

Unit A: Introduction to Poultry Science

Lesson 1: Exploring the Poultry Industry

Student Learning Objectives: Instruction in this lesson should result in students achieving the following objectives:

1. Describe poultry as Organisms.
2. Identify Poultry Terminology.
3. Explain the four poultry production systems.

Recommended Teaching Time: 2 hours

Recommended Resources: The following resources may be useful in teaching this lesson:

- A PowerPoint has also been developed for use with this lesson plan
- <http://www.worldpoultry.net/>
- <http://www.globalfoodchainpartnerships.org/cairo/papers/TomFattoriAfghanistan.pdf>

List of Equipment, Tools, Supplies, and Facilities

Writing surface
PowerPoint Projector
PowerPoint Slides
Transparency Masters
Eggs that are of various sizes and colors

Terms: The following terms are presented in this lesson (shown in bold italics and on PowerPoint Slide # 2):

Poultry	Pullet	Ducklings
Layers	Hen	Gosling
Broilers	Pullet Producers	Gander
Chick	Tom	Goose
Cockerel	Poult	Turkey
Roosters	Drake	Duck

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.

Display eggs on a safe surface to show the different colors, grades, and weight classes or show the students **PowerPoint Slide #3**. Start a discussion by asking students to think of reasons why the eggs may be different. Possible responses from the students on why the eggs are different could be: They come from different breeds of chickens, they may have been fed different types of feed, or the eggs may come from different types of birds. **PowerPoint Slide #4** is a picture of a Goose, Duck, Turkey and Chicken egg. From this discussion lead into Objective 1 with the question, What is Poultry?

Summary of Content and Teaching Strategies

Objective 1: Describe Poultry as Organisms

(PowerPoint Slide #5)

I. What is Poultry?

- A. **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.

(PowerPoint Slide #6)

1. The main difference between poultry and other animals is they have different digestion and reproduction systems.
 - a. Their digestive system includes a gizzard to make up for not having teeth.

Use TM: 1-1 and PowerPoint Slide #7 to discuss the digestive system of Poultry. The drawing provided is of a rooster but the digestive system is the same for all poultry.

(PowerPoint Slide #8)

- b. Reproduction entails laying eggs after mating for fertile eggs.

Use TM 1-2 and PowerPoint Slide #8 to discuss the reproductive system of Poultry. The drawing is of a hen but the reproductive system is the same for all poultry.

(PowerPoint Slide #9)

2. 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.

(PowerPoint Slide #10)

3. The chicken and the turkey are similar in two main ways. They both have feet called claws. These claws are very strong for scratching the earth and finding food. They also look like fingers/toes that allow them to grip or hold onto objects for roosting.

(PowerPoint Slide #11)

- a. They also both have sharp beaks for pecking at insects and grain.

(PowerPoint Slide #12)

4. The duck and the goose are also similar to each other. They both have bills, which help them to eat certain types of food. The duck's bill allows it to feed in water while the goose's bill allows it to pick up grass.

(PowerPoint Slide #13)

- a. Both the duck and the goose have webbed feet, which help them to swim.

Use TM: 1-3 to review additional differences between chickens, turkeys, ducks and geese.

(PowerPoint Slide #14)

5. Although most birds use their wings to fly, chickens are not good at flying. They can fly up onto their perches or over a fence but they spend most of their lives on the ground. Ducks and geese can fly very well. If they are being kept in an open-topped pen, they must have the feathers of one wing shortened so that they cannot take off. Clipping the feathers is like getting a haircut and doesn't hurt the bird.

Use TM: 1-1, TM: 1-2, and TM: 1-3 and the appropriate Power Point Slides to make sure the students understand Poultry. Lead the students into a discussion about what makes poultry different from other animals.

Objective 2: Identify Poultry Terminology

(PowerPoint Slide #15)

II. What are terms associated with poultry?

- A. Chickens are classified as layers or broilers. **Layers** are chickens that are used to produce large quantities of eggs. Eggs are used for food and to produce chicks. **Broilers** are young chickens that weigh about 1.8 kg, are 6 to 7 weeks old, and are used for meat because they are tender. Chickens are grouped by sex and age. A baby chicken of either sex is called a **chick**. Young male chickens are called **cockerels**.

Use PowerPoint Slide #16 to show examples of layers, broilers, chicks and a cockerel.

(PowerPoint Slide #17)

- B. Mature males are called **roosters**. Young female chickens are called **pullets**. Mature females are called **hens**. A **hen** also refers to a mature female duck and turkey.

(PowerPoint Slide #18)

- C. Turkeys also have names for specific types. An adult male turkey is called a **tom** or a gobbler. An adult female is called a hen and a young turkey of either sex is a **poult**.

(PowerPoint Slide #19)

- D. Ducks have down that grows under the feathers. A **drake** refers to mature male ducks. A female duck is a hen and **ducklings** are young ducks of both sexes.

(PowerPoint Slide #20)

- E. Young geese are referred to as **goslings**. The male at maturity is called a **gander**. A female at maturity is called a **goose**.

****Use TM: 1-4 to discuss poultry terminology. Assign each student a vocabulary word from this objective and have them stand and define their word.**

Objective 3: Explain the four poultry production systems.

(Power Point Slide #21)

III. Poultry Production Systems in Afghanistan

- A. Poultry production systems evolve or transition over time due to the prevailing conditions in a given country. Conditions include macro and micro-economic factors, availability of appropriate education and support services, and market demand for products. The following four types of systems are defined in general terms from the basic requirements of one system transitioning to a more intensive system.

(PowerPoint Slide #22)

1. Backyard scavenger system.

- a. The primary poultry production system in Afghanistan is by far the traditional backyard system where women raise small numbers of domestic fowl for home consumption while small, mostly seasonal surpluses are sold in village markets.
- b. Birds scavenge around the household for whatever source of food they can find. Flock size is usually less than 10 birds and hens each produce about 60 eggs per year.

(PowerPoint Slide #23)

- c. Domestic fowl, compared to improved breeds, are relatively disease resistant; however mortality rates are high due to a lack of knowledge and veterinary services.
- d. This backyard system is defined as an extensive system, whereas commercial systems are defined as intensive systems.

(PowerPoint Slide #24) is an example of a backyard scavenger system.

(PowerPoint Slide #25)

2. Semi-scavenger system.

- a. In this system, dual purpose birds (bred for meat and egg production) are managed in rudimentary housing with basic equipment, are supplied with at least fifty percent of their feed needs, and receive medications.
- b. Flock sizes range from 10 to 150 birds with mixed breeds and average egg production in the range of 125 to 150 eggs per year.
- c. Poultry producers need additional poultry management practices appropriate for a semi-scavenger system.

(PowerPoint Slide #26) is an example of a semi-scavenger system.

(PowerPoint Slide #27)

3. Semi-commercial system.

- a. A semi-commercial system transitions the poultry producer to more intensive management practices.
- b. Typically, these systems are small-scale and range in size from 500 to 5,000 birds that are housed in total confinement and are provided with all of their feed needs.
- c. This system is usually utilized by producers that have transitioned from semi-scavenger systems and have developed their management capabilities, found

market outlets for their products, and can obtain working capital for purchasing their feed needs.

(PowerPoint Slide #28) is an example of a semi-commercial system.

(PowerPoint Slide #29)

4. Commercial system.

- a. Commercial systems are large-scale production operations utilizing capital intensive equipment and technologies.
- b. These systems often vertically integrate production, processing, hatchery, and feed mill functions into a self contained and independent system.

(PowerPoint Slide #30) is an example of a commercial system.

Use TM: 1-5 and PowerPoint Slide #31 to help lead a discussion of the four different types of poultry production systems. Have students share knowledge they may have about each system. If possible arrange a field trip to visit each of the different types of poultry production systems. Discuss marketing of poultry based upon each type of poultry system in the local community and Afghanistan as a whole.

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 with a different approach. Questions on **PowerPoint Slide #32** can also be used.

Application: Application can involve student activity in raising their own chickens on the school farm or working for local poultry producers.

Evaluation: Evaluation should focus on student achievement of this lesson's objectives. A sample written test is attached.

Answers to Sample Test:

Part One: Matching

1=A, 2=H, 3=D, 4=E, 5=B, 6=C, 7=F, 8=G

Part Two: Completion

1. Roosters
2. Hens
3. Layers
4. Poult
5. Goslings
6. Broilers

Part Three: Short Answer

Answer should include minor details about each system but at least must include the following:

Scavenger, Semi-scavenger, Semi-commercial, Commercial.

Sample Test

Name _____

Test

Unit A Lesson 1: Exploring the Poultry Industry

Part One: Matching

Instructions. Match the term with the correct response. Write the letter of the term by the definition.

- | | | |
|------------|-------------|--------------|
| a. Hen | d. Chick | g. Cockerels |
| b. Drake | e. Duckling | h. Gander |
| c. Poultry | f. Goose | |

- _____ 1. Mature female duck, or turkey.
- _____ 2. Male geese at maturity.
- _____ 3. A baby chicken of either sex.
- _____ 4. Young ducks of both sexes.
- _____ 5. Mature male ducks.
- _____ 6. The group name for all domesticated birds used for meat, eggs, and feathers.
- _____ 7. Mature female geese.
- _____ 8. Young male chickens.

Part Two: Completion

Instructions. Provide the word or words to complete the following statements.

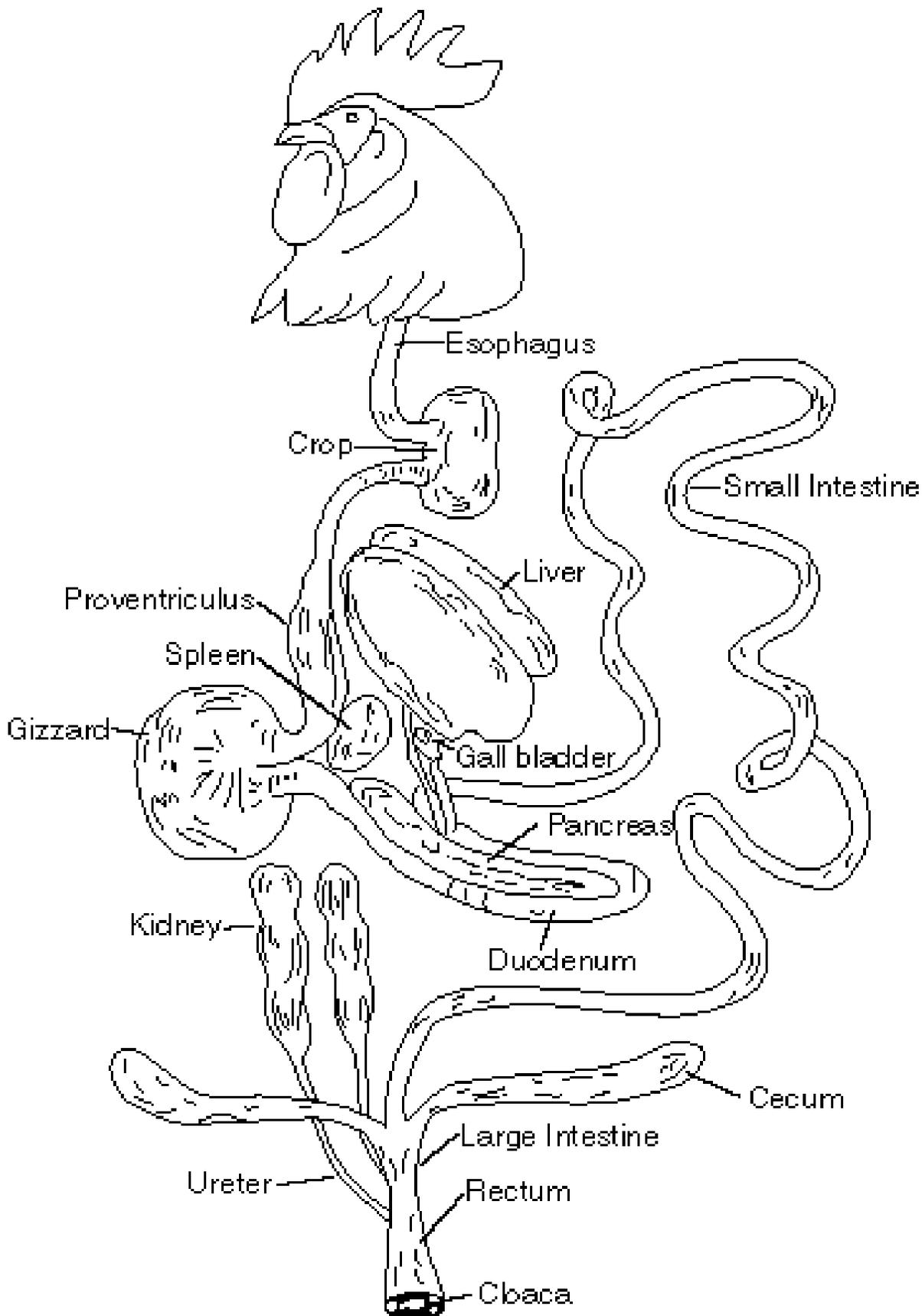
- 1. _____ are mature male chickens.
- 2. _____ are mature female chickens.
- 3. _____ are chickens that are used to produce large quantities of eggs.
- 4. A young turkey of either sex is a _____.
- 5. Young geese are referred to as _____.
- 6. _____ are young chickens that weigh about 4 pounds, are 6 to 7 weeks old, and are used for meat because they are tender.

Part Three: Short Answer

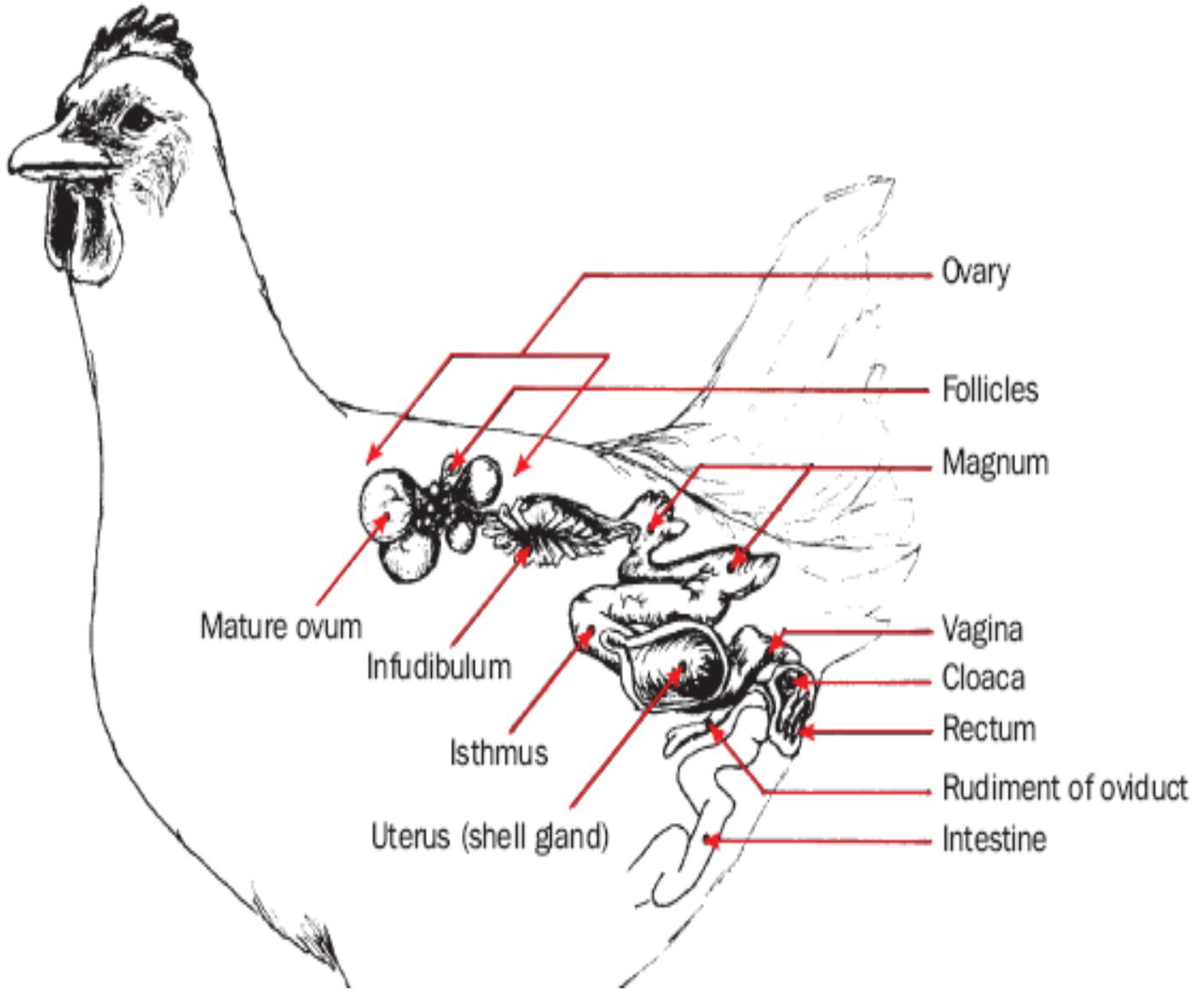
Instructions. Provide information to answer the following question.

Explain the four types of Poultry Systems in Afghanistan.

DIGESTIVE SYSTEM



REPRODUCTIVE SYSTEM



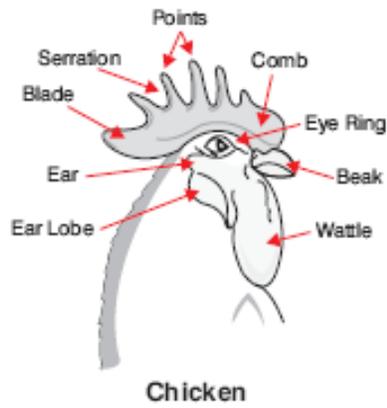
TM: 1-3



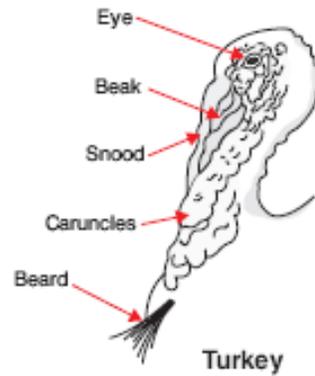
Claw



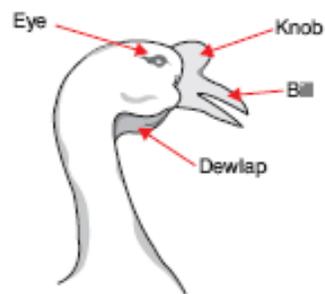
Webbed Feet



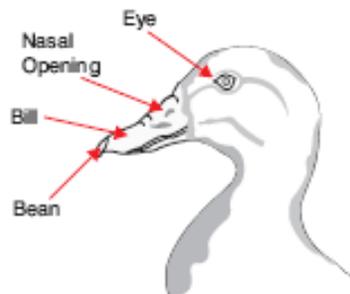
Chicken



Turkey



Goose



Duck

POULTRY TERMINOLOGY

- Layers are chickens that are used to produce large quantities of eggs.
- Broilers are young chickens that weigh about 4 pounds, are 6 to 7 weeks old, and are used for meat because they are tender.
- A baby chicken of either sex is called a chick.
- Young male chickens are called cockerels.
- Mature males are called roosters.
- Young female chickens are called pullets.
- Mature female chickens, turkeys and ducks are called hens.
- An adult male turkey is called a tom or a gobbler.
- A young turkey of either sex is a poult.
- Drake refers to mature male ducks.
- Ducklings are young ducks of both sexes.
- Young geese are referred to as goslings.
- Male geese at maturity are called ganders.
- A female geese at maturity is called a goose.

Types of Poultry Systems

