

Meet the Milk Makers

ANATOMY AND BREEDS LESSON

Learning Target: Identify popular breeds and parts of dairy cattle using correct terminology.

Engagement Strategy: "Are You My Mother?"

Ask students if they know the difference between a cow and a calf.

Use the "Are You My Mother" Teacher's Guide to show students a calf, heifer, and a cow.

Explain the terminology for each, as well as for horns and herd.

Learning Activity: "Meet the Milk Makers"

Give students the "Meet the Milk Makers" Student Handout with the word bank of part names.

Use the Teacher's Guide to describe each part and see if students can correctly guess where on the diagram each one is located.

Students will use the word bank to label the diagram of a dairy cow with the correct terms for common parts (hoof, udder, poll, etc.). You can have students work on their own or complete the page as a class.

Refer back to the the Teacher's Guide answer page to go over the correct terms for each part.

Culminating Activity: "Milk or Meat?"

Use the Breeds of Dairy Cattle Teacher's Guide to introduce the most common dairy breeds in the United States. Ask students if they have seen any of these breeds before and if so where.

Introduce the student activity, by telling the class:

You may see different kinds of cows on t.v., the internet, or even driving down the road. All cattle produce meat and milk but not all cows are raised for the same thing. Breeds of cattle are usually developed to specialize in one or the other, meat or milk.

Cattle breeds that are raised for meat are more muscular and not as tall as breeds raised for milk. The udder on meat cows will not be as obvious as on dairy cows and they will often have their calves in the same pasture. Dairy cattle may not look as fat as beef cows but they are the perfect weight for performance - just like a professional athlete!

Give students the "Milk or Meat?" Student Handout. Students will use what they learned in the class discussion on breeds to decide if the breed pictured is raised primarily for milk or for meat.

Have students complete this on their own or project it and take votes on each as a class. Remind them that they may not know every answer but to make their best guess.

When everyone is finished, discuss each picture and talk about the characteristics that can be observed. As a class, go over the correct answers:

- A: milk (Jersey cow)
- B: meat (Black Angus cow and calf)
- C: meat (Red Angus heifer)
- D: milk (Holstein cow)

Are You My Mother?

DAIRY CATTLE TERMS

What's the difference between a calf, a heifer, and a cow?

In cattle terms, a baby is called a **calf**. A calf can be a male or female and is usually under one year old. The plural of calf is **calves**.

Heifers are young females, usually under two years old. The term **heifer** means they have not had a baby yet. Giving birth is called **calving**.

An adult female cattle is called a **cow**. The easiest way to tell the difference between a heifer and a cow is to look for the udder. Cows have an udder that provides milk. Since heifers have not given birth yet, they do not have a developed udder.

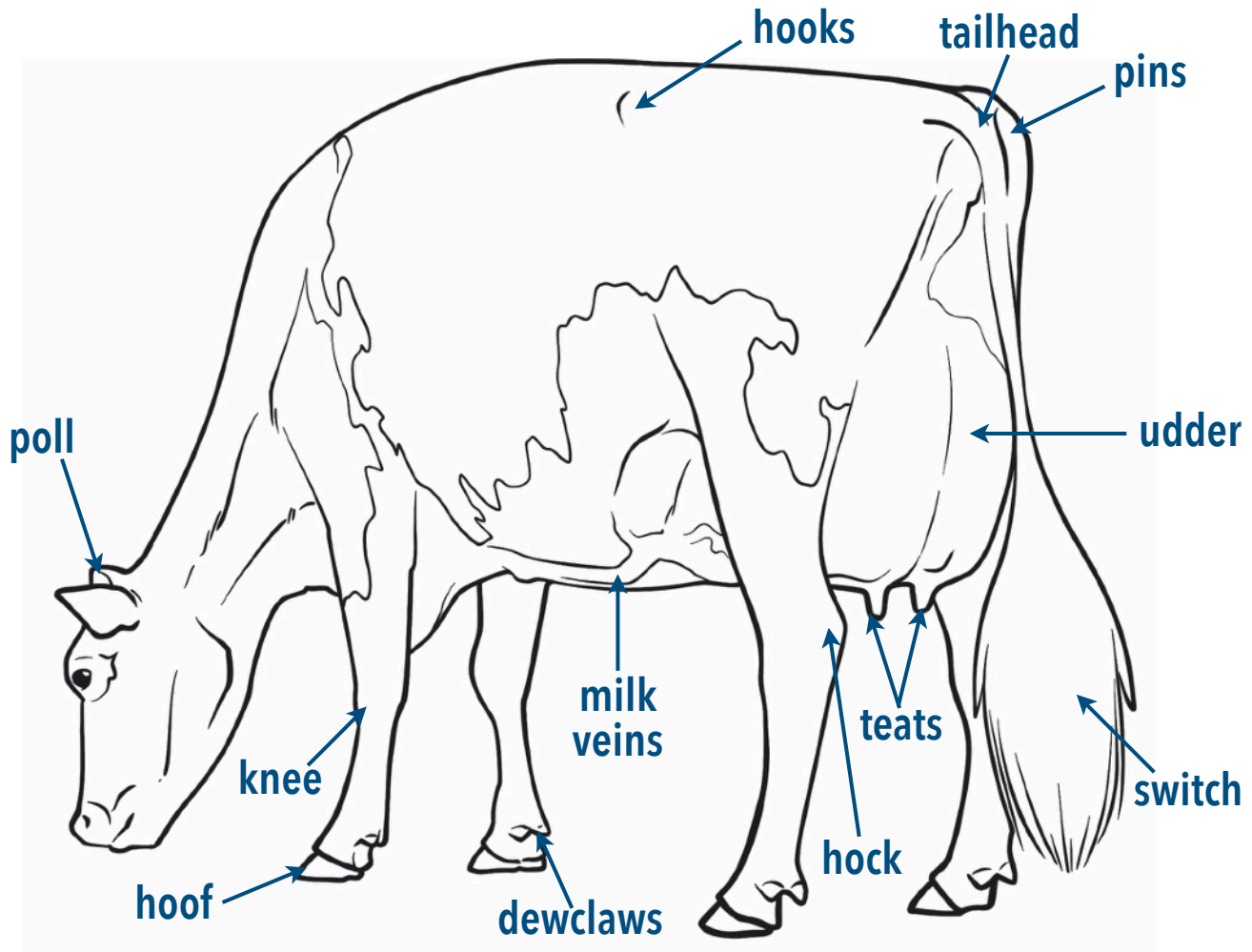
Dairy cows do have **horns** but they are usually removed when as calves for safety of the herd and the handlers. Horns do not indicate male or female on cattle.

A group of cattle is called a **herd**. You can have a herd of cows and you can also have a herd of heifers.



Meet the Milk Makers

PARTS OF A DAIRY COW



dewclaws: like toes but functionless

hock: joint on the hind leg that bends backwards; acts like a human ankle

hoof: the cow's foot; they have split hooves with two-toes

hooks: another name for the hip bones on dairy cattle

knee: the joint on the front leg like a wrist to a person

milk veins: large veins that are visible under the skin on the belly of the cow that takes blood from the udder to the heart; most easily seen on dairy cattle

poll: the (often pointed) very top of the head, between the horns which are usually removed for the safety of the animals and people working around them

pins: bones on either side of the tailhead

switch: specifically refers to the bundle of long hairs on the end of the cow's tail

tailhead: where the tail attaches to the body

teats: where milk exits the udder; a cow has four teats (one for each quarter)

udder: the mammary gland of the cow that is divided into four quarters

Meet the Milk Makers

BREEDS OF DAIRY CATTLE

Just like dogs or horses, there are many different breeds of cattle. A **breed** is a group of animals with distinctive appearance and other characteristics that sets it apart from others of its kind. There are seven major dairy breeds in the U.S., but the most recognized is the Holstein. There are over 9 million dairy cows in the U.S., with approximately 90% of them being of Holstein descent.

Holstein

Holsteins are the biggest cows of the dairy breeds weighing around 1,400 pounds at maturity and produce the most milk of any breed. Holsteins are very distinctive with their black and white, or sometimes red and white, coat pattern. Each pattern is like a human fingerprint, so each Holstein has markings unique to only her.



Jersey

Jerseys are all brown. They can range from a brown so light, it's almost white or grey to a dark fawn color. Sometimes the tips of their ears can be black. Jerseys always have a grey colored tongue and black hooves. The smallest of the dairy breeds, Jerseys weigh in at 800 to 1,200 pounds and are known for producing milk with very high butterfat content.



Brown Swiss

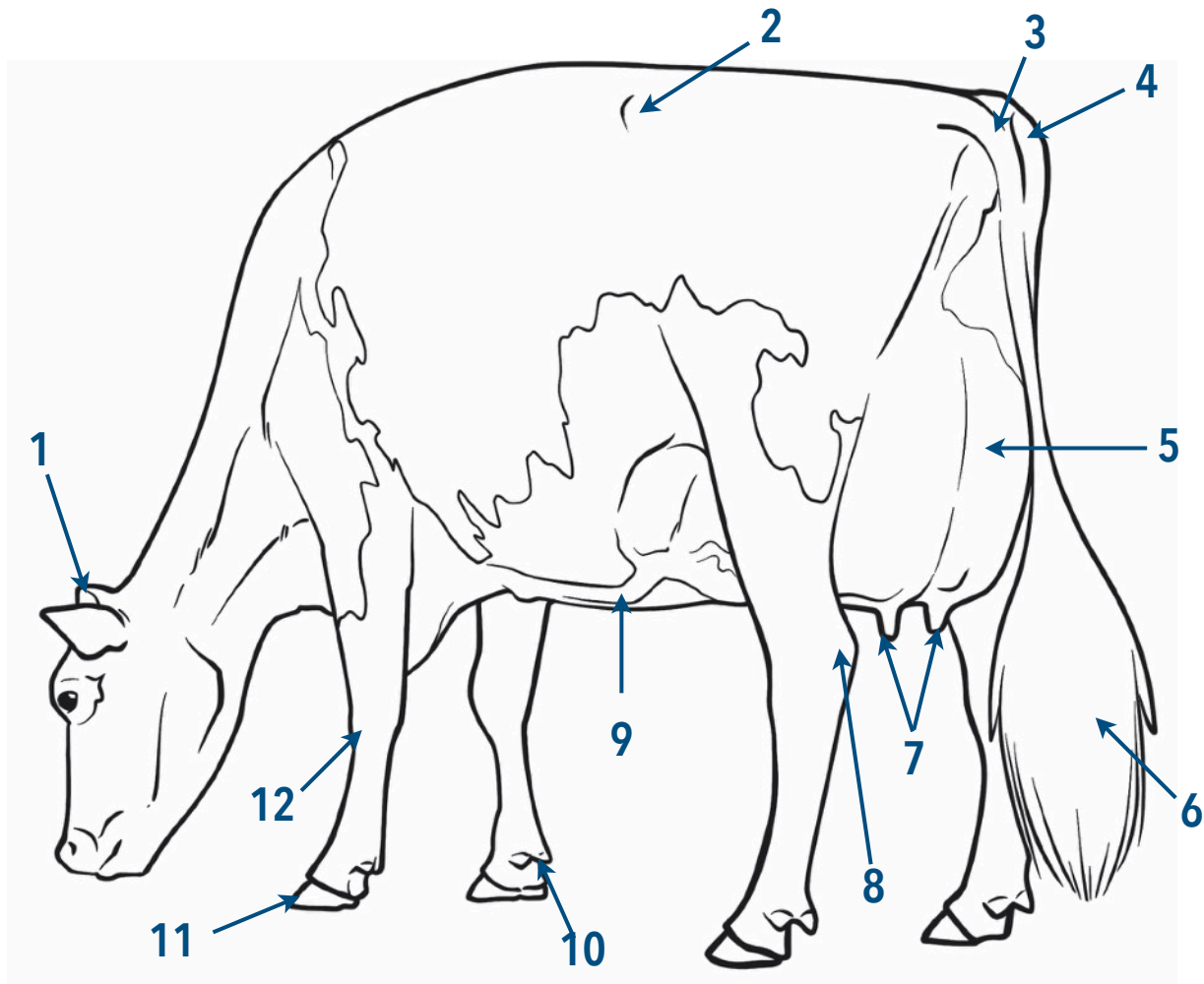
Brown Swiss are thought to be one of the oldest dairy breeds in the world and weigh 1,300 to 1,400 pounds when full grown. Brown Swiss have large ears and they vary in color from very light silver to very dark gray with black muzzles and tails. Their milk is ideal for making cheese because of its high protein-to-fat ratio.



Meet the Milk Makers

PARTS OF A DAIRY COW

dewclaws	hoof	knee	poll	switch	teats
hock	hooks	milk veins	pins	tailhead	udder



What part is that?

- | | | | |
|----------|----------|----------|-----------|
| 1. _____ | 4. _____ | 7. _____ | 10. _____ |
| 2. _____ | 5. _____ | 8. _____ | 11. _____ |
| 3. _____ | 6. _____ | 9. _____ | 12. _____ |

Milk or Meat?

DAIRY CATTLE BREEDS

Instructions:

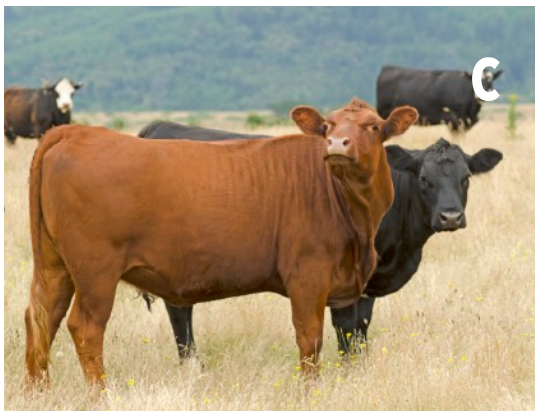
1. Look at each picture below. Decide if it shows dairy cattle or beef cattle.
2. If it is a dairy cow (raised for milk), then circle the milk and cheese icon.
3. If it is a beef animal (raised for meat), circle the burger and steak icon.

**A**

OR

**B**

OR

**C**

OR

**D**

OR

