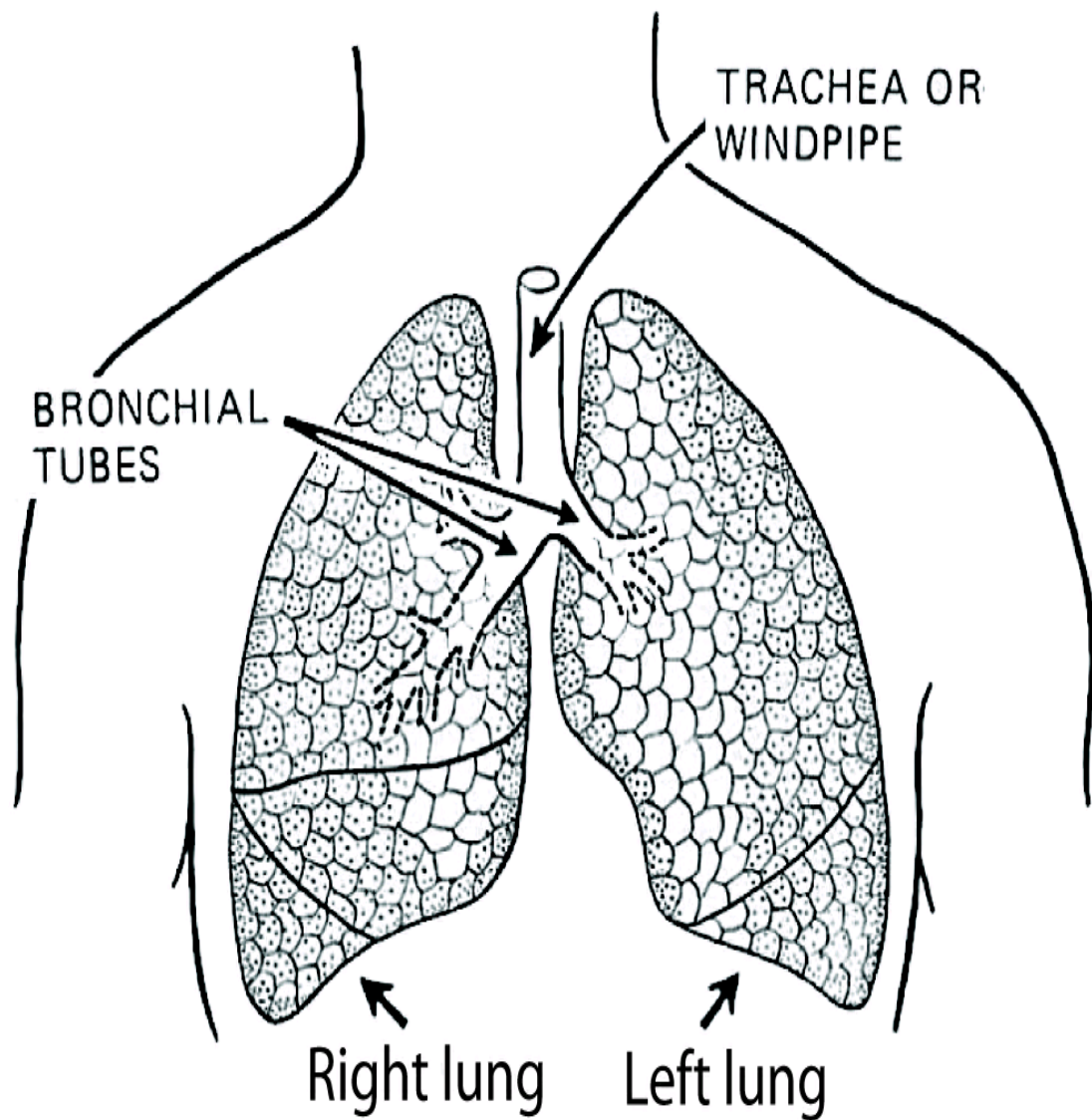


**VICTORIOUS EDUCATION
SERVICES
PRIMARY FOUR LESSON NOTES
INTEGRATED GSCIENCE**



TERM II 2022

THEME: OUR HEALTH

TOPIC 1: OUR FOOD

LESSON: 1 USES OF FOOD

Food is anything good to eat or drink

Feeding is the taking in of food.

Nutrition is the process by which food is taken in and used by the body.

Uses of food to the body

- (i) Food provides energy to the body.
- (ii) Food keeps the body healthy.
- (iii) Food builds the body.
- (iv) Food provides warmth to the body.

The reasons why people eat food are represented by 5Hs below;

- **Hunger:** because our stomachs are empty.
- **Health:** because we need to live
- **Habit:** is time of the day when we normally go out.
- **Happiness:** because we enjoy eating certain foods
- **Hospitality:** because we have guests and its our custom to offer them food

Sources of food

- Animals
- Plants
- water

Places where people get food

- (i)

- (ii) From shops
- (iii) From the garden
- (iv) From the supermarkets
- (v) From markets
- (vi) Water bodies
- (vii)** From forests

Activity

1. Define the term food.
2. State two examples of liquid foods
3. Identify any two sources of food you know.
4. Write down any five reasons why we eat food.
5. Identify **two** uses of food to a cockroach.
6. How is feeding different from nutrition?
7. Suggest one reason why Matovu is always given food when ever he pays a visit to his friends.

Reference

- **Mk integrated primary science book four pg73 & 74**
- **Comp. int. primary science book 4 pg 40.**
- **Sipro learners work book 4 pg3**

LESSON: 2

BALANCED DIET

Balanced diet is a meal containing all food values in their right amounts.

What makes up a balanced diet ?

A balanced diet is made up of (3) three major classes of food namely; **Grow foods, Glow foods** and **Go foods**.

Classes of food and food values

Classes of food	Food values
Grow foods	Proteins
Glow foods	Vitamins Mineral salts
Go foods	Carbohydrates Fats and oils

Other food values

Water

Roughages

a) PROTEINS

- Proteins are body building foods.

Uses:

- Proteins make new body cells.
- Proteins repair worn out tissues.
- Responsible for body growth.

Sources of proteins

-

- Chicken
- Fish
- Eggs
- Grasshoppers
- Milk
- beef
- Beans
- Soya beans
- Ground nuts
- Peas
- White ant

***Note:** Deficiency of proteins in the body leads to kwashiorkor in children under the age of five years.*

Activity:

1. State the importance of **Grow foods** to the body.
2. How important are proteins to our bodies?
3. Apart from proteins, state any other three food values.
4. Identify any three sources of proteins.

REFERENCE

1. Science integrated syllabus book 4 pg 9.
2. Mk integrated primary science book 4 pg 75& 76.
3. Sipro learners' work book 4 pg5.

LESSON: 3 & 4

b) CARBOHYDRATES

- Carbohydrates are food values that give us energy.
- Carbohydrate foods have starch and sugars in them.

Uses of carbohydrates

- Gives the body energy.
- Carbohydrates provide heat to the body.

Sources of carbohydrates

-

- Maize
- Honey
- Millet
- Cassava
- Rice
- Sorghum
- Sweet potatoes
- Irish potato

Note: lack of carbohydrates in the body leads to **marasmus**.

c) VITAMINS

These are health giving foods/ protective foods

Types of vitamins

-

- Vitamin A
- Vitamin B₁
- Vitamin B₂
- Vitamin C
- Vitamin D

Vitamin	Source	Importance	Deficiency disease	Sign / Symptoms
A	<ul style="list-style-type: none"> • Liver • Cheese • Butter • Margarine • Milk • Eggs • Spinach • Carrots • Palm oil 	(i) Increases resistance to diseases (ii) For good night vision	<ul style="list-style-type: none"> • Poor night vision (Night blindness) 	(i) Blurred objects (ii) Poor eye sight (iii) Reduced night vision
B ₁	<ul style="list-style-type: none"> • Unpolished cercal. • Beans • Ground nuts • Green leafy vegetables • Lean meat • Yeast 	<ul style="list-style-type: none"> • For mental health • For proper growth 	<ul style="list-style-type: none"> • Beri beri 	<ul style="list-style-type: none"> • Poor growth • Paralysis • Forgetfulness • Lack of appetite • Body weakness.
B ₂	<ul style="list-style-type: none"> • Beans • Lean meat • Liver • Yeast • Kidney • groundnuts 	<ul style="list-style-type: none"> • For mental growth. • For proper growth 	<ul style="list-style-type: none"> • Pella gra 	<ul style="list-style-type: none"> • Body weakness • Poor growth
C	<ul style="list-style-type: none"> • Oranges • Lemons • Guavas • Tomatoes • Mangoes • Pawpaw • Fresh green vegetables 	<ul style="list-style-type: none"> • For strong skin membrane. • Keeps the gum and blood vessels healthy. 	<ul style="list-style-type: none"> • Scurvy 	<ul style="list-style-type: none"> • Bleeding of the gum. • Poor healing of wounds. • Reduced resistance to diseases. • Poor growth of skin.
D	<ul style="list-style-type: none"> • Butter • Milk • Cheese 	<ul style="list-style-type: none"> • For absorption of calcium. 	<ul style="list-style-type: none"> • Rickets 	<ul style="list-style-type: none"> • Weak bones.

	<ul style="list-style-type: none"> • Egg yolk • Liver • Fish liver oil 	<ul style="list-style-type: none"> • For strong bones and teeth. 		
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Lesson 5

FATS AND OILS LIPIDS

Use:

- Lipids are energy giving food so they provide energy and heat.

Sources of fats and oils

-

- Milk
- Butter
- Cheese
- Egg yolk
- Ground nuts
- Margarine
- Ghee
- Palm oil

Note:

- Too much fats in the body lead to obesity.
 - Obesity is refers to extreme over weight.
- Too little fats in the body lead to;
 - lack of energy
 - feeling cold all the time.

Activity

1. State any two sources of vitamin D in the body.
2. What causes rickets among infants?
3. Identify any two effects of low fats and oils in the body.
4. As a P.4 child, what do you understand by the term obesity?
5. Write down one danger of eating too much fats and oils.

REFERENCE

- **Integrated science syllabus b k 4 pg 9.**
- **Comprehensive science book 4 pg 146.**
- **Understanding integrated science book 4 pg 64-65.**

LESSON: 6**MINERAL SALTS****Use:**

- They are health giving foods so keep us healthy.
- They are also body protective foods.
- They help in the formation of tissues.

Examples of important Mineral salts in the body

- Iron
- Calcium
- Phosphorus
- Iodine
- Sodium
- Potassium
- Magnesium

IRON

Use:

- It forms part of red blood cells.
- It helps to transport oxygen in the body

Sources of iron

-

- Red Meat
- Liver
- Milk
- millet
- Green
vegetables e.g.
spinach
- Beans

Note: *Deficiency of iron in the body leads to anaemia.*

Activity

1. State five examples of mineral salts in the body.
2. Give any one example of food rich in iron.
3. State one danger of lack of iron in the body.

REFERENCE

- **Integrated science syllabus book 4 pg 9.**
- **Comprehensive science book 4 pg 145-146.**
- **Mk integrated primary science book 4 pg 78.**
- **Life science Macmillan page 296**

LESSON: 7

IODINE

Use:

- For proper working of the thyroid gland.

Sources of iodine

-

- Sea fish
- Iodized salt
- Sea water

Note: Deficiency *of iodine in the body leads to goitre.*

CALCIUM AND PHOSPHORUS

- Calcium and phosphorus strengthen bones and teeth.

Sources

-

- Milk
- Fish
- Meat
- Beans
- Green vegetables
- Un polished cereals

Activity

1. Mention any two sources of foods rich in calcium.
2. Give one function of calcium in the body.
3. Phosphorus is one of the mineral salts needed in our diet. Give its function in the body.
4. Mention any two sources of iodine in the body.
5. a) Mr. Okedi's son has swollen thyroid gland. State the cause of this condition.
b) What advice would you give to parents to prevent their children from such a condition?

REFERENCE

- **Integrated science syllabus book 4 pg 9.**
- **Comprehensive science book 4 pg 145-146.**
- **Mk integrated primary science book 4 pg 78.**

LESSON: 8

ROUGHAGES

Roughages are the undigested materials that remain after digestion.

Sources of roughages

-

- Green leafy vegetables
- Sweet potatoes
- Brown bread
- Peas
- Bananas
- Cassava
- Fruits
- Wheat bran
- bean

Function of roughages in the body

- Roughages prevent constipation.
- Roughages aid digestion.
- Reduce risks of bowel cancer

Activity

1. State three sources of roughages in the environment.
2. What causes constipation among human beings?
3. Why are people advised to take plenty of roughages? Give two reasons.
4. How can a p.4 child prevent constipation?

REFERENCE

- **Integrated science syllabus book 4 pg 9.**
- **Comprehensive integrated primary science book 4 pg 147.**

LESSON: 9

Water

Water is a colourless, tasteless and non-smelling liquid.

Sources of water in the body

- Tea
- Soup
- Juice
- Milk
- Fruits

Uses of water in the body

- Water forms 70% of the body' weight.
- Water helps in the digestion and absorption of food.
- Water quenches thirst.
- Helps in circulation of blood around the body.
- Water reduces body temperature.

Activity

1. State any two qualities properties of water.
2. Identify two sources of water in our bodies.
3. Give three uses of water to the body of a human being.
4. What is the percentage composition of water in the body?

REFERENCE

- Integrated science syllabus book 4 pg 9.
- Comprehensive primary science book 4 pg 147.
- Understanding integrated science book 4 .

LESSON: 10

MALNUTRITION

- **Malnutrition** is a condition in which the body does not get all the needed food values in their right amounts.

Malnutrition leads to deficiency / nutritional diseases.

Causes of malnutrition

-

- Famine
- Poverty
- Ignorance

Signs of malnutrition in adults

-

- Tiredness
- Loss of interest at work
- Poor sight
- Weak bones

Activity

1. What do you understand by the term malnutrition?
2. Write down two effects of malnutrition among people.
3. Suggest any two things that can cause malnutrition.
4. Identify any two signs and symptoms of a malnourished child.

REFERENCE

- Sipro learners' work book 4 pg 14
- M K Integrated science Bk 4 pg __.
- Fountain integrated science bk 4 ppg

LESSON: 11&12

DEFICIENCY DISEASES

- Diseases caused by lack of certain food values in the body.
- They are also called nutritional deficiency diseases.

DISEASE	DEFICIENCY	SIGNS AND SYMPTOMS	PREVENTION
Kwashiorkor	lack of proteins in the diet	-Swollen belly -Swollen moon face -Swollen feet and hands. -Skin rash. -Brown hair.	Eat foods rich in proteins.
Marasmus	Lack of carbohydrates in the diet leads to marasmus	-Pot belly. -Thin body -Always hungry -General body weakness. -Face looks like that of an old man.	Eat foods rich in carbohydrates.
Anaemia	Lack of iron in the diet	-general body weakness(fatigue)	Eat foods rich in iron

Goitre	Lack of iodine in the diet.	-swelling around a person's neck.	Eat food rich in iodine like the sea foods and iodized salt.
Night blindness	Lack of Vitamin A	<ul style="list-style-type: none"> •Sore eyes •Poor night vision •Colds Blurred vision	Eat food rich in vitamin A
Beriberi	Lack of Vitamin B ₁	<ul style="list-style-type: none"> •Loss of appetite •Body weakness •Paralysis •Retarded growth 	Eat food rich in vitamin B ₁
Pellagra	Lack of Vitamin B ₂	<ul style="list-style-type: none"> •Skin disorders •Eye and mouth sores •General body weakness 	Eat food rich in vitamin B ₂
Scurvy	Lack of Vitamin C	<ul style="list-style-type: none"> •Bleeding of gums. •Poor healing of wounds. •Anaemia •Body weakness. •Pain in joints and muscles. 	Eat food rich in vitamin C
Rickets	Lack of Vitamin D	<ul style="list-style-type: none"> •Weak bones •Bow shaped leg bones 	Eat food rich in vitamin D

Activity

1. Define the term deficiency diseases.
2. How is the cause of malaria different from that of kwashiorkor?
3. What is the cause of marasmus among young children?
4. What advice can you give to a mother whose child is suffering from kwashiorkor?
5. Mention two signs of a child suffering from marasmus

6. State the causes of the following diseases;

- a) Goiter
- b) Night blindness
- c) Anaemia

7. Write down one sign of a person with goiter.

8. How can the following diseases be prevented;

- a) Goiter
- b) Night blindness
- c) Anaemia

9. Give the difference between the cause of pellagra and beriberi.

10. Identify two signs of a child suffering from beriberi.

11. How can a mother prevent her child from getting pellagra?

12. Write down two diseases that are not caused by germs.

13. How is the cause of scurvy different from that of rickets?

14. State one similarity between scurvy and rickets.

15. Mama's child was seen with bow shaped legs. Which disease do you think the child was suffering from?

16. As a P.4 child, which advice can you give to a mother to prevent her child from getting rickets?

REFERENCE

- Integrated primary science syllabus book 4 pg 9 & 14.
- Mk integrated primary science book 4 pg 81 & 82.

LESSON: 13

Food for Vulnerable groups people

Vulnerable people are people who need special care and diet.

Examples of vulnerable people

-

- Babies
- Pregnant mothers
- Elderly people
- Sick people
- Breast feeding mothers

Diet for different people

- **Babies**-breast milk
- **Weaning babies**-soup, mashed Irish potatoes, porridge, boiled eggs.
- **Elderly**-minced meat, fish fillet, mashed fruits

Note: Weaning is the gradual introduction of solid food to a baby while still breast feeding.

Activity

1. Who are vulnerable groups of people?
2. Apart from weaning babies, name any three groups of vulnerable people.
3. Why is breast milk the best food for babies below six months of age?
4. Name one food stuff that can be given to weaning babies.
5. State one reason why pregnant women are referred to as vulnerable people.

REFERENCE

- **Comprehensive primary science book 4 pg 148.**
- **Integrated primary science syllabus book 4 pg 9 & 14.**
- **Understanding integrated science book 4 pg 66.**

LESSON: 14

FOOD HYGIENE

Food hygiene is the keeping of food free from germs.

- When food is not handled properly, it is contaminated.
- **Food contamination** is a way food gets in contact with germs.

How food can be contaminated

-

- Handling food with dirty hands.
- House flies landing on the food.
- Preparing food in dirty containers.
- Serving food in dirty containers.
- Leaving food uncovered.
- Preparing food in a dirty place.

Prevention of food contamination

- Wash hands before eating food and after visiting the latrine.
- Cover leftover food.
- Wash and dry utensils before using them.
- Serve food in clean places.
- Spray with insecticides to kill houseflies.

Activity

1. Why is it advisable to wash hands before eating food?
2. Mention any two ways in which food can be contaminated.
3. Suggest any three things that can contaminate our food.
4. Write down three ways in which we can prevent our food from contamination.
5. Give one danger of eating contaminated food.

REFERENCE

- **Comprehensive primary science book 4 pg 11-12.**
- **Integrated primary science syllabus book 4 pg 9 &14.**
- **Mk integrated primary science book 4 pg 84-85.**
- **New primary science for Uganda 4 pg 8.**

LESSON: 15

FOOD PRESERVATION

Food preservation is the way of keeping of food for a long time without going bad.

Ways of preserving food.

-

- Sun drying e.g. cassava, beans.
- Salting e.g. meat.
- Smoking e.g. fish.
- Tinning / bottling / canning.
- Freezing e.g. milk, meat
- Refrigerating e.g. oranges, green vegetables, milk.

Activity

1. In one sentence, explain the term food preservation.
2. State three methods used to keep food safe without going bad.
3. Identify two food stuffs preserved by using the methods below;
 - I. sun drying
 - II. smoking
 - III. refrigerating
4. What is the traditional method of preserving fish?
5. Give one reason why people preserve food.

REFERENCE

- **Comprehensive primary science book 4 pg 11-12.**
- **Integrated primary science syllabus book 4 pg 9 & 14.**
- **Oxford primary science book pg 8.**

LESSON: 16

Good eating habits

-

- Wash hands before eating food.
- Sit upright when eating food.
- Swallowing food after chewing it properly.
- Chewing food with mouth closed.
- Putting small lumps of food in the mouth at a time

Dangers of bad eating habits

- Bending while eating food interferes with movement of food in the alimentary canal.
- Swallowing food before chewing properly can lead to indigestion it can also lead to choking.
- Talking when food is in the mouth leads to spitting food on other people near you.

Activity

1. Write down any two good eating habits you know.
2. Why is it a good habit to wash hands before handling food?
3. Identify two bad eating habits you have observed in your class.
4. State one danger Otim is likely to face if he does not chew food properly before swallowing it.

REFERENCE

- **Integrated primary science curriculum book four.**

LESSON: 17

Preparing a simple dish

- Food is prepared in different ways.

Methods of preparing food

- Boiling
- Roasting
- Mingling
- Frying
- Baking
- Cooking
- Boiling
- Smoking
- Cutting/
chopping e.g.
salads

Activity

Note: Preparing boiled rice (Mk integrated primary science book 4 page 88)

REFERENCE

- **Integrated primary science syllabus pg 9-14.**
- **Mk integrated primary science book 4 pg. 88.**

TOPICAL TEST

TOPIC 2: HUMAN BODY ORGANS

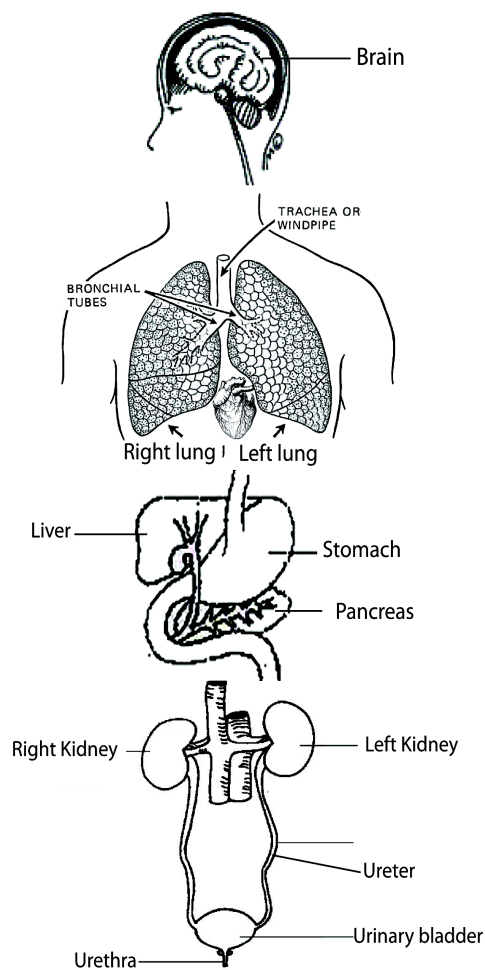
LESSON: 1

Major organs of the human body



- Eyes
- Ears
- Brain
- Lungs
- Heart
- Stomach
- Liver
- Kidneys
- Urinary bladder

Diagram showing the position of major human organs



Activity

1. Name the body organs marked with letters a, b, c, and d.
2. How many ears has a human being got?
3. Where in the body of a human being is the brain located?

REFERENCE

- Integrated primary science book 4 pg 14.
- Mk integrated primary science book 4 pg 91.

- Sipro learners' work book 4 pg 20.

LESSON: 2

THE BRAIN, EARS AND EYES

The head has some of the main organs like the brain, eyes, nose, and ears.

The ears

- A human being has two ears and they are used for hearing and body balance.

The eyes

- The eyes found on the face are used for seeing.

The nose

- The nose is used for smelling and the tongue for tasting.

The brain

- The brain is protected by the skull in the head

Importance of the brain

- Stores information and helps in remembering.
- Controls movement and behaviors
- It is the centre of intelligence and thinking.
- It co-ordinates body activities.
- It is responsible for reasoning.

Activity

1. Name the body organ for sight.
2. Write the function of the following body organs;
 - a. Ears
 - b. Brain
 - c. Eyes
 - d. Nose
3. Name the body organ which is the centre of intelligence.
4. How many eyes are found on the person's body?

REFERENCE

- Integrated primary science book 4 pg 14.
- Mk integrated primary science book 4 pg 91-92.

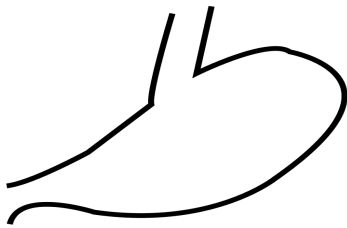
- Sipro learners' work book 4 pg 20-21.

LESSON: 3

The stomach

- The stomach is found in the abdomen.

A diagram of our stomach



stomach

Importance of the stomach

- It stores food for some time.
- The stomach produces a digestive juice called gastric juice.
- The stomach produces hydrochloric acid which kills germs that come along with food.
- Protein foods are first broken down in the stomach.

Activity

1. State any one role of the stomach in the body.
2. Name the digestive juice produced by the stomach walls.
3. Which food value is broken down in the stomach?

REFERENCE

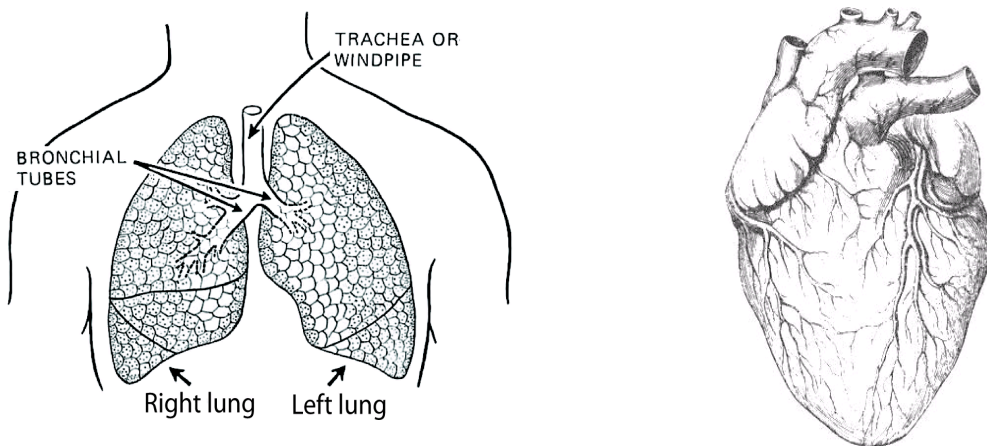
- Integrated primary science book 4 pg 14.
- Mk integrated primary science book 4 pg 94.
- Sipro learners' work book 4 pg 21-22.

LESSON: 4

THE HEART AND LUNGS

- The heart and lungs are found in the chest cavity.
- They are surrounded by ribs that form a cage around them.
- The human body has **one heart**.
- The **function of the heart** is to pump blood to all other parts of the body.
- The human body has **two lungs; left lung and right lung**.
- Lungs are used for breathing (gaseous exchange).
- The heart and lungs are protected by the rib cage.

Diagram showing the structure of the heart and lungs



The lungs

the heart

Activity

1. Which body part protects the heart and lungs?
2. Give the function of the heart in the body.
3. Name two body organs found in the chest region.
4. What will happen to a hen if its heart is removed?
5. How useful are lungs to you as a P.4 child?
6. Give one activity done to keep the heart and lungs working well.

REFERENCE

- Integrated primary science book 4 pg 14.

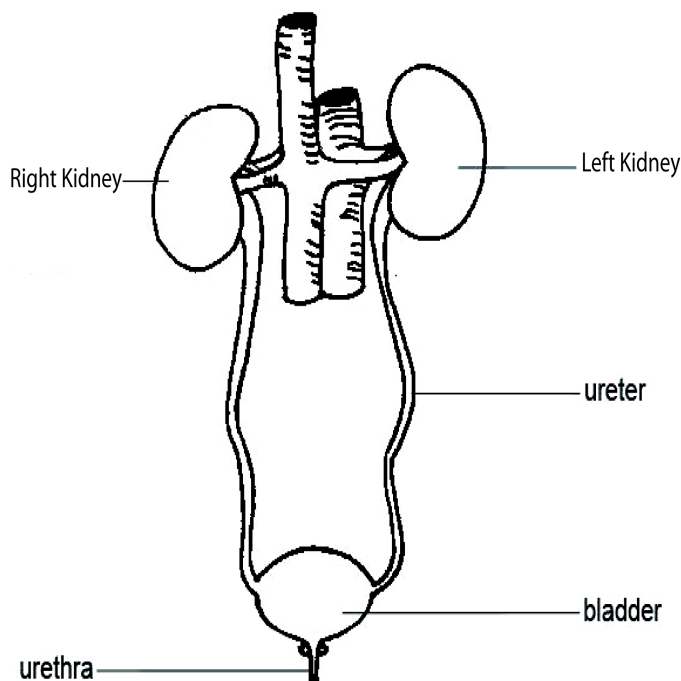
- Mk integrated primary science book 4 pg 96-98
- Sipro learners' work book 4 pg 22.

LESSON: 5

THE KIDNEYS AND URINARY BLADDER

- There are two kidneys in the human body; left kidney and right kidney.
- Kidneys are found at the back of the abdomen.
- Kidneys are bean shaped and reddish brown in colour.
- The kidneys and urinary bladder form the urinary system.
- **The kidneys** filter blood to remove wastes.
- The wastes removed are passed out as urine.
- **The urinary bladder** stores urine.

Diagram to show the urinary system



Activity

1. How many kidneys are found in the animal bodies?

2. State the importance of kidneys in the body.
3. In which way is the urinary bladder important in your body?
4. Which body organ purifies blood?
5. Why it is not advisable to delay urination?

REFERENCE

- Integrated primary science book 4 pg 14.
- Mk integrated primary science book 4 pg 95.

LESSON: 6

The liver

- The liver is a reddish brown organ found near the stomach.

Functions of the liver

- The liver regulates blood sugars.
- It produces bile juice that digests fats.
- It removes poisonous substances from blood.

How the human body works

- The body takes in food, air and water.
- The oxygen burns food in the body to produce energy (respiration).
- Food is carried to all body parts to be used for growth, production of energy and repair of worn out body.
- Food also provides good health to the body.

Activity

1. State one importance of the liver in the body.
2. Suggest one way of taking good care of the liver.
3. Which component of air is useful to the body?
4. Mention one role of food in the body.
5. Write down any two waste products removed from the body.

REFERENCE

- Integrated primary science book 4 pg 14.
- Mk integrated primary science book 4 pg 95.

LESSON: 7

Ways of maintaining the normal functioning of body organs

- Feeding on a balanced diet.
- Having enough rest/ sleep.
- Having regular meals.
- Doing regular physical body exercises.
- Visiting the doctor for regular body check up.
- Taking drugs as prescribed by the medical worker.
- Avoid smoking cigarettes.
- Avoid drinking alcohol.

Function of physical exercises to the body.

- For proper working of body organs.
- They strengthen the body muscles.
- They improve blood circulation in the body.
- Help the body to remove wastes like sweat, urine and carbon dioxide.

Activity

1. Why is it important to have enough rest?
2. How is sweating useful to the body?
3. State two importance of having regular body exercises.
4. In one sentence, state the meaning of a balanced diet.
5. Write two ways of improving the normal functioning of the heart.
6. Why is it good to take drugs as prescribed by the medical worker?

REFERENCE

- Integrated primary science book 4 pg 14.
- Mk integrated primary science book 4 pg 95.
- Sipro learners' work book 4 pg 23.

THEME: HUMAN HEALTH

TOPIC: THE TEETH

LESSON: 1

Sets of Teeth

- (i) Milk teeth (Deciduous teeth)
- (ii) Permanent teeth

Milk teeth

- They are 20 in number and the first to grow in young children.
- Milk teeth start growing from the age of 6 months and at the age of around 7 years; they begin to fall out and are replaced by the permanent teeth.

The table below shows arrangement of milk teeth.

Jaw	incisor	Canine	Premolar	Total
Lower	4	2	4	10
Upper	4	2	4	10
Total	8	4	8	20

Permanent teeth

- This is the second and final set of teeth in the person's growth.
- By the age of 13, a person has developed permanent teeth
- An adult normal person has 32 permanent teeth consisting of incisors, canines, premolars and molars.

The table below shows the arrangement of permanent teeth

Jaw	Incisors	Canines	Premolars	Molars	Total
Lower jaw	4	2	4	6	16
Upper jaw	4	2	4	6	16
Total	8	4	8	12	32

Activity

1. What name is given to the first set of teeth in children?
2. How many teeth does a normal adult person have?
3. Name the two sets of teeth.
4. At what age do milk teeth start falling out in most children?

REFERENCE

- Integrated primary science syllabus book 4 pg 14-18.
- Comprehensive integrated primary science book 4 pg 158.
- Mk integrated primary science book 4 pg 101..

LESSON: 2

TYPES OF TEETH

- Incisors
- Canines
- Premolars
- Molars

Incisors:

- They are used for cutting and biting food.
- They are chisel shaped.
- They are well developed in mice, rabbits, rats and squirrels.
- They have one root.
- They are four in each jaw.

Diagram of an incisor



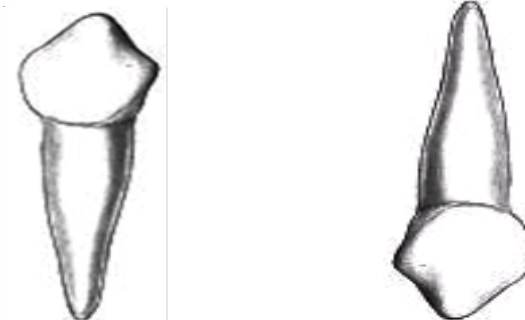
Incisors of the Lower jaw

incisors of the upper jaw

Canines

- They are used for tearing food.
- They are more developed in dogs, cats, leopards, lions etc.
- They are two in each jaw.
- Canines are sharp and pointed.
- They have one root

Diagram of a canine



Activity

1. Name any two types of permanent teeth.
2. How are incisor teeth adapted to their function of cutting food?
3. Give any one function of the following types of teeth;
 - a) Canines

b) Incisors

4. In the space below, draw and name the type of tooth that tears food.

REFERENCE

- Integrated primary science syllabus book 4 pg 14-18.
- Comprehensive integrated primary science book 4 pg 159-160.
- Mk integrated primary science book 4 pg 101-102.
- Sipro learner's work book 4 pg26.

LESSON: 3

Premolars

- Premolars are used for grinding, chewing and crushing food
- They are broad, blunt and flat ridged.
- They have two roots.
- They are four in each jaw.

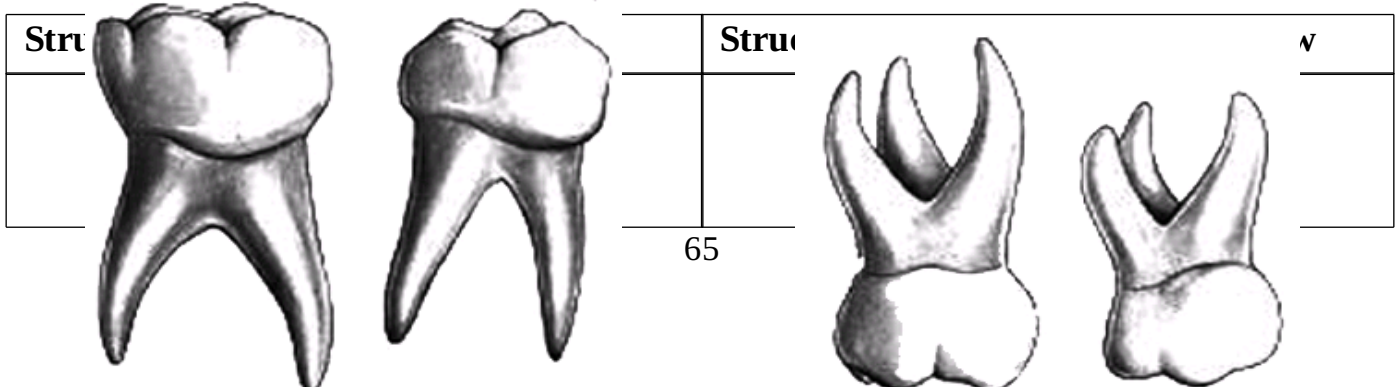
Diagram of a premolar tooth



Molars

- Molars are used for grinding, chewing and crushing food.
- They are broad, blunt and flat ridged.
- They are six in each jaw.

Diagram of a Molar:



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Activity

1. State the functional similarity between a molar and premolar tooth.
2. How useful are premolar teeth to a child of primary four?
3. How many molar teeth has a normal adult person got?
4. How many roots does a molar tooth in the lower have?

REFERENCE

- Integrated primary science syllabus book 4 pg 14-18.
- Comprehensive integrated primary science book 4 pg 160-161.
- Mk integrated primary science book 4 pg102.
- Sipro learner's work book 4 pg27.

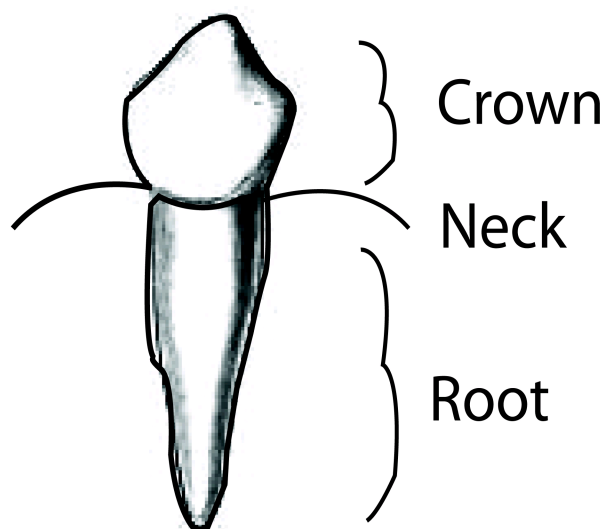
LESSON: 4

REGIONS OF A TOOTH

A tooth is made up of three regions; crown, neck, root.

- **The crown:**
 - It's the part above the gum.
 - It's mainly the enamel.
- **The neck:**
 - This is the part between the crown and the jaw bone.
- **The root:**
 - This is the part which is sunk in the socket of the jaw or it's the part which is fixed in the jaw bone.

A diagram showing regions of a tooth



Activity

1. Name the three regions of a tooth.
2. Name the parts of a tooth drawn below;
3. How many incisors has a normal adult person altogether?
- 4.

REFERENCE

- Integrated primary science syllabus book 4 pg 14-18.
- Comprehensive integrated primary science book 4 pg 160.
- Mk integrated primary science book 4 pg103.
- Sipro learner's work book 4 pg 25.

LESSON: 5

PARTS OF A TOOTH

- Enamel
- Dentine
- Pulp cavity
- Blood capillaries
- Gum
- Cement



Diagram of a tooth

Functions of parts of the tooth

Enamel:

- The hardest part of the tooth.
- It is the hardest substance in the body made of calcium of phosphorus.
- Enamel protects the inner parts of the tooth.

Dentine:

- It keeps replacing the enamel as it may wear off due to friction.

Pulp cavity

- It is the most sensitive part of the tooth.
- It contains blood vessels and sensory nerves.

Blood vessels

- They carry digested food and oxygen to the tooth.

Sensory nerves

- They are sensitive to heat, pain and cold.
- The tooth begins painting when bacteria destroy the pulp cavity.

Cement

- It fixes the tooth in position
- It protects the tooth.

Gum

- Gives extra support to the tooth in the jaw bone.

Jaw bone

- Holds the tooth in one position.

Activity

1. Name the hardest part of the tooth.
2. Mention one use of the enamel to the tooth.
3. Which part of the tooth is sensitive to pain and heat?
4. State the part of a tooth which helps to hold the tooth in position.
5. Identify two mineral salts that help to strengthen our teeth.

REFERENCE

- Integrated primary science syllabus book 4 pg 14-18.
- Comprehensive integrated primary science book 4 pg 162-163.
- Mk integrated primary science book 4 pg103.
- Sipro learner's work book 4 pg 28-29.

LESSON: 6

Diseases of the teeth

1. Tooth decay (Dental caries)

- It is caused by bacteria.
- Bacteria acts on sugar and starch remains on the teeth.
- Bacteria produce lactic acid that wears and tears the enamel and makes a hole in the dentine and pulp cavity.
- Pain begins when the bacteria destroys the pulp cavity.

-holes formed in the tooth are called cavities.

NOTE: Dentist amalgam (cement) can e used to fill the holes made on the teeth.

2. **Plaque:** This is a coating on teeth caused by saliva containing mucus and bacteria.

3. **Periodontal diseases**

- This is an infection of the gum and tooth socket.

4. **Gingivitis;** if plaque is not treated, it results in to gingivitis.

Signs of gingivitis

- Bleeding of gums.
- Bad breath.
- Gum recession (the gum goes away from the crown).

Dental disorders

- Broken teeth
- Improper growth of teeth.
- Piling of dental plaque on teeth.

Activity

1. What is another name for dental carries?
2. Give any one reason why we should brush our teeth after every meal?
3. Apart from tooth decay, mention any other one disease of teeth.
4. Mention any two signs of gingivitis.
5. What problem is a person likely to face if he/ she eats a lot of sweets but does not brush teeth?
6. State any one disorder of teeth.

REFERENCE

- Integrated primary science syllabus book 4 pg 14-18.
- Comprehensive integrated primary science book 4 pg 162-163.
- Mk integrated primary science book 4 pg108-109.
- Sipro learner's work book 4 pg 30-31.

LESSON: 7

Oral Hygiene

Oral hygiene is the way of keeping our teeth and mouth free from germs

Care for our teeth

- Brush the teeth after every meal.

- Avoid drinking very hot and too cold things.
- Avoid eating too many sweets.
- Rinse your mouth with water and salt after every meal.
- Eat plenty of fruits and vegetables.
- Visit a dentist regularly for dental check ups.
- Eat a balanced diet.
- Carrying out dental flossing.
- avoid biting too hard objects.

Activity

1. Give any one reason why we should brush our teeth every day.
2. State any one disease of teeth.
3. Write down three ways of caring for our teeth.
4. How is a dentist useful in our community?
5. State any one danger of losing teeth.

REFERENCE

- Integrated primary science syllabus book 4 pg 14-18.
- Comprehensive integrated primary science book 4 pg 162-163.
- Mk integrated primary science book 4 pg 104-108.
- Sipro learner's work book 4 pg 31-32.

LESSON: 8

Things used in caring for our teeth

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- Tooth brush
- dental floss
- Tooth paste
- Tooth picks
- Clean water

How to brush our teeth

- Brushing the teeth should be up and down movement of the tooth brush but not side ways.

Reasons why we brush our teeth

- To prevent tooth decay.
- To prevent bad breath.

Activity

1. Draw and name four things used to clean our teeth.
2. Why are we advised to brush our teeth with tooth paste?
3. Suggest two major reasons why children of P.4 should brush their teeth daily.

THEME: HUMAN HEALTH

TOPIC 4: SANITATION

LESSON: 1

- **Sanitation** is the general cleanliness of our environment.
- **Sanitation** is a way of keeping our environment clean.

Elements of sanitation

- latrines
- Rubbish pits
- Rack/plate stand
- Kitchen
- Water
- Bathrooms.

Things used to promote sanitation.

- Soap
- Rake
- Water
- Soap
- Slasher

- Scrubber
- spade
- rubbish bins/dust bin
- rubbish pit
- mop

Activity

1. Which term describes the general cleanliness of a place?
2. Mention the importance of a toilet / latrine in our homes.
3. State any two elements of sanitation.
4. How useful is a plate stand or rack in a home?
5. Write down any three qualities of a clean home.

REFERENCE

- Integrated primary science syllabus book 4 page 25.
- Mk integrated primary science book 4 pg 114.
- Sipro learners' work book 4 pg 32-33.

LESSON: 2

Activities under sanitation

- Sweeping the compound, houses etc.
- Mopping houses, classrooms etc.
- Slashing bushes around our homes, school, road sides and water sources.
- Picking and burning rubbish.
- Proper disposal of garbage.
- Draining stagnant water around our homes and schools.
- Dusting tables and chairs.
- Removing cobwebs from the kitchen latrines and houses.
- Digging water channels along the roads, in the schools and home compounds.

Activity

1. Why is it important to slash tall grass around our homes?
2. Name the vector that lays eggs on stagnant water.

3. Outline three activities done to promote sanitation at school.
4. State the use of a trash bin in your class room.
5. Name one activity you do at your home to keep it clean.

REFERENCE

- Integrated primary science syllabus book 4 page25.
- Mk integrated primary science book 4 pg 114.
- Sipro learners' work book 4 pg 32-33.

LESSON: 3

IMPORTANCE OF SANITATION

- Prevents the spread of germs.
- Promotes good health in community.
- Controls vectors.

Ways in which water sources are made dirty

- Throwing rubbish in or near water sources.
- Urinating in or near water sources.
- Sharing water sources with animals.
- Building latrines near water sources.
- Washing clothes in or near water sources.
- Bathing and swimming in water sources.
- Defecating in or near water sources.

Activity

1. Name any three water sources in our environment.
2. Give any two diseases which are spread through contaminated water.
3. Describe four ways in which water sources are made dirty.
4. Suggest two ways of keeping water sources safe.
5. Outline any two importance of sanitation to people.

REFERENCE

- Integrated primary science syllabus book 4 page25.

- Mk integrated primary science book 4 pg 115.
- Sipro learners' work book 4 pg 34.

LESSON: 4

GERMS AND DISEASES

- A germ is a living organism that causes diseases.
- Germs are tiny that they cannot be seen with naked eyes.
- Germs are seen under a **microscope**.

Types of germs

These include;

- Virus
- Bacteria
- Protozoa
- Fungi

Where germs are found

- Germs are found everywhere but common in the following places;

Germs are found in;

- Contaminated water
- Latrines
- Rubbish pits
- Soil
- Air
- On dirty clothes
- On dirty beddings
- Under dirty finger nails.

Activity

1. What are germs?
2. Identify the instrument used to see germs.
3. Mention any four places where germs are commonly found.
4. Write the four types of germs.

REFERENCE

- Integrated primary science syllabus book 4 page25.
- Mk integrated primary science book 4 pg 117.
- Sipro learners' work book 4 pg 35-36.

LESSON: 5

HOW GERMS ENTER OUR BODIES

- Through eating contaminated food.
- Through the nose when we breathe in.
- Through open wounds and cuts
- Through skin contact with infected persons.
- Through sharing clothes with an infected person.
- Through vectors.

Activity

1. What name is given to organisms that spread germs which cause diseases?
2. Why is it dangerous to leave cooked food uncovered?
3. Write down three examples of insects that spread germs.
4. Identify two ways germs spread.

REFERENCE

- Integrated primary science syllabus book 4 page25.
- Mk integrated primary science book 4 pg 117.
- Sipro learners' work book 4 pg 36-37.

LESSON: 6

THE GERM PATH (4FS)

These stands for

- (i) Faeces
- (ii) Flies
- (iii) Food
- (iv) Fingers

Diseases spread through 4FS.

- Cholera
- Typhoid
- Dysentery
- Diarrhoea

Diseases spread through contaminated water

- Polio
- Malaria
- Bilharzia
- Hepatitis
- Cholera
- Typhoid
- Dysentery
- Diarrhoea

Activity

1. Draw a cycle to show the 4Fs germ path.
2. Write 4Fs in their correct order.
3. Mention any three diseases that can be spread through the 4Fs germ path.
4. Name the vector that is involved in the 4Fs germ path.

REFERENCE

- Integrated primary science syllabus book 4 page25.
- Mk integrated primary science book 4.
- Sipro learners' work book 4 pg.

LESSON: 7

PROTECTION AGAINST GERMS AND DISEASES

- Boil water for drinking.
- Wash hands before eating food.
- Wash hands after visiting the latrine or toilet.
- Destroy the breeding places of vectors.
- Kill the vectors by spraying.

- Cover food.
- Have proper disposal of garbage.
- Have children immunized.
- Proper cooking of food.
- Serving food in clean containers.
- Wash all foods that are to be eaten raw.
- Clean utensils and dry them before using them.

Activity

1. Why is it important to keep our school clean?
2. How can we keep houseflies away from our homes?
3. How can we protect ourselves against mosquitoes?
4. Suggest one reason why we should kill rats in our homes.
5. Suggest three ways of keeping ourselves free from germs and diseases.

REFERENCE

- Integrated primary science syllabus book 4 page25.
- Mk integrated primary science book 4 pg119.

LESSON: 8

ROTTING / DECAY

- Rotting is the breakdown of organic matter by bacteria.

Importance of rotting / decay

- Rotting produces humus from dead organic matter.
- It destroys garbage heaps.
- It destroys Faeces in latrines and sewage systems.

Dangers of rotting

- Rotting produces a bad smell.
- Rotten matter is a source of germs.

- Rotting causes wounds to be septic.

Activity

1. Define the term rotting.
2. Name the germ that causes rotting/ decaying.
3. State any one way bacteria is useful to people.
4. Write down two importance of rotting in the environment.
5. Give one disadvantage of rotting I our environment.

REFERENCE

- Integrated primary science syllabus book 4 page25.
- Mk integrated primary science book 4 pg 118.