

TOPICAL OUT LINE TERM 3

1. Types of changes.
2. Keeping goats, sheep and pigs.
3. Food and Nutrition
4. Primary Health Care

TOPIC 1:TYPES OF CHANGES

Note: Review activity of P.3 changes.

1. Explain the meaning of the term environment.
2. Give any two components of the environment.
3. Name the two categories of changes in the environment.
4. Give the meaning of each below.
 - a. Natural cause of changes.
 - b. Man-made causes of changes.
5. State any two natural causes of changes.
6. Point out any one change of natural causes of changes.
7. Suggest any two ways of managing natural causes of changes.
8. Outline any two man-made causes of changes.
9. List out any one danger of man-made causes of changes.
10. Name any one (changes) in the water cycle.
11. Suggest any two factors that affect the rate of evaporation.
12. Point out any two factors that affect the rate of evaporation.
13. Give the meaning of condensation.
 - a. State any one importance of condensation.
14. What is transpiration?
 - a. Give any two importance of transpiration.

TYPES OF CHANGES

- Biological changes
- Chemical changes
- Physical changes

New words:

- Irreversible
- Moulting
- Pigmentation
- Camouflage

1. Biological Changes

These are natural changes that take place in living things and cause growth.

Examples of biological changes in their classes

In animals	In plants
i. Sweating ii. Moulting iii. Grow and development iv. Changes of colour by some animals (pigmentation) v. Falling sick and recovering vi. Gaining and losing weight	i. Germination ii. Transpiration iii. Shedding leaves in day season iv. Growth and development

Advantages of biological changes

- i) They lead to growth and development in organism.
- ii) They lead to formation of rainfall.
- iii) They lead to increase of size, weight and height.

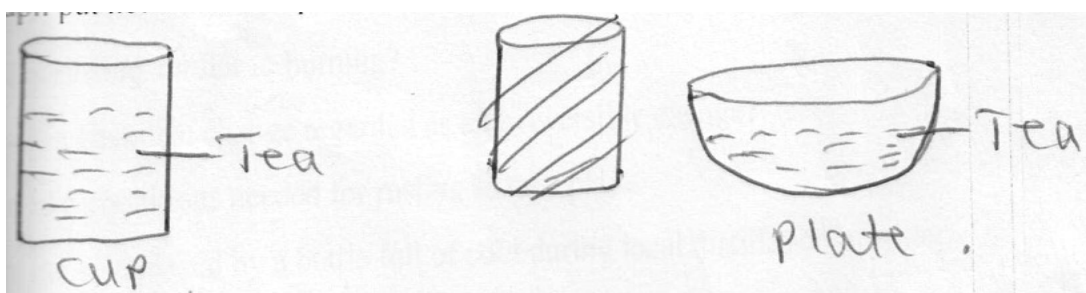
Disadvantages of biological changes

- a) Organisms grow old and later die.
- b) Animals become old and useless.

NOTE: Moulting is the process by which animals shed off their outer skins to allow growth. It helps to increase in size.

Activity

- 1. Why is moulting a biological change?
- 2. How can salt be recovered from the salt solution?
- 3. Why is distilled water not good for drinking?
- 4. A pupil put hot tea on a cup and a plate as shown below



- a) Which container can tea cool faster?
- b) Give a reason for your answer in (a) above.

2. Chemical Changes

These are changes that form new permanent substance.

Note: The new substance formed cannot be turned back to its original form. This kind of changes is irreversible.

New words:

- wick - fermentation - decomposition

X-tics of chemical changes.

- a) A new substance is formed
- b) The change is irreversible
- c) Heat and light may be given out by some.
- d) There is a change in weight.

Examples of chemical changes in their classes

In living things	In Non-living things
i. Photosynthesis	i. Rusting of metals
ii. Respiration	ii. Fermentation
iii. Chemical digestion	iii. Decaying of dead matter.
	iv. Burning of wood and Charcoal to ash.
	v. Burning of a Candle wick.

Advantages of chemical changes

- i. Rusting helps in soil formation e.g. (rusting)
- ii. Respiration produces energy in the body e.g. (respiration)
- iii. Burning reduces the amount of waste matter e.g. (burning)
- iv. Fermentation helps in production of alcohol e.g. (fermentation)

Disadvantages of chemical changes

- a) Burning can destroy property (burning)
- b) Rusting leads to contamination of water (rusting)
- c) Respiration leads to increase of carbon dioxide in the atmosphere (respiration)

NOTE: Burning and Rusting need the presence of oxygen to take place.

Activity

- 1. How is rusting similar to burning?
- 2. Why is a chemical change regarded as an irreversible change?
- 3. State two conditions needed for rusting to take place.
- 4. State the role played by a bottle full of cold during local distillation of water.
- 5. Name any two processes in the environment that require heat to take place.
- 6. How is sweating useful to the body?

7. How does painting a metal prevent it from rusting?

3. Physical changes

These are changes in which no new permanent substance is formed.

New words:

- reversible - steam - vapour

Characteristics of physical changes

- The change is reversible
- There is no change in weight
- No new substance is formed.

Examples of physical changes

- | | |
|----------------|----------------------|
| ▪ Evaporation | ▪ Freezing |
| ▪ Melting | ▪ Deposition |
| ▪ Sublimation | ▪ Melting of wax |
| ▪ Condensation | ▪ Breaking of an egg |

Advantages of Physical change

- Evaporation and Condensation lead to rain formation.
- Evaporation help in distillation process.

TOPICAL TEST ON TYPES OF CHANGES

1. Give the meaning of Environment.
2. Name one animal that camouflages.
3. What are biological changes?
4. How is deforestation dangerous in the environment?
5. State one chemical change that takes place in living things.
6. Why is a chemical change called an irreversible change.
7. Point any one x-tics of physical changes.
8. Name any one natural cause of a change in the environment.
9. Give any one factor that can affect the rate of evaporation.
10. How is the sun important in rain formation?
11. What type of a change take place when ice melt to water?
12. What is moulting?
13. Which type of a change in the environment is pigmentation?
14. Suggest any one advantages of a physical change
15. How does painting metals control rusting?
16. How is moulting useful to animals?

17. Give one advantages of transpiration in the environment.
18. Explain the meaning of condensation.
19. Give one reason why chameleon camouflages.
20. State one change of chemical changes.

Differences between physical and chemical changes

Physical changes	Chemical changes
<ul style="list-style-type: none"> ▪ No new substance is formed ▪ Change is reversible ▪ No heat or light is given out or absorbed. ▪ No change in weight 	<ul style="list-style-type: none"> ▪ A new substance is formed ▪ Change is irreversible ▪ Heat and light are given out or used ▪ There is a change in weight

Activity:

1. What type of change takes place when a metal burns to red hot?
2. Explain the meaning of the term melting.
3. State any two differences between a chemical change and physical change.
4. Point any one importance of physical changes in the environment.
5. Why is freezing of water to ice said to be a reversible change?

TOPIC 2: KEEPING GOATS, SHEEP AND PIGS

SUB-TOPIC: Keeping Goats

New words:

- Manure
- wool

Common words in Goat keeping

- i) **Nanny goat**: is a female goat
- ii) **Billy goat**: is a male goat
- iii) **Kid**: is a young one of a goat.
- iv) **Kidding**: is the act of giving birth in goats.

Animal fibres

- Mohair / wool/ fur/ silk

Reasons for keeping goats.

- To get meat
- To get milk
- To sell and get money

Importance of keeping goats

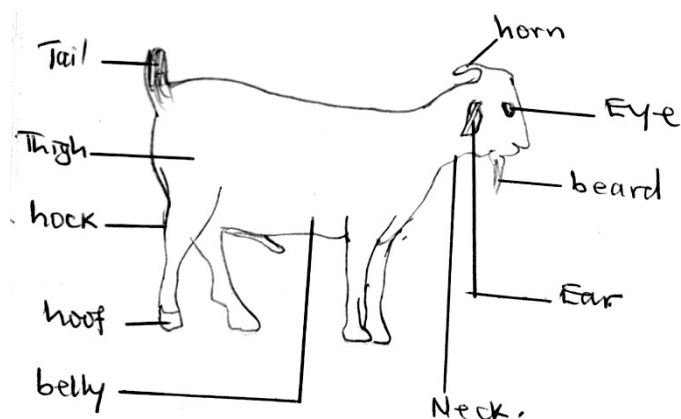
- They provide droppings used as manure
- They are used for paying dowry.
- Provide skins

- They provide meat and milk
- They are sold to get money

Review activity:

1. Give two classes of living things
2. State any two reasons for keeping animals at home.
3. Name any two products got from animal skins.
4. How a dog important at home.
5. In which way does a cow protect itself from its enemies?
6. Give one way farmers can care for their animals.
7. Which class of food do we get from animal meat?

External parts of a goat



Why goats are easy to keep than cattle

- Goats need smaller piece of land than cattle.
- Goats can feed on little pasture compared to cattle
- Goats are more resistant to diseases than cattle.
- Goats need little water compared to cattle.

Products from goats

- Meat
- Skin
- Mohair
- milk

Activity

1. Point out any one purpose of keeping goats.
2. Name the animal fibre obtained from rabbits.
3. In which way can a crop farmer benefit from his goat farm?

4. Which animals provides Mohair to man?
5. How is a kid different from Kidding?
6. Why are farmers encouraged to keep more goats than cattle?

Groups of breeds of goats

- i) Local breeds
- ii) Exotic breeds

New Words

- breed
- breeding

A breed: This is a group of animals with similar characteristics like size, colour and shape.

Breeding: This is the act of mating to produce young one.

Examples of local breeds of goats

- | | |
|-----------------|-------------------|
| a) Mubende | d) Galla (Somali) |
| b) East African | e) Anglo Nubian |
| c) Small goat | f) Somali |

Examples of Exotic breeds of goats

- Toggenburg goats
- Saanen goats
- Angora goats

Types of goats

- A type is a group of animals kept for a special purpose.

The milk breeds - These are goats kept purposely for milk production.

The meat breeds - These are goats kept purposely for meat production

Examples of meat breeds

- a) Mubende goat
- b) Boer goats
- c) Somali goat
- d) Turkana goat
- e) The East African *small* goats
- f) Galla goats

Examples of milk breeds

- a) Toggenburg goats
- b) Saanen goats
- c) Anglo Nubian goats

NOTE: Angora goats are kept purposely for mohair.

Gestation period of a goat.

Define the term gestation period – period from conception to giving birth

- The gestation period of a goat is 5 months (150 days).

Activity

1. Why do people rear Angora goats?
2. Explain the meaning of the term gestation period.
3. Give any two local goats kept for milk production.
4. How can farmers care for their goats?
5. What is the gestation period of a goat?
6. Apart from meat, name one product from goats.

Housing of goats:

Housing: A goat's house is called a pen / shed.

New words:

- Ventilation
- Ventilators

Qualities of a good pen

- a) It should be well ventilated
- b) It should have a good roof to protect goats from bad weather
- c) It should have a good floor to make cleaning easy.
- d) Its floor should be slanty for easy flow of animal urine

How to maintain a good house for goats.

- i) Sweeping the house.
- ii) Keeping it dry.
- iii) Scrubbing the floor if cemented.

Why should goats be kept in houses.

- a) To protect them from bad weather (rain, wind)
- b) To protect them from wild animals.
- c) To protect them from thieves

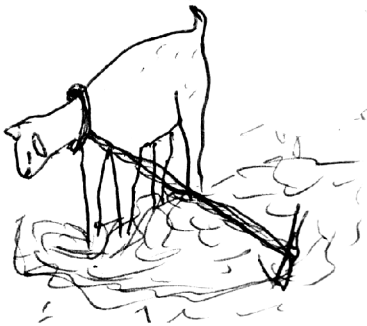
Feeding goats: Goats feed on green grass and shrubs called **browse** (special name for goats' food). These are got from maize, cassava, sweet potatoes, beans and millet.

Note: Goats are browsing animals i.e. they eat the leaves and shoots of bushes rather than grade grass.

Methods of grazing goats

- a) Free range grazing (leave them move freely)
- b) Zero grazing (keeping them inside sheds and food brought to them)
- c) Rotational grazing (includes, strip grazing, tethering and paddock grazing)
 - **Tethering** is the act of tying animals on a peg / a pole to eat grass.

Diagram of a goat on tethering



Advantages of tethering

- a) Cheaper to carry out
- b) Goats can't easily destroy crops
- c) Grass is evenly used
- d) It is easy to collect manure

Disadvantages of tethering

- i) Few goats are kept
- ii) Much land is needed
- iii) Goats can be injured by the ropes
- iv) Goats can break the ropes and eat people's crops.
- v) Goats can be stolen
- vi) Goats can be eaten by predators

1. Zero grazing

It is the act of keeping animals in a house and food is provided from there.

Advantages of Zero grazing

- a) It is easy to control and monitor animals.
- b) It is easy to collect goat droppings.

Disadvantages of zero grazing

- It is timing for a farmer.
- It is expensive to buy animal feeds.
- Diseases can easily spread.

2. Free Range system

This is the act of leaving animals to move freely to eat grass.

Advantages of free range system

- a) Animal get enough physical body exercise.
- b) Animals get a variety of food to eat.
- c) It is cheap to be managed.

Disadvantages of free range system

- i) Easy spread of diseases and parasites.
- ii) Animals destroy farmers' crop.
- iii) It encourages over grazing.

3. Rotational grazing

This is where animals are moved from one place to another in the grazing land

New words:

- Paddock
- Pasture

Forms of Rotational grazing

- i) Paddock grazing
- ii) Strip grazing
- iii) Tethering

i) Paddock grazing

- This is where land is divided into small sections with permanent fences.
- The small sections are paddocks.

Advantages of paddock grazing

- a) It controls over grazing.
- b) It controls the spread of pests and disease.
- c) There is well distribution of dung and Urine as manure.
- d) It allows Paddock to rest for pasture to grow.

Disadvantages of paddock system

- i) Animals may not have enough space for making physical body exercise.

ii) Fencing Paddock is very expensive.

ii) **Strip grazing**

- It is also where the grazing areas are fenced to control movement of animals.

Advantages of Strip grazing

- a) Grass is fully used.
- b) It prevents over grazing

Disadvantages of strip grazing

- i) It needs a lot of labour to make fence.
- ii) Few animals are kept at a time.

Activity

1. How long is the gestation period of a goat?
2. What special food is given to the goats?
3. What is zero grazing as a method of grazing goats?
4. Why should a pen slanting floor?
5. Suggest any two reasons for keeping goats.
6. Why do farmers keep Angora goats?
7. Cite out any two milk breeds of goats.
8. Point out any two products from a goat skin.

A parasite

This is an organism that depends on another for food and shelter.

New words:

- Organism
- Worms

Types of parasites.

- Ecto parasites
- Endo parasites

Ecto parasites: are those that live on the body of an organism.

Examples of Ecto parasites in goats (pictures in the book)

- Ticks
- Mites
- Lice

- Tsetse fly

Endo parasites: are those that live inside the body of an organism.

Examples of Endo parasites in goats.

- Round worms
- Tape worms
- Liver flukes (schistosomes) – spread by FWs

Control of Internal parasites

- De-worming — drenching: this is the giving of liquid medicine using a drenching gun to kill internal worms.
Dozing : This is the giving of solid medicine to kill internal worms.

Control of External parasites

- Dipping in a acaricides
- Spraying using a acaricides
- Hand picking
- Rotational grazing

Goat diseases

	Disease	Cause	Signs	Symptoms	Control/treatment
1	Anthrax	Bacteria	<ul style="list-style-type: none"> • Sudden death 	<ul style="list-style-type: none"> ▪ High fever ▪ Loss of appetite ▪ Body weakness 	<ul style="list-style-type: none"> • Kill all infected animals and burry. • Vaccinate (no treatment)
2	Pneumonia	Bacteria	<ul style="list-style-type: none"> • Coughing • Discharge from the nose 	<ul style="list-style-type: none"> ▪ Difficulty in breathing ▪ Fever ▪ Loss of appetite 	<ul style="list-style-type: none"> • Treat infected in Isolation. • Treat early in with antibiotics
3	Foot rot	Bacteria	<ul style="list-style-type: none"> • Limping • Swelling of the mouth and feet. • Discharge of pus from the hooves. 	<ul style="list-style-type: none"> ▪ Foot pain and bad smell. 	<ul style="list-style-type: none"> • Cleaning the house. • Cleaning the feet with antiseptics. • Regular foot trimming • Treat with antibiotics
4	Foot and Mouth	Virus	<ul style="list-style-type: none"> • Limping • Swollen hooves • Pus discharge from hooves. 	<ul style="list-style-type: none"> ▪ Pain in hooves. ▪ Smelly hooves ▪ High fever 	<ul style="list-style-type: none"> • Cleaning the house • Cleaning the feet with antiseptics • Regular foot trimming.

					<ul style="list-style-type: none"> • Treat with antibiotics.
5	Heart water	Bacteria and Spread by ticks	<ul style="list-style-type: none"> • Animals moves in circles. • Tongue comes out 	<ul style="list-style-type: none"> ▪ Fever ▪ Loss of appetites 	<ul style="list-style-type: none"> • Trimming hooves • Quarantines
					<ul style="list-style-type: none"> • Early • Treatment • Spraying animals • Dipping animals
6	Nagana	Protozoa	<ul style="list-style-type: none"> • Watery eyes 	<ul style="list-style-type: none"> ▪ Loss of appetite ▪ High fever 	<ul style="list-style-type: none"> • Treat with drugs • High fever
7	Mastitis	Bacteria	<ul style="list-style-type: none"> • Swollen Udder • Pus and blood clots in the milk 	<ul style="list-style-type: none"> ▪ 	<ul style="list-style-type: none"> • Use a strip cup to detect clots of pus in milk. • Treat with antibiotics. • Clean the milking place.

Activity

1. What are parasites?
2. Give two examples of milk breeds of goats.
3. Give any two goat bacterial diseases.
4. Define acaricides.
5. How is deworming important in a farm?
6. Apart from spraying with chemicals, give any other two ways of controlling parasites.
7. How is drenching different from dozing?
8. How is a pen useful to goats?

SUB TOPIC: SHEEP KEEPING

New words:

- Mutton
- Dock
- shear

Reasons why people keep sheep

- a) To get meat (mutton)
- b) To get milk
- c) To sell and get money
- d) To get wool

Importance of keeping sheep

- a) Provide meat (mutton) and milk

- b) Provide wool
- c) Sold to get money
- d) Provide milk
- e) Their droppings can be used as manure
- f) Provide skins

NOTE:

- i) A ram is a male sheep.
- ii) A lamb is a young sheep
- iii) An Ewe is a female sheep
- iv) Lambing is the act of giving birth by sheep.
- v) **Shearing** – the cutting of wool from sheep
- vi) **Docking** – This is the cutting of the sheep's tail short.
- vii) **Fleece** – Wool that has been sheared off from a sheep.

Products got from sheep

- a) Wool
- b) Mutton
- c) Milk
- d) Skins

Groups of breeds of sheep

- i) The local breeds
- ii) The exotic breeds

Local breeds: These are kept for both mutton and milk.

Examples

- a) The black head *Persian* – Masai sheep
- b) Somali sheep
- c) Masai sheep

Exotic breeds: They produce more mutton and milk

Examples

- Corriedale (wool and mutton)
- Merino (wool)
- Hampshire (mutton)
- Romney marsh (wool and mutton)
- Dorper (mutton)

NOTE:

Merino is mainly kept for fine wool production. Another breed that can produce wool is Romney marsh.

Housing for sheep

- It is a pen / shed

Qualities and management of housing for sheep (refer to goats)**Activity**

1. What name is given to the group of sheep and goats?
2. What breed of sheep is kept for its fine wool?
3. Give the meanings of the following
 - a. Docking
 - b. Shearing

Diseases of sheep

	Disease	Cause	Signs	Symptoms	Control	Treatment
1	Lamb dysentery	Bacteria	<ul style="list-style-type: none"> • Diarrhoea with blood • Sudden death 		- Vaccination	- Treat sick sheep in isolation
2	Rift valley disease	Virus	<ul style="list-style-type: none"> • Diarrhoea • Staggering • Abortion in pregnant sheep 	<ul style="list-style-type: none"> - High fever - Loss of appetite 	-Vaccination	
3	Nairobi disease	Virus	<ul style="list-style-type: none"> • Diarrhoea with blood. • Difficulty in breathing. 	- High fever	-Control ticks	
4	Black quarter	Bacteria	<ul style="list-style-type: none"> • Dullness • Shivering 	<ul style="list-style-type: none"> - High fever - Muscle pain - Loss of appetite 	-Vaccination	Early treatment with antibiotics.
5	Brucellosis	Virus	<ul style="list-style-type: none"> • Abortion in pregnant sheep. • Swollen testicles in arms. 	-	<ul style="list-style-type: none"> -Culling -Vaccination 	

Common sheep parasites

- Round worms
 - Tape worms
 - Liver flukes
- }
- encho
-
- Ticks
 - Lice
 - Mites
 - Tsetse flies
- }
- ecto

Gestation in sheep

It takes 150 days (5 months)

New words:

- Drending
- Doze

Activities / practices in farm for sheep and goats.

- i) Hoof trimming
- ii) Castration
- iii) Dehorning
- iv) Docking
- v) Deworming
- vi) Dipping
- vii) Spraying
- viii) Dozing

1) Trimming – Cutting off over grown hooves

Advantages

- a) Allows free movement
- b) Control foot rot

It is done using a sharp knife

2) Castration

This is the removal of *testis* from male animals.

Why farmers castrate animals

- a) Makes animals easy to handle
- b) To control bad smell in meat
- c) Animals grow fat and fast
- d) Sheep produce good quality wool
- e) To control unwanted mating
- f) Control of venereal diseases

3) Dehorning (horn buds)

Is the removal of horn from an animal. It controls animals from hurting each other using sharp horns.

- Disbudding – removal of horn buds.

4) Docking

The cutting short of a sheep's tail.

Advantages

- For easy mating
- It prevents sheep from dirtying its tail with dropping.
- Reduces dung that remains behind the tail.

5) Deworming

This is the giving of medicine through the mouth to kill worms.

Types of deworming

- i) Drenching is the giving of liquid medicine through the mouth.
- ii) Dipping and spraying using chemicals called acaricides to kill external parasites.
- iii) Dozing is the giving of medicine in tablet form.

Activity

1. Give the importance of docking.
2. State the meaning of gestation period.
3. How is drenching different from dozing?
4. Point out any two importance of Castration.

Care for sheep and goats.

- a) Proper feeding
- b) Sweeping their houses
- c) Regular vaccination
- d) Early treatment

Causes of sickness to goats and sheep

- a) Poor feeding
- b) Keeping them in dirty places
- c) Lack of regular vaccination
- d) Lack of early treatment

Activity

1. What are acaricides?
2. Give two advantages of castrating male animals.
3. How is kidding different from lambing?
4. Give two methods of deworming animals.
5. Point out two diseases that attack both poultry and goats (sheep)

SUB TOPIC: KEEPING PIGS

Piggery

It a place where pigs are kept / A farm where pigs are kept.

Terms used in piggery

- Gilt is a young female pig.
- Runt – smallest piglet in a litter
- Sow is a mature female pig
- Boar is a mature male pig
- Piglet is a young one of a pig
- Litter is a group of young pigs born at the same time by the mother sow.
- Farrowing is the act of producing young ones by a sow.
- Pork is meat from pigs
- Lard is fat got from pigs
- Bacon is smoked meat from pig.
- Ham – meat from the thighs of a pig.

Reasons for keeping pigs

- To sell to get money

- For pork production

Importance of keeping pigs

- a) Provide droppings used as manure.
- b) Provide pork
- c) They are sold to get money.
- d) Provide hair for making cushions and clothes

Local pigs: These are pigs that have been in East African for long.

Examples

- a) Small black pigs
- b) Spotted pigs

Groups of breeds of pigs

- i) Local breed
- ii) Exotic breed

Characteristics of local pigs

- They grow slowly
- They produce poor quality pork
- They are small
- They are not easily attacked by diseases

Wild pigs: These are pigs found in bushes. They are called warthogs.

Note: It is bad to allow domestic pigs to mix with wild pigs because wild pigs can spread swine fever to them

Activity

1. Give the meaning of each term below;
 - a. Runt
 - b. Farrowing
 - c. Gilt
2. State the two reasons for keeping pigs.
3. Why is it dangerous to allow pigs to mix with warthog.

Exotic breeds of pigs.

These are pigs which were imported into East Africa from outside countries/overseas.

Examples of Exotic breeds of pigs.

- Large white
- Land race
- Hampshire
- Middle white
- Large black
- Saddle back
- Polland china

X-tics of exotic breeds of pigs

- a) They grow faster
- b) They fatten quickly
- c) They provide high quality meat
- d) They are not resistant to diseases

Large white (York shire): It is the most breed in East Africa. It can farrow up to 16 piglets and can litter three times a year. It is white with silky hairs. A mature sow weighs about 300kg while a boar 350kg. it has upright ears.

Landrace: it is similar to large white but with dropping ears.

Middle white: has the same colour as large white but smaller in size.

Large black: These are long black with dropping ears.

Wessex saddle back: It is a dual purpose breed ie good for pork and bacon. It is black but with a white belt over the back or shoulders.

Polland China: it is a black cross breed originating from America.

Activity

1. Name two examples of pigs commonly kept in Uganda.
2. Why do some farmers prefer keeping local breeds of pigs?
3. Give any one advantage of exotic breeds over local breeds of pigs.

Factors to consider when selecting a good pig for rearing

- a) Heredity (It should be from good parents)
- b) Good health (with no signs of sickness)
- c) Mammary glands (at least more than 12 tests)
- d) Good body formation

Systems of keeping pigs

- a) Extensive system (outdoor)
- b) Intensive system (in door)

Extensive system: This is a system where pigs are left to move freely looking for food.

Advantages of Extensive system

- i) It is cheap to maintain
- ii) The pigs get a variety of food to eat.

Disadvantages of Extensive system

- a) Pigs can easily be infected with diseases and parasites
- b) Pigs are not safe from predators
- c) Pigs destroy peoples' crops
- d) Pigs can easily become wild

Intensive system is a system where pigs are kept and fed from indoors in small rooms called stys.

Advantages of intensive system

- a) Pigs are kept healthy and free from infection
- b) Farmer gets high quality products
- c) Pigs don't destroy peoples' crops
- d) Pigs grow and mature quickly

Disadvantages of intensive system

- It is tiring to the farmer
- Food and treatment is expensive

Activity

1. Give 3 factors to consider before selecting a good pig for rearing.
2. How is extensive system different from intensive system?
3. State any two advantages of intensive system.
4. Name any two disadvantages of extensive system.

HOUSING FOR PIGS

A pig's house is called a sty.

Factors to consider when selecting a good site Pigsty.

- a) A well drained area.
- b) On the lower side of a slope

Qualities of a good pig sty.

- a) It should be well ventilated
- b) It should be dry and warm
- c) It should have a slanting surface

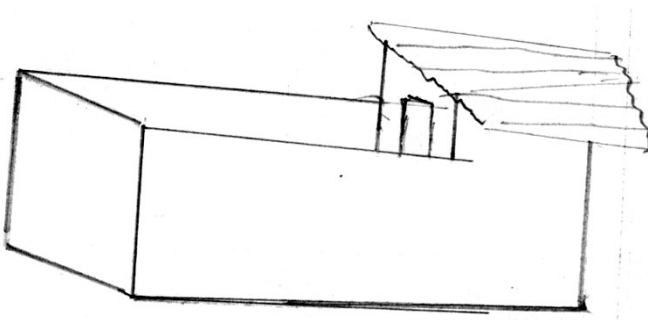
NOTE: The slanting surface allows urine to flow out of the sty.

Reasons for housing pigs

- a) To protect pigs from wild animals
- b) To protect pigs from sunshine and rain
- c) To protect pigs from parasites like fleas
- d) To prevent pigs from eating peoples' crops.

Note: Sunshine makes pigs ill because they have little hair to protect their bodies and yet they have too much fats.

Diagram of a pig sty



Activity

- 1. How should a pig sty have a slanting surface?
- 2. Give any importance of keeping pigs in sty.
- 3. State any two qualities of a capacity.
- 4. What is a parasite?
- 5. Give the two types of parasites.

Sows should produce two litters per sow per year. Young female pigs (gilts) should not be served until they are about 12 months and weight 90-100kgs. Serve means allow the gilt to mate with aboar.

Heat period

This is the period when a female animal is ready to be mated by male one.

Signs of heat in animals

- a) It becomes restless
- b) It mounts others
- c) It allows to be mounted on
- d) The vulva swells and turns red.
- e) White mucus discharge come from the vagina.

Gestation period

This is the period between the time of fertilization to the time of farrowing. Gestation in pigs lasts between 112-115 days (3 months, 3 weeks and 3 days)

Steaming up. This is the feeding of a pregnant animal on protein rich foods for the last 45 days of pregnancy.

Advantages of steaming up.

- a) It prevents low birth weights
- b) It increases milk production
- c) It builds up the sows body in preparation for farrowing
- d) It lengthens the lactation period

Note: Lactation is a period an animal takes while suckling its young ones.

Activity

- 1. What is the gestation period of a sow?
- 2. Explain the meaning of steaming up.
- 3. Identify two importance of steaming up.
- 4. What is lactation?

Care for piglets:

- a) Feeding them
- b) Castration
- c) Weaning piglets

Feeding piglets: piglets are fed on creep food from 10 days to 8 weeks.

Castration This is the removal of testis from a male animal.

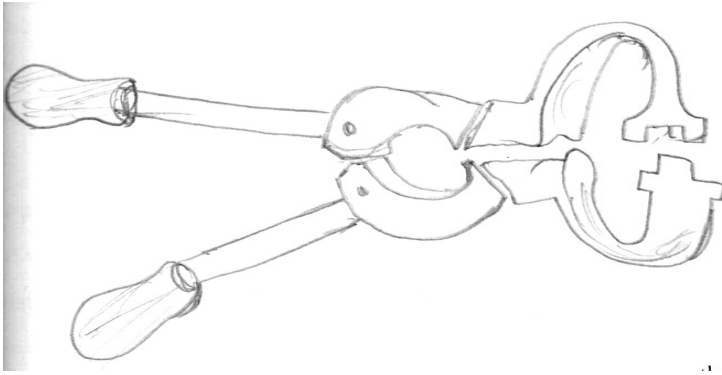
Methods of castration

- a) Open operation
- b) Closed operation
- c) Use of a loop

Open operation. This is when a sharp knife is used to make a slit by cutting open the scrotum vertically. The testis are removed and hot iron used to burn and seal off the sperm duct.

Closed operation. Is when an instrument called burdizzo with blunt pincers is used with great pressure to crush the sperm duct.

Diagram of a burdizzo



Use of a loop. This is when an elastic rubber band is used to squeeze the testis. When the sperm ducts and blood vessels are broken, the testis dies out.

Reasons for castrating

- a) It prevents unwanted pregnancies.
- b) It makes animals easy to handle.
- c) It makes animals grow and fatten quickly.
- d) Males and females can easily be kept together

Disadvantages of castration

- a) It is painful to animals
- b) It makes animals lose blood

Activity

- 1. How do we care for pigs?
- 2. Give the importance of feeding pigs.
- 3. Explain the meaning of Castration.
- 4. State any two ways of caring for pigs.
- 5. How is Castration harmful to animals?

Weaning:

The practice of stopping a piglet from breast feeding.

FEEDING OF PIGS:

Types or feeds for pigs

- The creep food
- The finisher or fattener meal
- Sow and weaner meal

The creep food .This is food given to piglets from 10 days to eight weeks

Sow and weaner meals. This is given to weaners. It is introduced at 8 weeks up to 50kgs of body weight.

The finisher or fattener meal: This meal is for fattening pigs. It is introduced at 50kg body weight up to market weight.

Activity

1. What name is given to food for piglets?
2. What is weaning as used in pigs?
3. State the importance of a finisher meal to pigs.
4. Give any two advantages of castration.
5. Name any one type of feeds given to pigs.

Keeping records:These are written information about the activities that take place on a farm.

PIG RECORDS:

Farrowing Records

- Date of service
- Date farrowed
- Due date for farrowing

Litter records

- Piglets born per litter
- Piglets weaned per litter
- Number of litter per sow per year.

Operation records

- Weaning dates
- Dates for weighing
- Date for castration, vaccination, drenching

Feeding records

- Amount fed daily
- Food conversion rates

Importance of keeping records.

- They help the farmer to make decisions
- They help the farmer to plan for the farm
- They help farmers to know income and expenditure- for fair taxation

Factors to consider before starting a farm.

- Capital
- Land
- Labour
- Market

Activity

1. Give two reasons why people keep farm records.
2. Name any two systems of keeping pigs
3. What are farm records?
4. Give any two examples of farm records in pigs.
5. State any two factors to consider before starting a livestock.

DISEASES OF PIGS:**Swine fever / Hog Cholera**

It is caused by a virus. It spreads through air saliva and contact with an infected animal.

Signs and symptoms

- High fever
- Staggering and weakness
- Difficult and fast breathing
- Diarrhea or constipation
- Loss of body weight

Prevention and control

- Keeping wild pigs away
- Keeping pigs indoor
- Slaughter all infected pigs
- Disinfect the sty.

Foot and mouth disease

It is caused by a virus that spreads when an infected animal shares food or water with other animals through saliva. It attacks mouth and coronet of hooves.

Signs and symptoms

- Fever, dullness and loss of appetite
- Flow of saliva from mouth
- Lameness – wounds or blisters on tongue

Prevention, control and treatment

- Vaccination after every 6 months
- Slaughter affected animals
- Quarantine if there is out break

Pneumonia. It is caused by both bacteria and virus. It spreads through inhaling contaminated air. Pneumonia attacks all animals.

Signs and symptoms of pneumonia

- Difficult breathing and coughing
- Loss of appetite and dullness
- Animal does not move, dull and sleepy
- Nosal mucus discharge

Prevention and control

- Treat early with antibiotics
- Provide soft feeds and water

Anthrax it is caused by bacteria

Signs and symptoms

- High fever,
- Shivering, loss of appetite and dullness
- Blood stained faeces

Prevention and control

- Treat early with antibiotics
- Burn and burry the carcass of dead ones.
- Vaccinate animals regularly

Foot rot: It is caused by bacteria attacks the hooves. It spreads from mud.

Signs and symptoms.

- Swollen painful hooves
- Lameness

- Pus in hooves

Nagana: It is caused by a protozoa called trypanosome. It is spread by a Tsetse fly

Signs and symptoms

- Fever, dullness and loss of appetite
- Anaemia, lugging soil
- Loss of body weight
- Blindness

Control measures

- Use Tsetse fly traps
- Spray with insecticides to kill tsetse fly
- Treat infected animal

Activity

1. What causes anthrax?
2. Give any two ways of keeping pigs healthy.
3. In which one way can diseases be controlled in pigs?
4. Give the difference between docking and shearing.
5. Name any two breeds of pigs.

TOPICAL TEST

SECTION A

1. Give any one product got from goat.
2. How can a crop farmer benefit from his goats?
3. Name one protozoan disease in goats.
4. What is meant by the term castration?
5. State any one quality of a good pigsty.
6. How long is the gestation period of a sow?
7. Explain the meaning of docking as applied in sheep rearing.
8. Name one method of castration.
9. How can local breeds of animals be improved?
10. State the importance of a slanting surface of a pigsty.

SECTION B

11. (a) Give any two reasons for keeping pigs.
(b) Name any two diseases that attack pigs.

12. (a) What are farm records?
(b) State any one examples of farm records.
(c) Give any two advantages of farm records.
13. (a) Besides meat production, give one other reason for rearing.
i) Merino sheep
ii) Angora goats
(b) What name is given to the meat of pigs?
(c) Name any one system of rearing pigs.
14. What is the meaning of each term below;
(a) Ewe
(b) Runt
(c) Gilt
(d) Ram

FOOD AND NUTRITION:

- Feeding is the taking of food in. Feeding is an act of taking in food.
- Food is something good to eat or drink and adds nutritive value to the body.

What is Nutrition?

- The taking in and use of food in the body.

Nutrients:

- Are elements found in food, which when absorbed into the body perform different function.

Why do people eat food?

Because of the 5Hs.

- Hunger – because the stomach feels empty.
- Habit –it is the time of the day when we normally eat.
- Happiness – we enjoy eating certain foods.
- Hospitality – It is a custom to offer food.
- Health - we need food and drink.

Uses of food in the body

- Provide energy
- Boosts body immunity
- Builds body cells for growth
- Repairs worn out body cells

Food taboos and beliefs

A food taboo is a cultural or religious custom that forbids people from eating a certain food or foods

Examples of food taboos.

- Moslems are not allowed to eat pork
- Moslems are not allowed to eat meat of animals slaughtered by non moslems.
- Hindus are not allowed to eat meat
- Catholics are not allowed to eat meat on Fridays during lent period (not all Fridays but only during lent).

A **food belief** is a feeling taken to be true about food by some tribes/clans.

Examples of food beliefs

- Girls and women not allowed to eat chicken and eggs that they would become sterile /barren.
- Men were not allowed to eat oil nuts because they could become impotent.
- Children suffering from measles were not allowed to eat meat that it makes them more sick.
- Babies were allowed to eat the liver and eggs that they would take long without speaking.
- Pregnant women are not supposed to eat eggs because their babies will develop big heads.

Activity

1. Write 5H's in full.
2. What is a balanced diet?
3. State any two uses of food in the body.
4. Name the two types of proteins.

Advantages of food taboos and beliefs.

- Food taboos help to preserve the environment
- Food taboos help to preserve animals
- It creates many food stuffs for certain people and tribes to eat.

Disadvantages of food taboos and beliefs.

- Food taboos and beliefs prevents people from having good food values
- Food beliefs and taboos lead to nutritional deficiency diseases.

Staple food:

- Commonly eaten food by a certain group of people / clan e.g. Cassava, millet, sweet potatoes/ for milk.

Breast feeding: This is the act of suckling young ones on their mothers' breasts to get milk.

Advantages of breast feeding to the baby

- Breast milk provides a balanced diet.
- Breast milk provides babies with antibodies against diseases
- Breast milk always ready and clean.
- Breast milk easy to digest by the baby
- Breast milk at the right body temperature for the baby to take.

Note: Breast milk is a complete food but because it has all food values in their right amount.

Advantages of bottle feeding to a family

- Cheap

Advantages of breast feeding to a mother.

- a) It helps her to delay the next pregnancy
- b) It is cheap
- c) It saves time
- d) Creates a love bond between the mother and the body.

Conditions under which bottle feeding is recommended

- When the mother is dead
- When the mother has breast cancer
- When the mother has HIV/ AIDS

Advantages of breast feeding to the father

- It is cheap to the father
- It helps in family planning.

Activity

1. What is breast feeding?
2. Why is breast feeding important to a mother?
3. Write HIV in full.
4. Why is breast milk said to be the best food for a baby?

Bottle feeding is when babies are fed on milk from other animals, contained in bottles.

When is bottle feeding recommended?

It is recommended when a baby cannot get satisfied only with the breast milk from the mother.

Disadvantages of bottle feeding

- Bottles can easily be contaminated by germs/ Con
- It takes time to prepare
- Cows or tinned milk is expensive

Advantages of bottle feeding to the mother

- A mother gets time to do other things.

Vulnerable groups of people:

These are people whose health can easily be harmed if not fed well.

These are people who can easily be harmed due to the conditions they are in such people usually have high nutrient (food) needs and failure to meet this would lead to deficiency diseases.

Examples of vulnerable groups of people

- Pregnant women and their unborn babies
- Breast feeding mothers and their breast fed babies.
- Weaning children
- The Elderly people
- The sick people

Sick people are in two categories:-

- Invalids – Are people who are very sick and cannot care for themselves
- Convalescents – Are people who are recovering from sickness but still on treatment.

FOOD FOR PREGNANT WOMEN:

Proteins

- Builds body tissues for growing baby
- Repairs the worn out tissues of the mother

Carbohydrates

- Gives energy to the mother to carry baby in her womb.

Iron

- Builds hemoglobin for mother and baby

Calcium

- Builds strong bones and teeth of the baby.

Vitamins

- Protects the mother and baby from catching disease.

Food for breast feeding women:

Fluids To produce more milk in breasts.

Sources of fluids

- Boiled water
- milk
- fruit juices
- porridge

Calcium To replace the calcium taken by baby during breast feeding.

Weaning children

Weaning is the gradual introduction of soft solid food to a baby other than breast milk alone.

NOTE: Weaning children are given mashed food because their digestive system is not well developed.

Classes of food for weaning children

Proteins to build body tissues for growth

Vitamins to protect children from deficiency diseases.

Why weaning is done at the age of 6 months

- To supplement on breast milk which is not enough at six months.
- Provide iron missing in breast milk.

How to start weaning children.

- Start with semi solid food like porridge in which milk is added.
- Introduce one type of food at a time until the body gets used to it.
- Continue feeding frequently using other food like porridge, mashed matooke and fruits.

Note: Children have small stomachs and therefore need many meals a day.

FOOD FOR THE SICK:

Proteins: To replace worn out cells during sickness.

Vitamins: To build body defense / boost body immunity.

Mineral salts: To make blood? Is this the only use of mineral salts?

Fluids: To prevent dehydration and replace used up fluid.

FOOD FOR THE ELDERLY

Proteins: To repair worn out cells

Vitamins: To build body defense / boost body immunity

Calcium: strengthen their bones

Note: Elderly people should be given frequent meals because they eat little at a time.

Malnutrition:

This is the condition when one's body does not receive enough food values.

Note: malnutrition can result into deficiency diseases.

Signs of malnutrition:

- Tiredness
- Pot belly
- Scanty brown hair
- Pale skin / Rough
- Bracket legs
- Protruding eyes
- Under weight
- Over weight
- Excessive bleeding
- Recurring sores who take long to heal

CONTENT

PHC in full

Primary Health Care.

New words:

- Diarrheal
- Essential
-

What is PHC?

This is essential health care where individuals families and communities work together to solve their health problems.

Health is a state of complete well being physically, mentally, spiritually and not merely absence of a disease.

Elements of PHC:

<ul style="list-style-type: none">• Health education• Immunization• Food and nutrition• Water and sanitation• Maternal and child health care	<ul style="list-style-type: none">• Personal hygiene• Family planning• Control of communicable diseases (CCD/CDD)• First aid• Accident and first Aid
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

How to control communicable diseases

- Immunize against killer diseases
- Proper use of latrines
- Drawing away stagnant water from compounds
- Building well ventilated houses
- Washing hands after visiting latrines
- Boiling drinking water.

Good health lifestyles

- Brushing teeth regularly
- Having good pasture
- Washing hands after visiting latrines
- Eating a balanced diet
- Having enough sleep and rest
- Doing physical body exercises.
- Taking enough water

Principles of PHC are the basic rules which must be followed in carrying out Primary Health Care.

Principles of P.H.C.

- Equal care for all members of the community
- Priorities for community Health needs
- Equal participation by all members in community needs.

How an individual promotes P.H.C.

- Sweeping and collecting rubbish
- Burning rubbish
- Scrubbing toilets and latrines
- Draining away stagnant water
- Taking young ones for immunization

(Revision):Activities in promoting personal hygiene.

- Brushing teeth regularly
- Washing the eyes
- Trimming finger nails
- Washing hands after latrines
- Washing hands before eating food
- Washing clothes
- Ironing clothes

How a family promotes P.H.C

- Taking children for immunization
- Boiling drinking water
- Proper use of family latrine / toilet

- Preparing clean food
- Providing a balanced diet to members.
- Carrying out health education

Activity

1. Give any one principal of PHC.
- 2.

CONTENT

How community promotes P.H.C.

- Organizing regular community clean up campaigns
- Ensuring that families have latrines / toilets
- Setting immunization centres
- Organizing health seminars
- Reporting of outbreak of disease
- Construction of Health centres
- Organizing in main station days

Importance of taking regular exercise

- It eases digestion of food
- Extra weight is lost
- Improves the working of circulation
- It strengthens body ligament and tendons
- Reduces heart diseases.

Importance of getting enough rest and sleep.

- Body replaces worn out cells (Quickens replacement of worn out cells)
- Brain rests and rebuilds itself (It refreshes the mind)
- *Eases* digestion of food
- *Quickens* recovery of patients

(Revision): Ways of controlling diseases without use of drugs.

- Observe proper sanitation
- Eating a balanced diet
- Having adequate rest and sleep
- Observe proper personal and family hygiene
- Carrying out regular body exercises

CONTENT

Health parades: This is an assembly where children's hygiene is checked

Activities done on Health parades.

- Checking the cleanliness of hair, eyes, teeth, ears, skin, nails and body.
- Checking the cleanliness of clothes and shoes

Importance of school health parades

- It improves children's cleanliness
- Teaches children how to keep clean

Having a school health committee

It helps in the following

- It prepares health campaigns through songs
- Encourages parents to take children for immunization
- Organizing fellow children to clean the school compound
- Putting in place the materials to use for washing hands.
- Inviting health workers to talk to the children on health matters

Activities carried out in P.H.C (General)

- Learn better skills of farming for improvement of food production
- Sweeping or mopping the house at home
- Slashing grass in the house hold compound
- Construction of health centres
- Construction of public latrines or toilets
- Digging public rubbish pits
- Forming a health committee in the village
- Immunizing infants

TOPICAL TEST ON PHC SECTION A

1. Write PHC in full.
2. Explain the meaning of community hygiene.
3. Give any one activity on individual can engage in to promote PHC.
4. State any one principle of PHC.
5. What is PHC?
6. Write BHC in full.
7. What is a community?
8. Write CDD in full.
9. Which element of PHC is promoted by bathing daily?
10. Give any one role of a family in promoting PHC.

SECTION B

11. Write down any four elements of PHC.
12. (a) What are health parades?
(b) Give any two activities done on health parades.
(c) Name one importance of health parades.
13. Write in full;
(a) CHWs
(b) TBAs
(c) EHC
(d) MCH
14. State any four activities done by the community to promote PHC.
15. Suggest any four activities carried out in PHC.