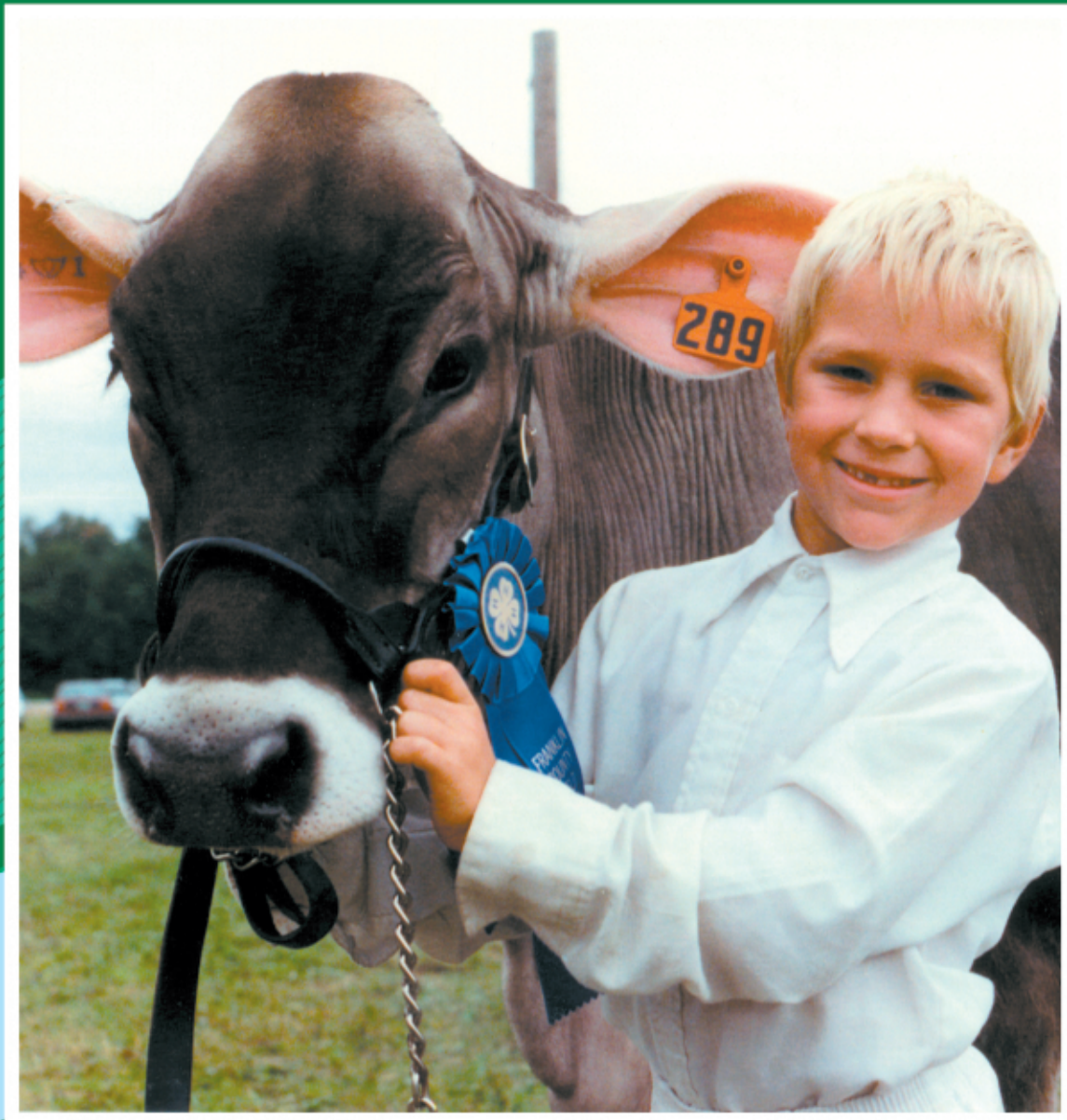




Dairy 1 Cowabunga!



Dairy Project Youth Activity Guide

Name _____

County _____



Note to Parents and Project Helper

Congratulations! A young person has asked you to be his/her dairy project helper. You are in a great position to help youth develop in positive ways as they learn about the dairy project and themselves. You can nurture and cultivate their interest in this project by guiding their planning, helping them carry out their projects and recognizing them for a job well done.

Youth can't do this project without you! You can help young people get the most out of their experience through your enthusiasm and your ability to ask thought-provoking questions. With your help, youth can set goals, identify resources, practice presentations and evaluate their own progress as they complete the Dairy Achievement Program.

Youth Learner Outcomes

- Become knowledgeable and responsible animal caregivers
- Develop experience-based science skill sets that pertain to health and disease
- Appreciate the variety of opportunities available in animal and dairy careers
- Recognize and practice the skills and abilities necessary for success in animal-related careers
- Practice the life skills of communication, acquiring and evaluating data, decision making, planning and organizing, character development and more

Your Role

- Become familiar with the material in this guide and the *Dairy Helper's Guide*
- Support youth in their efforts to set goals and complete each Achievement Program
- Discuss, date and initial the activities of the Dairy Achievement Programs as youth complete them
- Help youth to know themselves, including their strengths and weaknesses
- Encourage the use of the experiential learning model described on this page

The Dairy "Skills for Life" Series

Cowabunga! is the first in the series of three activity guides for youth that also includes *Dairy 2, Moving Ahead*, *Dairy 3, Rising to the Top* and the *Dairy Helper's Guide*. The guides are developmentally appropriate for grades 3–5, 6–8 and 9–12 respectively, but may be used by youth in any grade based on their project skills and experience.

All activities include a description of the skills to be practiced, discussion questions, suggestions for additional activities and other helpful information. The Success Indicator listed for each activity is an excellent way to evaluate the youth's progress. Each of the guides includes an Achievement Program to encourage youth to learn more about dairy cattle while developing important life skills. Before and After – "What Do You Know?" is a quick and fun way for youth to assess their knowledge BEFORE and AFTER they complete the activities. In the *Helper's Guide* you will find another evaluation piece titled "Evaluating the Impact." Use this before beginning each level and after the youth have completed each level.

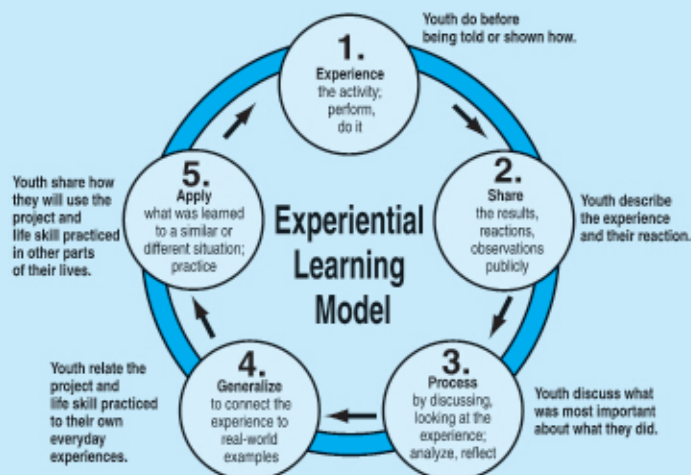
Each activity gives youth an opportunity to LEARN BY DOING before being told or shown how. Your challenge is to stay in the background while the youth explores and learns from the experience. You can help best by listening as youth consider the questions and offer their answers.

Dairy Helper's Guide

The *Dairy Helper's Guide* contains more learn-by-doing activities that can be adapted for families, 4-H clubs, classrooms, after-school activities, child care settings, 4-H groups, other youth groups or camps. You'll also find information about characteristics of youth, life skill development, teaching experientially, meeting ideas and answers to many of the activities in the youth guides.

Experiential Learning Model

This five-step model is used in each activity in this series.



Pfeiffer, J.W., & Jones, J.E., "Reference Guide to Handbooks and Annuals" © 1983 John Wiley & Sons, Inc. Reprinted with permission of John Wiley & Sons, Inc.

As you can see, youth first attempt the activity on their own. After they do as much of the activity as they can, you then meet together and discuss: What did they do? What was important? How does what they did relate to their lives? How might they use these life and project skills in the future? Your ability to ask thought-provoking questions and listen to the youth's ideas will add to the educational impact of the experience.

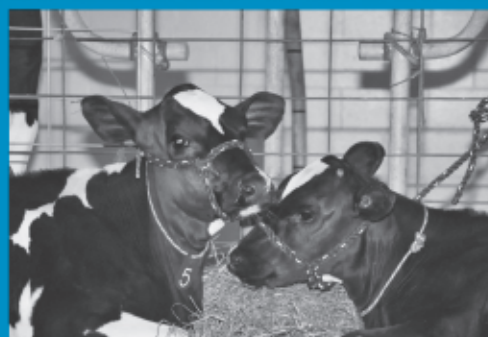
**Good luck in your role as
Project Helper and thanks for
contributing to the positive
development of youth!**

Acknowledgments

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For more on dairy cattle, look for these other guides in the 4-H Dairy Cattle Series.



Dairy 2
Mooving Ahead
BU-08162

Dairy 2 - Mooving Ahead

- Chapter 1**
Judging, Identification and Ethics
I Placed This Class...
Identifying Your Calf
Ethical Choices
- Chapter 2**
Animal Health
How Now, Brown Cow?
Down the Drain
It's On the Label
- Chapter 3**
Management Practices and Feeding
Handle with Care
Selecting Dairy Housing
Let's Talk Hay
Following Feed Through the Digestive System
- Chapter 4**
Milking, Marketing and Careers
Preparing a Cow for Milking
Safe Milk Is Cool!
Milk...for the Health of It
So You Want to Be a Dairy Farmer?



Dairy 3
Rising to the Top
BU-08163

Dairy 3 - Rising to the Top

- Chapter 1**
Selection and Management
Scoring a Cow's Body Condition
Report Card Time
Debating Animal Welfare Issues
What's Your Opinion?
Inspection Time
- Chapter 2**
Health and Feeding
CSI: Mastitis
Balancing a Dairy Ration
- Chapter 3**
Reproduction and Breeding
The Heat Is On!
E.T. Clone Home!
A Womb with a View
The LaMOOze Method
- Chapter 4**
Milk, Marketing and Careers
Promoting Dairy Products
Exploring Career Options
Applying for a Job



Dairy Cattle
Helper's Guide
BU-08164

Dairy Helper's Guide

- Chapter 1**
Dairy Word Games
Planning the Dairy Project Year
Let's Judge!
Dairy Quiz Bowl Time
Dairy Talk Games
Fun with Dairy Pyramid
- Chapter 2**
Dairy Skill Building
Loud and Clear
Knot Only a Rope Halter
Show What You Know!
Start to Finish
- Chapter 3**
Feeding and Dairy Management
Reading Pedigrees and Classifications
The Doctor Will See You Now
Moo-rades
Dairy Cattle Diseases (Chart)
- Chapter 4**
Dairy Products and Images
Discovering Dairy Products
Touring a Dairy Farm

Cowabunga!

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Welcome to *Cowabunga!*

Are you ready to learn about dairy cattle and the dairy industry?

Through the activities in this guide, you will have many interesting and exciting challenges. You'll learn about dairy parts, breeds, cost of raising cattle, how to care for your dairy animals and much, much more. If you don't already have dairy cattle, the activities still help you learn. Each activity asks you to do something. Don't be afraid to jump right in, and don't give up if the activity doesn't work out the first time. You're still learning, right? The most important thing is to try. After you try, share what happened with your helper.

Start at the beginning of this dairy activity guide to learn about how to select and care for your calf. Once you have your calf, continue working in the dairy activity guide to discover why it's important to keep records, what things you need to do to keep your calf healthy and what to practice with your calf before going to the fair.

Taking your calf to the fair each year will be one way you can share your experience and knowledge with other people. Whatever you decide to do, have fun doing these activities and enjoying your calf!

Learning about dairy isn't all you will be doing. You'll also be learning about yourself, too. Many of the things you'll learn are skills you'll use in other areas of your life such as decision making, communicating with others and being an effective leader.

What You'll Do

You'll find activities to help you develop your judging skills. Here are some of the things you'll do:

- Learn the breeds of dairy cattle
- Select a project animal
- Explore the milk production system
- Demonstrate how to groom a dairy heifer
- Demonstrate dairy showmanship techniques
- Explain the difference between a calf and cow digestive tracts
- Learn about dairy information on the website

Cowabunga!

Project Guidelines

- Set your goals and record project highlights.
- Do a minimum of seven activities in Level 1 each year and complete the Dairy Achievement Program within three years.
- Complete the Before and After – “What Do You Know?” evaluation.
- Practice and develop the life skills of relating to others, making decisions, learning to learn and communicating with others.
- Increase your dairy knowledge and skills.

Cowabunga!

Achievement Program

While you are having fun doing the activities, you'll also be completing Level 1 of the Dairy Achievement Program. There are three levels of this program. One is included in each of the dairy project activity guides. This program will help you set goals, record your successes and be recognized for your good work.

Your Project Helper

This person may be a parent, dairy breeder, project leader or advisor, a neighbor or an older friend who knows about dairy. The choice is yours. As you do the activities, you'll discuss with your helper what you did and the questions in the Ruminations part of each activity. Sometimes your helper will need to work with you to identify resources, including people, organizations, events, magazines and books necessary to complete an activity. Once you have successfully completed each activity, your helper will date and initial your achievement program.

My Project Helper: _____

Phone number: _____

Why I chose this person: _____

Good luck with Dairy 1—
Cowabunga!

Cowabunga! Project Goals and Highlights

Project Goals

Name _____

My Animal's Name _____

Breed _____

What I want to do and learn in Dairy 1.

1. _____

2. _____

3. _____

Project Highlights

Date and list the exciting things you do and learn.

"What Do You Know?"

Before and After – Dairy 1

Here's an easy way to tell if you learned something new and developed important project skills. Before you do the activities in this guide, indicate what you know then when you do the activities indicate what you know AFTER you complete them. You may be surprised how much you learned! Share the results with your helper.

Begin each skill with the words – **I know how to** _____
Then circle **1** (not at all); **2** (somewhat) or **3** (a lot).

<i>I know how to...</i>	<i>Before</i>	<i>After</i>
Identify six breeds of dairy cattle and their characteristics	1 2 3	1 2 3
Examine and select a project animal	1 2 3	1 2 3
Identify 30 parts of a dairy cow	1 2 3	1 2 3
Identify desirable and undesirable traits of dairy cattle	1 2 3	1 2 3
Compare dairy animal feed intake to recommended amounts	1 2 3	1 2 3
Describe the steps in the milk production system	1 2 3	1 2 3
Identify supplies for showing dairy cattle	1 2 3	1 2 3
Demonstrate dairy grooming techniques	1 2 3	1 2 3
Demonstrate dairy showmanship techniques	1 2 3	1 2 3
Make a budget of calf costs and family costs	1 2 3	1 2 3
Describe basic needs of cattle throughout their life cycle	1 2 3	1 2 3
Explain differences between a calf and cow's digestive tracts	1 2 3	1 2 3
Complete a dairy record for a calf	1 2 3	1 2 3
Locate dairy information on the Internet	1 2 3	1 2 3

Place a photo of yourself with your project animal in this space.

- Complete at least 21 of the *Cowabunga!* and *Milking It for More* activities within three years to complete the Cowabunga! achievement program.
- Have your project helper date and initial the activities as you complete them and discuss them with your helper.

Cowabunga! Activities		
Activities	Date Completed	Helper's Initials
Chapter 1 Selection and Judging		
Black and White and Red All Over		
Selecting a Project Animal		
From Head to Tail		
You Be the Judge		
Chapter 2 Udder Things		
How Much Does a Calf Eat?		
From Moo to U		
Chapter 3 Fitting and Showing		
Getting Ready to Show		
Fitting for Show		
Showing Your Project Animal		
Chapter 4 Management and Records		
Dollars for Dairy		
Circle of Life		
From Bottle to Bunk		
Cow Tally		
Truth, Justice and the American Whey		

Milking It for More

Select and do any of the **Milking It for More** activities in *Cowabunga!* or make up your own. Record the page and number of each one you complete and have your helper initial it.

[illegible]

Write your own activity here.

Date _____ Helper's Initials _____

Write your own activity here.

Date _____ Helper's Initials _____

Write your own activity here.

Date _____ Helper's Initials _____



Cowabunga!

Completion Certificate

I certify that

has completed all requirements of the
Cowabunga! Achievement Program of the
4-H "Skills for Life" Dairy Series.

Helper's Signature

Date





Selection and Judging

Dairy Project Skill:

Recognizing differences in dairy cattle breeds.

Life Skill:

Making decisions—analyzing information and evaluating alternatives

Success Indicator:

Identifies six breeds of dairy cattle and their characteristics.

Educational Standard:

NS.K—4.3 Understanding of the characteristics of organisms.

Black & White & Red All Over

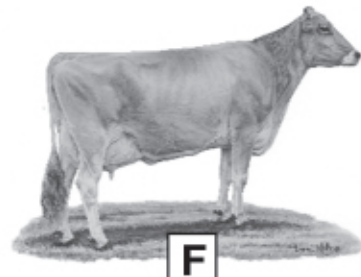
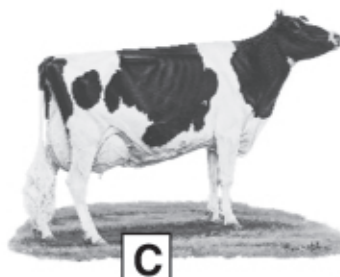
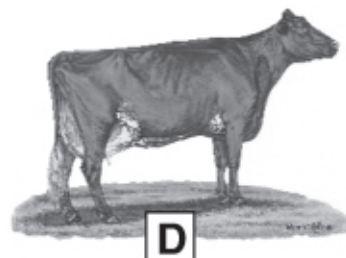
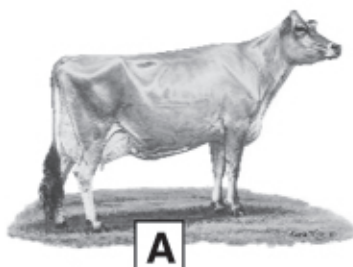
There are six different breeds of dairy cattle throughout the United States. Each have distinct differences, such as color, size, origin, temperament and production. When selecting a calf or cow for a dairy project, you may be given a choice of breeds. Therefore, it is important for you to check the differences among the breeds.

Taking On the Challenge

Identify the breeds in the space provided. Now complete the Dairy Breed Summary. You may need to use each breed's web site or contact the organization of each breed for additional information. Some information is provided in Fresh Facts to assist you.

A	
B	
C	
D	
E	
F	

Match the Breeds



Credit: Purina Feeds – Dairy Breeds of North America

Dairy Breed Summary

Breed	Mature Weight (lb.)	Avg. Lb. Milk (305 days)	Avg. Lb. Fat (305 days)	Avg. % Fat Test	Avg. % Protein Test	Country of Origin
Ayrshire						
Brown Swiss						
Guernsey						
Holstein						
Jersey						
Milking Shorthorn						

Ruminations



Discuss these questions with your helper.

Say Cheese! (Share)

- What are the different breeds of dairy cattle?
- What breed did you know the least about?
- What did you learn about this breed?
- What breed do you like best? Why?

Chew Your Cud (Process)

- Why is making decisions an important life skill?

Chore Time (Generalize)

- Why is it important for you to know the different breeds of dairy cattle?
- What decisions do you have to make about your animals?

Mooving Along (Apply)

- How would you make a decision about which breed to raise?
- How can you become a better decision maker?

Resources

Request a Pedigree Power workbook from the Holstein Association (see address in Dairy Resources) to help you learn how to evaluate pedigrees.



Six Major Dairy Breeds

Ayrshire

Ayrshires are strong, rugged cattle that are known to be efficient grazers. They excel in udder conformation and are not subject to excessive foot and leg problems.

Color – light to deep cherry red, mahogany, brown, or a combination of any of these colors with white, or white alone.

Size – a mature milking cow should weigh at least 1200 pounds.

Brown Swiss

Brown Swiss are the oldest of the pure dairy breeds of cattle. They are known for size and ruggedness with quality.

Color – solid brown varying from very light to dark. Muzzle is black encircled by a mealy colored ring, and the tongue, switch and hooves are black.

Size – a mature milking cow should weigh at least 1500 pounds.

Guernsey

Being of intermediate size, the Guernsey cow is known for producing high butterfat, high protein milk with a high concentration of beta-carotene. Other characteristics are their lack of any known undesirable hidden genes and their adaptability to warmer climates.

Color – a shade of fawn with white markings throughout, clearly defined. Skin should definitely show golden yellow pigmentation. A clear muzzle is favored over a smoky or black muzzle.

Size – a mature milking cow should weigh at least 1200 pounds.

Holstein

They are the most popular breed of dairy cattle in the world. Over 95% of the dairy cattle in the United States are Holsteins. They are one of the largest breeds and the highest in milk production of all dairy breeds.

Color – black and white or red and white markings clearly defined.

Size – a mature milking cow should weigh at least 1500 pounds.

Jersey

Jerseys are the smallest in body size of all dairy breeds. They mature quickly. The ideal cow shows sharpness with strength indicating productive efficiency. Jerseys are noted for the highest content of milk fat and protein in the milk of all dairy breeds.

Color – a shade of fawn or cream with or without markings or an all black coat color is also accepted. Muzzle is black, and the tongue and switch may be either white or black.

Size – a mature milking cow should weigh about 1000 pounds.

Milking Shorthorn

The Milking Shorthorn has made tremendous progress in milk production in the past 30 years. They are known for their excellent reproductive efficiency and long life.

Color – red, red and white, or roan.

Size – a mature milking cow should weigh at least 1250 pounds.

Selecting a Dairy Project Animal

Dairy Project Skill: Examining and selecting a dairy project
Life Skill: Making decisions by comparison
Success Indicator: Examines and selects a project animal.
Educational Standard: NS.K—4.3: Understanding of the characteristics of organisms.

Choosing a good animal is an important part of the dairy business. It is important to select an animal that will grow into a high-producing cow and remain in the herd for a number of years. Good looks count, but think of other things, too. In this activity you will examine a calf and use information to help you make a sound choice.

Taking On the Challenge

Get together with a friend or your helper and examine an animal. Write your examination notes on Chart A. With this information and knowledge, use Chart B to help you select a dairy animal in the next activity.

A. Dairy Animal Examination Chart				
Calf Identification	Breed:	Age:	Height:	Weight:
Body temperature	Housing:			
General State of Health (circle one): Excellent Good Poor				
Describe how the calf looks and acts				
Have these management practices been done?	Yes	No	Comments	
Animal properly identified				
Pedigree available				
Production records available				
Dehorned				
Extra teats removed				
Dewormed recently				
Free from Ringworm				
Free from parasites (external & internal)				
Free from Pinkeye				
Brucellosis vaccination (4 to 8 months)				
IBR, BVD, PI3, Pastuerella vaccination				
Blackleg, Redwater, Enterotoxemia, Leptospirosis vaccination				

B.	Signs of a Healthy Animal	Signs of a Sick Animal	Animal Being Considered
Skin, hair and hooves	Smooth and glossy	Rough or dry	
Nose and mouth	Some moisture	Runny, red or dry	
Respiration rate	20–40/minute	Over 50/minute	
Eyes	Clear and bright	Sunken, dull	
Rectal temperature	101.5–102.5	Above or below normal	
Fecal material (adult)	Not loose or off color	Off color, dry and hard or runny	
Fecal material (calf)	Firm, sticky, yellow color	Runny to liquid	
Ears	Up and alert	Droopy	
Appetite	Wants to eat	Picks at its feed	

Ruminations



Say Cheese! (Share)

- What did you find when you examined the animal?
- Which animal did you select?

Chew Your Cud (Process)

- What information did you think was most important in making your decision? Why?
- Why do you need to examine an animal before you buy it?

Chore Time (Generalize)

- Why should you gather and compare information before making a decision?
- What big decisions have you had to make?

Mooving Along (Apply)

- How can you use what you learned to select an animal?
- How could you share what you learned with others?



Raising Healthy Dairy Animals

When we talk about animal health, we refer to the identification, treatment, and prevention of diseases and disorders. The most important part of raising a healthy animal is preventing diseases. The old saying "An ounce of prevention is worth a pound of cure" is very true. Raising a healthy animal involves a number of things such as nutrition, housing, and management. An animal that is not fed or housed properly is stressed and is more prone to infection. The reduction of stress in a dairy herd through good management practices is important. Veterinarians and dairy farmers use medications for the treatment of disease, but they are most effective when combined with a good management program.



Milking It for More

Resources

Request a Pedigree Power workbook from the Holstein Association (see address in Dairy Resources) to help you learn how to evaluate pedigrees.

Acknowledgement: Adapted by Arlin Holtan from original activity "More Than Skin Deep" and activity revised by Clark E. Israelsen.

Attend a cattle sale or auction. List how much money you think each of ten calves will sell for. Compare your prices with the actual selling prices. Talk over your estimates with another person.

From Head to Tail

Dairy Project Skill:	Identifying cow body parts
Life Skill:	Acquiring and evaluating information
Success Indicator:	Identifies 30 parts of a dairy cow.
Educational Standard:	NS.K—4.3 Understanding of the characteristics of organisms.

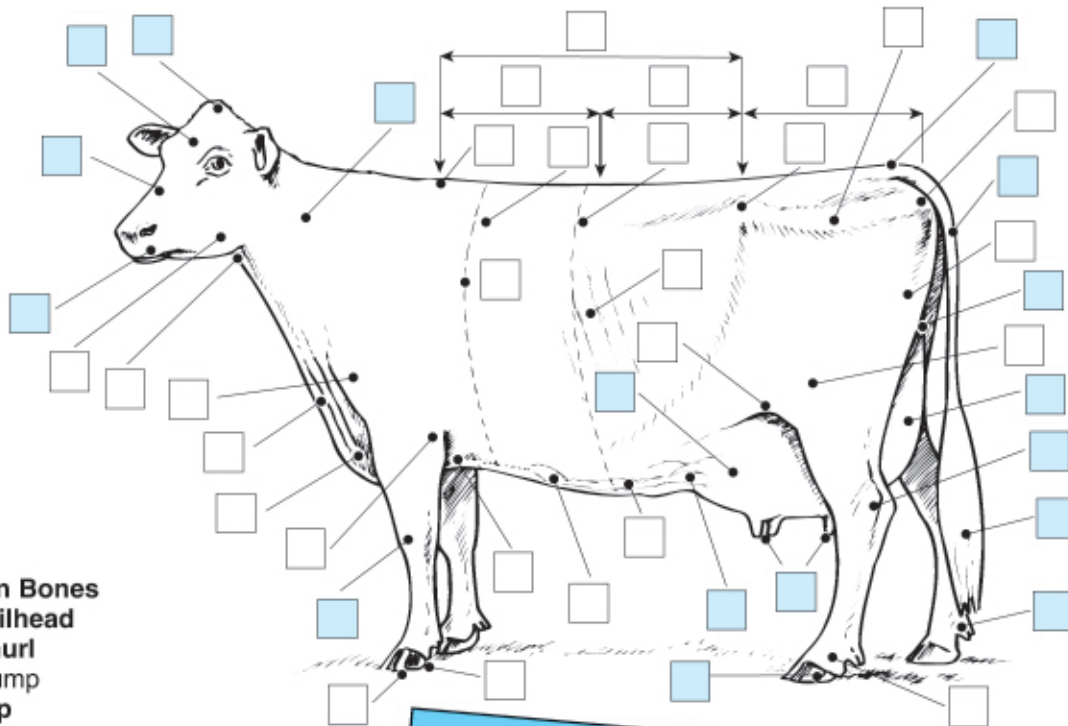
As you learn more about dairy cattle, you'll want to know the names of their body parts. Many of the body parts affect how much milk a cow produces and how long she will stay in the herd. As you select a project animal and learn about judging and showing dairy cattle it is important to know the names of the body parts.

Body Parts Word Bank

1. Poll
2. **Forehead**
3. Bridge of Nose
4. Muzzle
5. Jaw
6. Throat
7. Point of Shoulder
8. **Dewlap**
9. **Brisket**
10. **Point of Elbow**
11. Knee
12. **Sole**
13. **Heel**
14. **Chest Floor**
15. **Milk Wells**
16. **Milk Veins**
17. Fore Udder Attachment
18. **Teats**
19. Fore Udder
20. Flank
21. **Hoof**
22. **Pastern**
23. **Dewclaw**
24. **Switch**
25. **Hock**
26. **Rear Udder**
27. **Stifle**
28. Rear Udder Attachment
29. Thigh
30. **Tail**
31. **Pin Bones**
32. **Tailhead**
33. **Thurl**
34. **Rump**
35. **Hip**
36. **Ribs**
37. **Barrel**
38. **Loin**
39. **Back**
40. **Chine**
41. **Crops**
42. **Withers**
43. **Heart Girth**
44. **Neck**

Taking On the Challenge

From the Body Parts Word Bank, place the correct number of the part in the box pointing to that part in the picture. Start with the shaded boxes. As you learn more about dairy cattle you will be able to correctly identify all the major parts. Just for fun see if you can find the **bold** body parts in the Body Parts Word Find. Ask your project helper if you need assistance or go to the project web site for more information.



Body Parts Word Find

F O R E H E A D T A O R H T S
 S N I E V K L I M F H E E E L
 T E K S I R B V N O S D E A L
 W I T H E R S R C O X L L T E
 E L F I T S E K N H R U F S W
 C P O I N T O F E L B O W H K
 P H M W S S O L R R R H A E L
 P P E A A E W E E T S J A I
 S I P S G L D I U J A F K R M
 B B N D T D C D T N I O L T D
 X A I B U F D W U C L T I G E
 B R R R O E L Z E R H N M I W
 B A A R R N Z O U D E I H R L
 N E C K E L E H O O A O I T A
 R W E K E L T S W R D P P H P



Talk Words

- **Frame** • **Stature** • **Dairy character** • **Body capacity**
- **Udder depth** • **Teat placement** • **Udder cleft**
- **Freemartin**

Ruminations



Fresh Facts



Dairy Cow Unified Score Card

There are five major classification traits on which a classifier bases a cow's score. Each trait is broken down into body parts to be looked at and ranked in order of importance.

Say Cheese! (Share)

- What parts of the dairy cow were you able to identify?
- With which parts of the dairy cow did you need assistance?

Chew Your Cud (Process)

- Why should you learn the parts of a dairy animal?
- What resources can help you learn about dairy cattle parts?

Chore Time (Generalize)

- What parts are similar on you and on a dairy cow?
- What is your favorite way to learn new things?

Mooving Along (Apply)

- When you are buying something, how would you gather information about it?
- Describe how you could help others learn about body parts.

Milking It for More

1. If a real cow is available, identify 25 parts to a group of friends. Describe what you believe is the most desirable shape of each.
2. Visit a dairy cattle show and listen to how the judge uses the correct names for the body parts when they give their reasons at the end of the class. Make a list of any words you do not know and ask your project helper to explain them to you.

Trait

Points for perfect score

Frame (skeletal parts except feet and legs)

15

- **Rump** - long and wide throughout with pin bones slightly lower than hip bones. Thurls need to be wide apart and centrally placed between hip bones and pin bones. The tailhead is set slightly above and neatly between pin bones, and the tail is free from coarseness. The vulva is nearly vertical.
- **Stature** - height, including length in the leg bones. A long bone pattern throughout the body structure is desirable. Height at the withers and hips should be relatively proportionate.
- **Front End** - adequate constitution with front legs straight, wide apart and squarely placed. Shoulder blades and elbows need to be firmly set against the chest wall. The crops should have adequate fullness.
- **Back** - straight and strong; the loin, broad, strong and nearly level.
- **Breed Characteristics** - overall style and balance. Head should be feminine, clean-cut, slightly dishd with broad muzzle, large open nostrils and a strong jaw is desirable.

Dairy Character (physical proof of milking ability)

20

- **Ribs** - wide apart. Rib bones are wide, flat, deep, and slanted toward the rear.
- **Thighs** - lean, incurving to flat, and wide apart from the rear.
- **Withers** - sharp, with the chine prominent.
- **Neck** - long, lean, and blending smoothly into the shoulders. A clean-cut throat, dewlap, and brisket are desirable.
- **Skin** - thin, loose, and pliable.

Body Capacity (volume measurement of the animal's capacity; length x depth x width)

10

- **Barrel** - long, deep, and wide. Depth and spring of rib increase toward the rear with a deep flank.
- **Chest** - deep and wide floor with well sprung fore ribs blending into the shoulders.

Feet and Legs (feet and legs)

15

- **Feet** - steep angle and deep heel with short, well-rounded closed toes.
- **Rear Legs** - (rearview) straight, wide apart with feet squarely placed. (side view) a moderate set (angle) to the hock.
- **Hocks** - cleanly molded, free from coarseness and puffiness with adequate flexibility.
- **Pasterns** - short and strong with some flexibility.

Udder (udder traits with some consideration on milk production)

40

- **Udder Depth** - moderate depth relative to the hock with adequate capacity and clearance.
- **Teat Placement** - squarely placed under each quarter, plumb and properly spaced from side and rear views.
- **Rear Udder** - wide and high, firmly attached with uniform width from top to bottom and slightly rounded to udder floor.
- **Udder Cleft** - evidence of strong suspensory ligament indicated by adequately defined halving.
- **Fore Udder** - firmly attached with moderate length and ample capacity.
- **Teats** - cylindrical shape and uniform size with medium length and diameter.
- **Udder Balance and Texture** - should exhibit an udder floor that is level as viewed from the side. Quarters should be evenly balanced; soft, pliable and well collapsed after milking.

Total possible points for perfect score

100