Unit A: Basic Principles of Animal Husbandry

Lesson 3: Identifying the External Parts of Livestock

Student Learning Objectives: Instruction in this lesson should result in students achieving the following objectives:
1. Identify and describe the external body parts of Beef Cattle
2. Identify and describe the external body parts of Dairy Cattle
3. Identify and describe the external body parts of Sheep and Goats
4. Identify and describe the external body parts of Chickens and other specific poultry

Recommended Teaching Time: 4 hours

Recommended Resources: The following resources may be useful in teaching this lesson:
- Internet keywords: Beef cattle, beef breed, cattle, dairy cattle, sheep, goats, ovine, poultry, fowl, geese, duck, turkey.
- http://www.sheep101.info/
- http://animalscience.ag.utk.edu/ITCModules/Module1/Parts/Parts.htm

List of Equipment, Tools, Supplies, and Facilities
- Writing surface
- Projector
- PowerPoint Slides
- Transparency Masters
- Scissors
- Posterboard
- Crayons or Writing Utensils
- Pictures of animals without body parts labeled
- Live Animals of the following species: Beef or Dual Purpose Animal, Dairy cow, Sheep, Goat, Chicken, and Turkey, Goose and/or Duck if available.
Interest Approach. Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

Draw or copy pictures of a dairy cow, beef steer, sheep, goat, and chicken with their external parts labeled. Using scissors cut out each of the parts with their label. Hide these around the classroom before students arrive.

When students arrive to class tell them they are going to go on a scavenger hunt. Instruct them to look for the animal parts throughout the room and set a time limit on how long they will be looking. After instructions have been given, let them start looking! When they have finished collecting all items have students return to their seats with their findings. Ask them if they know what they are holding. Lead this into Objective 1.

Summary of Content and Teaching and Learning Strategies

Objective 1: Identify and describe the external body parts of Beef Cattle.

Anticipated Problem: What are the major external parts of a beef animal?

First, all animals have a head, eyes, ears, noses and the same basic parts as every other animal. However, some animals have parts that are unique to their species and special for what they produce.

I. The main purpose of beef cattle is for meat consumption, we must know the proper terminology to select the best quality of animal for our herd.

A. There are many external parts of beef cattle that you must know in order to speak the language when selecting one beef animal over another. These are general parts like mentioned before and important features such as:

1. Loin - The loin is part of the back. It is the area between the last rib and the hip bone.
2. Rump - The rump is also part of the back, and runs from the hip bone to the end of the animal, which in cattle is the tail head.
3. Brisket - The mass of connective tissue and fat covering the front of the animal between the front legs.

**Use TM: 3-1 and PowerPoint Slides 2, 3, 4, 5, 6 and 7 to discuss the external parts of a beef animal. You can draw the picture of a beef animal on the writing surface or have students sketch PowerPoint Slide 3 on their paper. Also, have students show what they know by having a mini-quiz over the external parts of a beef animal during the lesson. This quiz is not for a grade, just for you to see their level of understanding.
Objective 2: Identify and describe the external body parts of Dairy Cattle

Anticipated Problem: What are the major external parts of a dairy cow?
(PowerPoint Slides 8, 9, 10, 11, and 12)

II. Dairy cattle have many external parts that are similar to the beef animal but we need to be able to identify the differences in order to evaluate their production potential and to describe any problems the animal may have. Since the main purpose of dairy cattle is to produce milk, their structure has been developed to do so more efficiently by intensive breeding programs. Some of the main external parts of a dairy cow include:

A. Mammary system - In the cow, the udder consists of four separate mammary glands. Each gland has one teat and each teat has one opening. The right and left halves are entirely separate.
B. Hock – The “knee” of the back legs.
C. Withers – The point of the shoulder.

**Use [http://www.ext.vt.edu/resources/4h/virtualfarm/dairy/dairy_cow.html](http://www.ext.vt.edu/resources/4h/virtualfarm/dairy/dairy_cow.html) as a tool to help master this objective. Students can navigate to this webpage and place the parts on a dairy cow. Also, use TM: 3-2 and PowerPoint Slide 9 as a guide to draw on the writing surface or have students sketch on their paper.

Objective 3: Identify and describe the external body parts of Sheep and Goats

Anticipated Problem: What are the major external parts of sheep and goats?

III. There are many similarities and many differences between sheep and goats. They are both mammals that have ruminant digestive systems and have divided hoofs. Both are important to the economy.

**Now ask students, which is more important to the agricultural economy of Afghanistan, the raising of sheep or goats? After the students respond, ask them to explain the reasons why one is more important than the other.

A. There are many similar external parts of sheep and goats that also relate to beef and dairy animals.
   1. Special features for goats include: Milk Vein, Udder and Teats – Important for milk production
   2. Special features for sheep include: Leg of Lamb (mutton), Back, Loin and Rack – Major parts of a sheep used for meat.

**Use TM: 3-3 and PowerPoint Slides 13 and 14 to identify major external parts of goats and sheep. Use this as a guide to draw on the writing surface or have students sketch on their paper. Students could also sketch this onto larger sheets of paper or posterboard and create flaps to cover each labeled part. This could be used as a review game. Students could test each others knowledge by leaving the flaps on the body parts of the animals and verbally answering when a body part is pointed to. They could check their answer by raising the flap.
**Objective 4:** Identify and describe the external body parts of Poultry.

**Anticipated Problem:** What is poultry?

VI. **Poultry** is the group name for all domesticated birds used for meat, eggs, and feathers. Poultry are also referred to as birds and fowl. These birds have wings, backbones, and feathers; some can even swim.

A. The main difference between poultry and other animals is they have different digestion and reproduction systems. Their digestive system includes a gizzard to make up for not having teeth. **Ask students why their digestive system is so different? Because they eat a completely different type of diet.** Reproduction entails egg laying after mating for fertile eggs. Another interesting point on poultry reproduction is that artificial insemination is needed because some birds are unable to mate naturally because of their mass of flesh. Turkeys are the best example.

B. Externally, most birds are very similar. However, there are features on the head, neck and feet of birds that help to identify them.

**Use TM: 3-4 and PowerPoint Slides 15, 16, and 17 to point out features that help identify birds and to show the distinguishing parts of each type of bird. Using a discussion format, compare and contrast each type of bird with the others. Ask students which types of birds are found in Afghanistan. Have students create connections and list the similarities and differences between each type of bird. Collect these lists on the writing surface. Then, take students to see live birds. Have them point out physical differences between each type.**

**Review/Summary.** Use the student learning objectives to summarize the lesson. Have students explain the content associated with each objective. Student responses can be used to determine which objectives need to be reviewed or re-taught using a different approach. Utilize the material created from each objective as a review for the evaluation. Have students rotate between quiz on beef cattle parts, the posterboards, the internet site, and the list compiled to review the external parts of the animals. Also, take students outside to view live animals. As you point to specific body parts, ask the students to tell you what they are.

**Evaluation.** Evaluation should focus on student achievement of the objectives for each lesson. Various techniques can be used, such as performance on the application activities. Also, labeling each diagram from memory would be beneficial. Below is a sample test.

**Answers to Sample Test.**

Sample Test 3-1

TEST

Label each part correctly.
1. ______________________
2. ______________________
3. ______________________
4. ______________________
5. ______________________
6. ______________________
7. ______________________
8. ______________________
9. ______________________
10. ______________________

Part two: Fill in the Blank

11. The poll is located on the ______________ of the head in sheep, goats, and cattle.

12. The withers are located at the point of the ________________.

13. The hock is comparable to the ______________ in humans.

14. Cattle have _____ teats while sheep and goats have ______.

15. Explain in your own words why it is important to understand the anatomy of animals.
External Anatomy of Dairy Cow
Anatomy of Sheep and Goats
External Anatomy of Poultry

- Eye
- Face
- Nostril
- Beak
- Wattle
- Shoulder
- Wing Bone
- Wing Front
- Breast
- Thigh
- Shank
- Toe
- Fluff
- Primary Flights
- Back
- Ear Lobe
- Cape
- Main Tail Feathers
- Comb
- Head
- Ear
- Comb
- Eye Ring
- Serration
- Points
- Blade
- Ear
- Ear Lobe
- Chicken
- Eye
- Beak
- Snood
- Caruncles
- Beard
- Turkey
- Eye
- Knob
- Bill
- Dewlap
- Goose
- Eye
- Bill
- Nasal Opening
- Bean
- Duck