

# PRIMARY WORK BOOK

## ESSENTIAL BACK UP TOOL FOR SUCCESS

ESSENTIAL BACK UP TOOL FOR SUCCESS IS A SERIES OF LEARNING THE SOURCE MATERIALS ORGANISED FOR USE AFTER THE TEACHER HAS INTRODUCED AND EXPLAINED THE CONCEPT TO THE LEARNER.

ESSENTIAL BACK UP TOOL FOR SUCCESS COVERS PRIMARY SYLLABUS FROM **PRIMARY ONE TO PRIMARY SEVEN** IN ALL SUBJECT ASPECTS THAT IS ENGLISH, SOCIAL STUDIES, INTEGRATED SCIENCE, MATHEMATICS, LITERACY ( FOR LOWER CLASSES) AND RELIGIOUS EDUCATION.

THIS TOOL IS WELL SUMMARISED WITH RELEVANT EXPLANATIONS, FOLLOW UP EXERCISES AND ACTIVITIES IN LINE WITH TERM ONE WORK AS PRESCRIBED BY THE NATIONAL CURRICULUM DEVELOPMENT CENTER , UGANDA.

EACH OF THE ABOVE ASPECTS HAS A VARIETY OF DIFFERENT FORMS OF ACTIVITIES TO ENHANCE MASTERY.

THIS WORK BOOK IS ORGANISED BY MARKS GATE INTERNATIONAL (MGI) IN CORROBORATION WITH STANDARD HIGH SCHOOL ZZANA (STAHIZA)

THIS TOOL HAS SERIES IN TERMS THAT IS (TERM ONE, TERM TWO, TERM THREE)

**Here in is an extract of the material that compose a whole book. In case you are interested in the complete sets of books, contact; 0772511120/0705283741**

# PRIMARY FIVE SCIENCE WORK BOOK FOR TERM ONE

## TOPIC ONE: KEEPING POULTRY

**Poultry:** Poultry refers to domestic birds

**Poultry keeping:** This is the rearing of domestic birds.

### Terms used in poultry and their meanings

- **Hen** – Adult female chicken.
  - **Cock** – Adult male chicken.
  - **cockerel** – Young male from 8 weeks onwards
  - **capon** – castrated male
  - **pullet** – young female
  - **chick** – very young bird from hatching to 8 weeks
  - **Incubation** – process by which an egg is given necessary condition to hatch into a chick
  - **Incubator** – A machine used to hatch eggs into chicks
  - **Layer** – Type of bird kept mainly for egg production
  - **Broiler** – This is a type of chicken kept mainly for meat production.
  - **Brooding** – It is the giving of special care to young chicks below 8 weeks.
  - **Broody hen** – A hen sitting or incubating eggs to hatch them.
  - **Brooder** – A special structure for keeping chicks below 8 weeks.
- a) **Culling** – This is the removing of unwanted chicken e.g. sick or unproductive birds from the flock.
- **Moulting** – The process by which birds shed their feathers to replace them.

### Importance of poultry keeping

- For meat production
- For egg production
- For cultural purposes like dowry, rituals
- Source of income when sold.
- Their droppings are used as manure.
- Some birds are kept as pets.
- Feathers can be used for decoration

NB: Their eggs and meat are sources of proteins to our bodies.

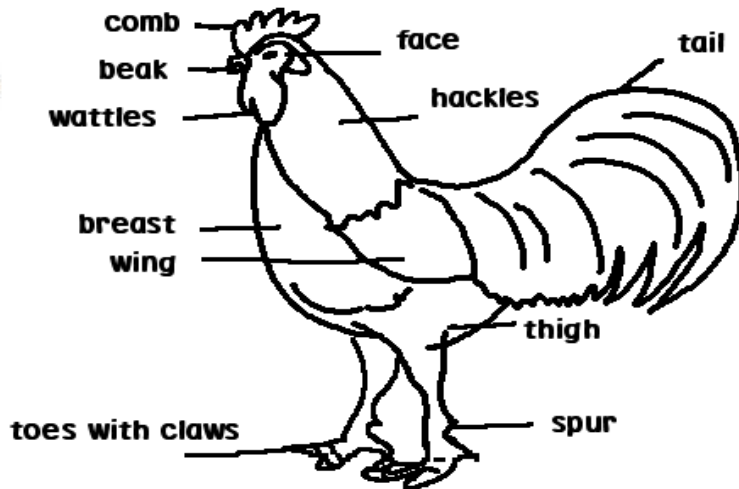
### Types / Examples of poultry

- chickens
- ducks
- Turkeys
- Guinea fowl
- Geese
- pigeons

(f) **External features of a domestic bird**

Comb, beak, wattle, breast, nape, wing, toe, claws, spur, tail feathers, earlobe and eye.

**Parts of a domestic bird**



(g) **Functions of each part**

- **Beak** – picks up food
- **Nostrils** – They are sense organs for smell
- **Eyes** – Enable birds to see
- **Wings** – Enable birds to fly
- **Claws** – for scratching the ground to look for food
- **Spur** – For protection
  - Firm grip during mating

**Feathers**

Feathers are the outermost covers of the bird's body.

**Uses of feathers to birds**

- Keep the bird warm.
- Protect their body from mechanical injury
- Enable birds to fly
- Give shape and colour for easy identification
- For attraction to opposite sex during mating period

**Uses of feathers to people**

- For decoration
- For making pillows

**Types of feathers**

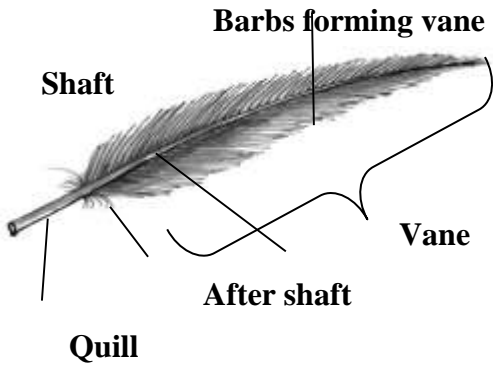
- Quill feathers/flight feathers

- Body feathers/covert feathers
- Down feathers/ contour feathers
- Filoplume feathers/hair feather

**a) Quill feathers/flight feathers**

These are feathers that help a bird to fly.

**Structure of Quill Feather**



**b) Body feathers or covert feathers**

- These cover most of the bird's body and keep the bird warm

**Structure of body feather**



**c) The down feather**

These are the first feathers to appear on a chick  
They help to prevent heat loss from the bird's body

**Structure of a down feather.**



**Filoplume (Hair feathers)**

These are feathers found nearest to the skin of a bird  
They can be clearly seen after removing the body and down feathers.

## Structure of a filoplume feather



## Differences between a hen and a cock

### Cock

- Has a big comb and wattle
- It has a long spur
- Has long tail feathers

### Hen

- Has a small comb and wattle
- Has a short spur
- Has short tail feathers

## Types of chicken

- A type of chicken is a class of chicken kept for specific purpose.

### **There are three types of chicken.**

- Broilers
- Layers
- Dual purpose chicken

#### (a) Broilers (table birds)

These are a type of chicken kept mainly for meat production

#### Examples of broilers

- Ply mouth rock
- Light Sussex

#### (b) Layers (light breeds)

These are a type of chicken kept mainly for egg production

#### Examples of layers

- White leghorn
- Ancona
- Minorca
- Brown egger
- Sykes

#### (c) Dual purpose breeds

These are a type of chicken kept mainly for both meat and egg production

#### Example of dual-purpose chicken

- Rhode Island Red
- New Hampshire
- kroilers
- Black australorp

#### Breeds of chicken

A breed of chicken is a family of chicken with similar characteristics

### **Breeds of chicken include:**

- White leghorn
- Ancona
- Light Sussex
- Minorca
- Sykes

### **Types of breeds of poultry**

- Local breeds
- Exotic breeds
- Cross breeds

#### **a) Local breeds**

They are sometimes referred to as indigenous or native breeds

They are called native or local because they existed in Uganda for a very long time.

N.B These types of breeds are named after their area of origin e.g. enkonko enganda

### **Characteristics local breeds**

- They are more resistant to diseases and parasites
- They take a long period of time to grow
- They lay small and few eggs during each laying season
- They can feed on a variety of feeds.
- They can withstand bad weather conditions.
- They produce less chicken
- They have different colours

### **Advantages of local breeds over exotic breeds**

- Local breeds are more resistant to disease and parasites than exotic breeds.

### **How to improve upon the local breeds of poultry**

- By carrying out cross breeding.

#### **(b) Exotic breeds**

- These are breeds which were imported into Uganda from other countries e.g white leghorn, Rhode Island red and light Sussex etc

### **Characteristics of exotic breeds**

- They are less resistant to parasites and diseases
- They grow and mature fast.
- They lay many eggs
- They have the specific colour.
- They produce a lot of meat

### **Advantages of exotic breeds over local breeds**

- They grow and mature faster than local breeds.
- They lay more eggs than local breeds
- They produce much meat than the local breeds

### **b) Cross breeds**

These are types of breeds got by mating exotic breeds with local breeds.

### **Advantages of cross breeds over local breeds**

They produce much meat than local breeds

They grow and mature faster than local breeds

### **Advantages of cross breeds over exotic breeds**

They are fairly resistant to diseases than exotic breeds

### **Systems of keeping birds**

The systems of poultry keeping depend entirely on the amount of land available

#### **Common systems carried out in Uganda are:**

- Free range system
- Deep litter systems
- Battery or cage system
- Fold or pen system

### **(a) Free range system (Extensive)**

This is a system where the birds are left to move freely to look for food.

This system of poultry keeping is very common in rural areas where land is in plenty.

### **Simple diagram to illustrate a free range system**



### Advantages of free range system

- Birds get balanced diet
- Birds get enough physical exercise
- Manure is well spread in the field
- It is cheap in terms of feeding
- It is time saving since the birds need little care
- It is easy to control the poultry vice

### Disadvantages of free-range system

- It is difficult to keep records
- It requires a very big piece of land
- The poultry may easily destroy farmers' crops
- It's hard to collect the eggs.
- Birds can be easily pick worms and other parasites
- Birds can easily be stolen or eaten by predators

### c) Deep litter system

This is a system of rearing a big number of birds under one shelter.

N.B: The house where such a practice is carried out is called **a deep litter house**

The floor of this house is covered with **litter**

Deep litter system is carried by commercial farmers

### Materials used as litter

- Coffee husks
- Wood shavings

### Qualities of good litter

- It should not be too dusty
- It should not become wet easily.
- It should be able to absorb moisture from poultry wastes
- It should not be too comfortable for birds

### Importance of litter

- It helps to prevent eggs from breaking during laying.
- It keeps the floor of a deep litter house dry



### **A diagram to illustrate deep litter system.**



#### **Advantages of deep litter system**

- Collection of eggs is easy
- Many birds are kept in a small area
- It is easy to feed birds in one place
- Birds are protected from predators
- Record keeping is easy
- Birds cannot easily pick parasites
- Chances of disease spread are reduced
- It is easy to collect manure

#### **Disadvantages of deep litter system**

- It is expensive to start and maintain the system
- Much attention and care is needed
- If litter stays for long it produces bad smell
- It is tiresome to look after the birds
- Vices such as egg eating, cannibalism may be developed by birds
- Birds may not get enough exercise
- Comfortable litter may lead the birds to become broody.

#### **(c) Battery (cage) system**

In this system, birds are kept in separate cages (one or two)  
The floor slopes slightly so that when eggs are laid they roll into a wire trough  
Droppings fall under raised cage and make the floor remain clean

#### **Advantages of battery (cage) system**

- Food, water and eggs are hardly contaminated
- Sick birds can be easily detected and removed.
- Many birds can be kept on a small piece of land
- Eggs laid remain clean
- It is very easy to identify poor layers.
- Birds are protected from predators
- Poultry vices are reduced
- It is easy to collect manure
- Record keeping of individual birds easy
- Diseases and parasites do not spread easily

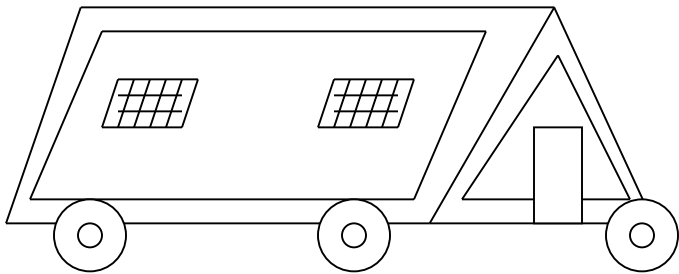
#### **Disadvantages of battery (cage) system**

- It is very expensive (cages are expensive to construct)
- Birds may not get a balanced diet
- Much labour is needed
- Birds do not get enough exercise

**d) Fold or pen system**

In this system, birds are kept in a small structure called a fold or pen or ark. The fold or pen the birds are moved to new places daily. The fold or pen provides shade and egg laying space for birds.

**A simple structure of fold or pen**



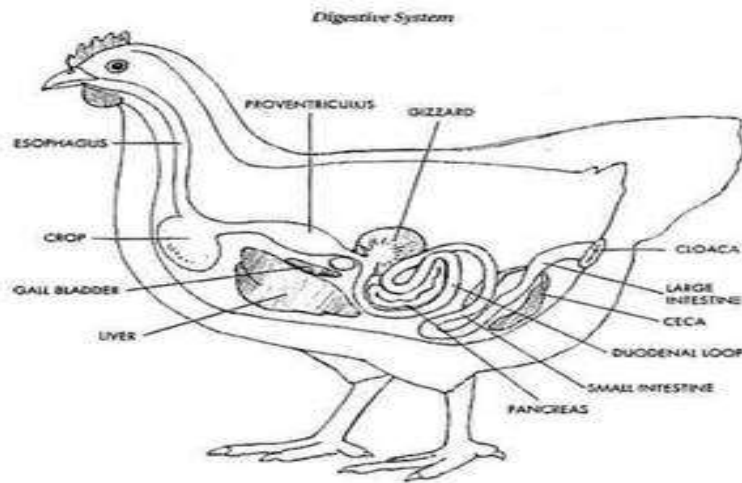
**Advantages of fold or pen system**

- Birds are restricted and cannot destroy crops
- Chickens feeds are not wasted
- Manure is well spread on the farm
- Chickens are safe from predators
- Feeding is cheaper and birds get a balanced diet

**Disadvantages of fold or pen system**

- It needs a very big piece of land.
- Folds get old quickly due to frequent movement
- More labour is needed to move folds every day
- It is not applicable on hilly and swampy areas
- It is very expensive to construct fold
- Only few birds are kept
- Birds do not get enough exercise

## Simple diagram of alimentary canal



### The digestive systems of a bird (Alimentary canal)

- The digestive system of a bird (alimentary canal) consists of the following major parts namely; Beak, Gullet, crop, stomach, small intestine, large intestine, caeca, Gizzard and cloaca (vent), Beale

#### **Functions of each part**

- Beak** – It picks food
- Gullet** – It is a food passage to the crop
- Crop** – It stores, moistens and softens the food before it goes to the stomach
- Stomach**- it is where food is mixed with digestive juices.
- Gizzard** – In this organ, food is crushed into small particles by the help of small stones called **grits or pebbles**
- Small intestines** – Digestion of food is completed here and digested food is absorbed into blood stream
- Large intestines** – absorption of water from undigested food takes place here.
- caeca**- digestion of roughage takes place here by the help of useful bacteria
- Cloaca (vent)** –it is a passage of eggs and droppings at different times.

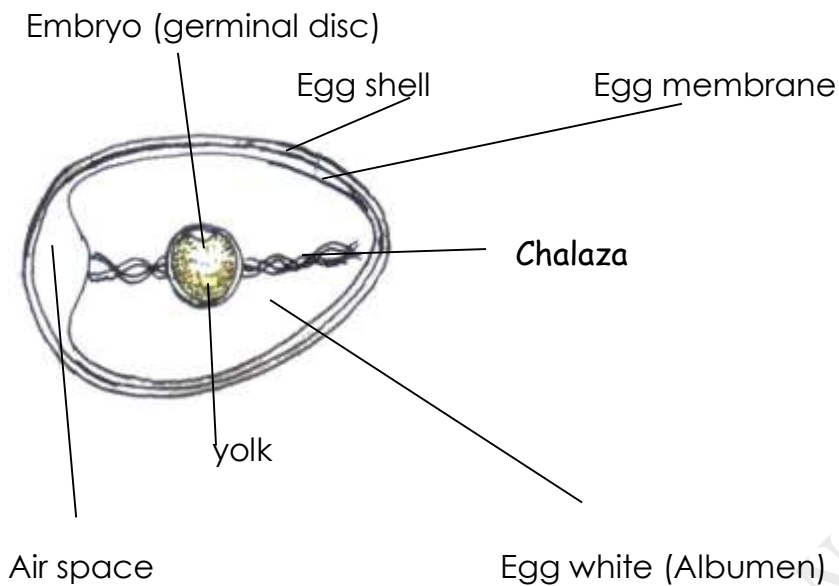
#### Reproduction in poultry

Poultry reproduce by laying eggs

#### An egg (fully grown/developed)

- The structure of an egg consists of the following parts; Egg shell ,shell membrane, air space, albumen (egg white), chalaza, embryo or germinal disc

## Cross section through an egg



### Functions of each part

**Egg shell** – It is made up of calcium

- It protects the inner parts of an egg
- It's porous to allow gaseous exchange to take place

**Shell membrane** – To hold the inner contents of an egg.

### Albumen (Egg white)

- It is also called egg white
- It provides proteins and water to the growing Embryo

### Chalaza

- It holds the yolk and embryo in position
- Carries water and food to the embryo
- Carries oxygen from the air space to the embryo

### Air space

- It provides fresh air (Oxygen) to the embryo
- Stores
- carbon dioxide produced by the embryo

**Yolk** – It is also a source of proteins and fats for the growing embryo

### Abnormalities in eggs

- Yolk less eggs
- Double yolk eggs
- Thin shelled eggs
- Eggs with blood spots
- Eggs with meat spots
- Eggs with soft shells

### Factors that may lead fertilized eggs fail to hatch

- Eggs laid with two yolks
- Eggs with a lot of moisture content
- Eggs exposed to too much heat
- Failure of an egg to get enough oxygen
- Failure of an egg to get enough warmth

**Incubation**- This is the process by which a fertilized egg is given necessary conditions to hatch into a young bird

**Incubation period** – This is the time taken for a fertilized egg to hatch into a young bird

### Incubation period for different birds

- Chickens – 21 days
- Ducks – between 30-31 days
- Turkeys – 28 days or 4 weeks

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**NB:** What you have finished is a **small part** of the material that compose a **whole book**. In case you are **interested** in the complete set of this book, contact; **0772 511 120/ 0705 283 741**