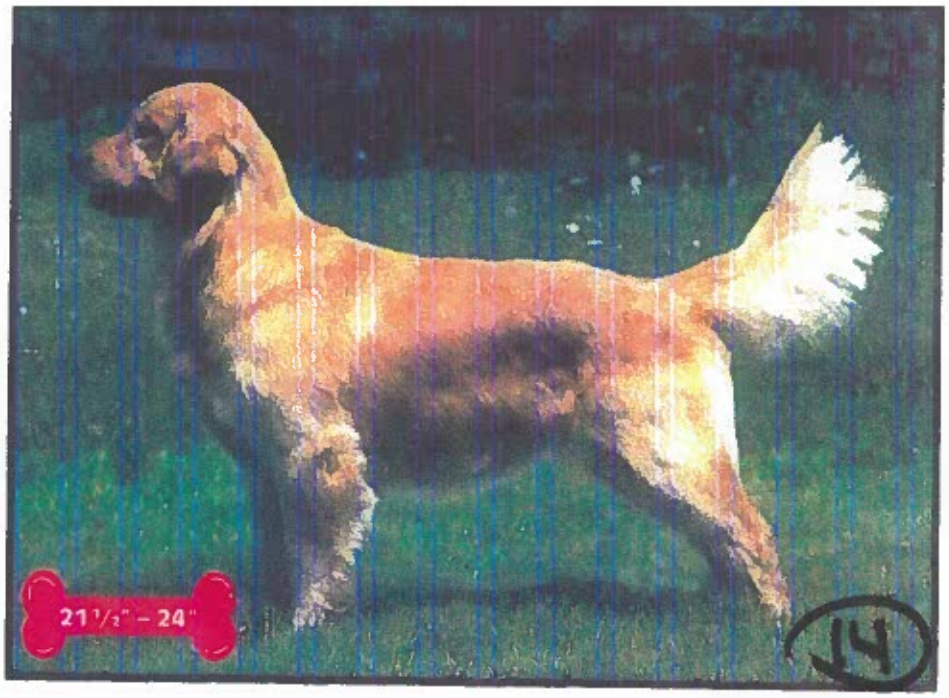
Quarter-horse
This breed originated in the United States and was named for its quarter-mile racing speed. They can be chestnut, palomino, black, brown, gray, or roan. They are powerfully built and quick on their feet.

Hampshire
These animals have black bodies with a white belt around the shoulders and both front legs. They have erect ears and heavy muscles.

Yorkshire
These animals have long, large-framed white bodies with erect ears. They produce large litters and are good mothers.

Dorset
This breed of sheep can be polled, scurred, or horned and are known for producing more than one lamb crop per year.


18" – 22"
13


21½" – 24"
14


15


16

12

Cornish
This breed of chicken originated in England. Comb, wattles, and earlobes are bright red. Beak is short, stout and curved. Skin is yellow and plumage is white

13

Border Collie
This herding breed is black and white with or without tan points. They are 18 to 22 inches tall at the withers. They have an athletic build. They are intelligent, alert, and affectionate.

14

New Hampshire
This breed of chicken shows off its comb, wattles, and earlobes which are all bright red. They are competitive and can be aggressive. Skin is yellow and plumage is chestnut red.

15

Golden Retriever
This sporting breed originated in England. The coat is rich, lustrous gold of various shades. They are gentle and loyal and serve as great pets. They are often used as guide dogs for the blind.

18

20

17

19

1d

Persian
The Persian is a long-haired cat characterized by its round face and shortened muzzle. It has been the most popular breed of cat in the United States for many years.

50

Siamese
This is one of the most recognized of all the Oriental cats and the most popular of all short-haired cats. They have long slender bodies, a triangular face and are known for their blue eyes.

1.1

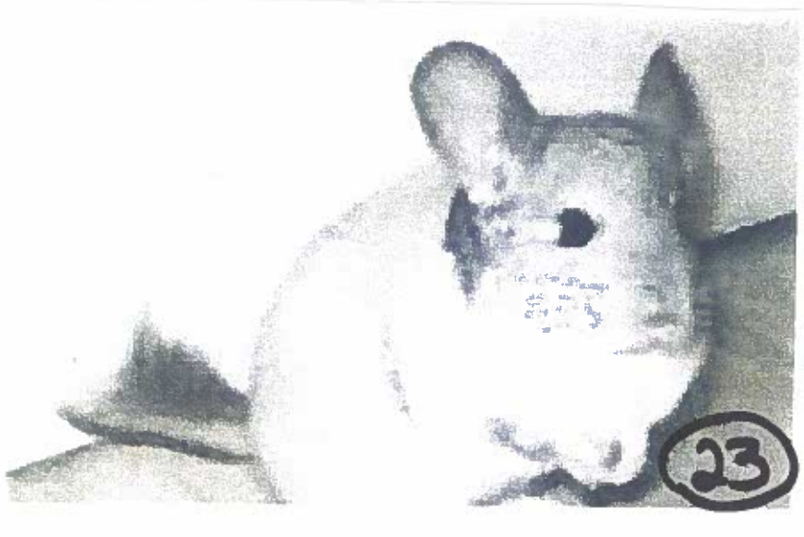
Holland Lop
This small breed has a massive head with long ears and a flat nose. They are small with a mature weight of only 3 to 4 pounds.

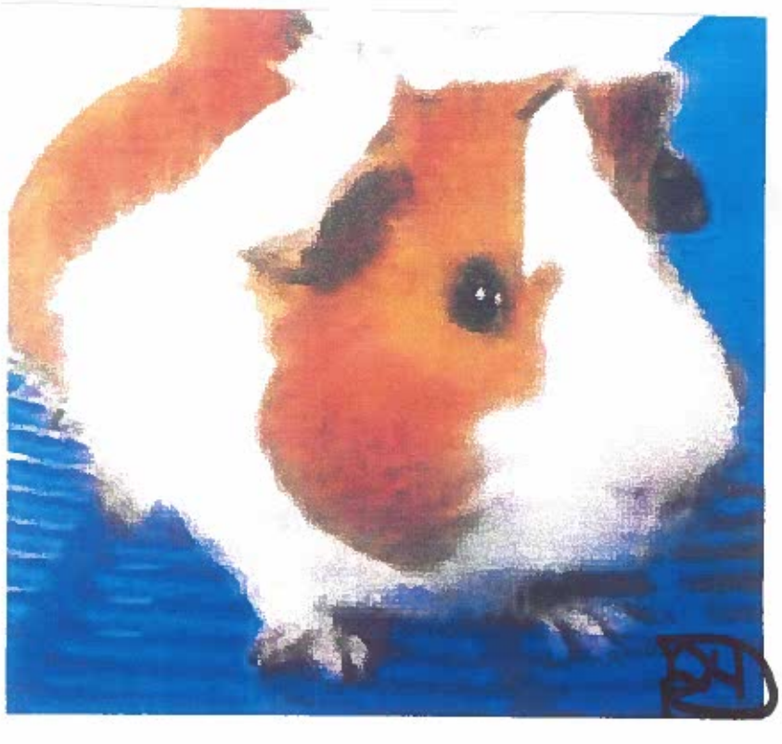
1e.

Dutch
This breed is usually black and white with a white blaze going from the ears to the nose. Mature weight is 3 ½ to 5 ½ pounds. They are exhibition use.


21


22


23


24

Chinchilla

Chinchilla are about the same size as a small to medium-sized rabbit. They can live 10-15 years. They are not very cuddly but they will jump on you if in the area you are in. They are nocturnal- up all night and sleep all day.

Guinea Pig

Guinea pigs are also called cavies. They are rodents, not pigs. They are popular as household pets and are very easy to care for. Guinea pigs may wheek (whistle), purr, whine, squeal, chirp or chatter. They are considered fun as pets.

Garter Snake

The garter snake is one of our most common snakes. They can grow up to four feet long. Their color patterns vary, but they almost always have three yellow stripes and a checkerboard pattern between the stripes. They are harmless to humans.

Bearded Dragon

These are great lizard pets. They don't get too large, eat a wide variety of foods, are active during the day, and are gentle pets. They are inexpensive and readily available.