GRAMSOL

LET'S DO SCIENCE & TECHNOLOGY

GRADE 5

NEW CURRICULUM

Approved by Ministry of Primary and Secondary Education ZIMBABWE

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LET'S DO

SCIENCE AND TECHNOLOGY

Grade 5

LET'S DO
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Book Features

Each unit begins with key words that focus on the subject material to be covered

Objectives are clearly listed at the beginning of each unit

Clear diagrams with informative captions throughout the book

Carefully crafted activities support learning and assess progress after each topic

3.1 ENERGY

Objectives
By the end of this unit, you should be able to:
- state ways of harnessing solar energy
- demonstrate that different surfaces reflect light in distinct ways
- evaluate uses of solar energy
- demonstrate the formation of images
- describe materials that burn giving out heat energy in the local environment
- demonstrate that heat is produced through friction
- recognise that the sun is a major source of heat energy
- describe ways in which heat can be destructive

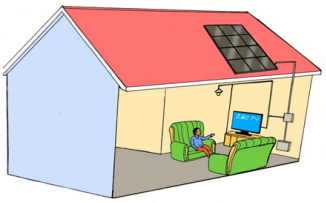
KEY WORDS
solar energy
reflection
image

Introduction
Do you remember the different forms of energy? Can you name a few?

Solar energy
Solar energy is energy from the sun.

Ways of harnessing and using solar energy
The sun provides heat and light energy. We can trap and use this heat and light in different ways. We will now discuss some the ways we can **harness** and use solar energy.

1. Solar panels



A home using a solar panel for electricity

ACTIVITY 2.6

Using a wheel barrow to move a load
For this activity you need a wheel barrow and a friend.
- Lift your friend and carry them for a distance of ten metres. Is it tiresome work?
- Ask your friend to get onto the wheelbarrow and push them for the same distance. Is the work easier?

Questions
- Which two things are done by your effort on the wheelbarrow?
- How does the wheelbarrow make your work of carrying your friend easier?
- Can the wheelbarrow be called a machine? Explain your answer.

ACTIVITY 2.7

Comparing tools as machines to manual labour

Using a crowbar to move a load
For this activity you need a long wooden pole and a large rock.
- Try to move the rock with just your hands. Is it difficult?
- Now use the crow bar to move the stone. Be careful, and make sure that the other end of the crowbar is firmly under the stone before you push the crowbar down. Is the work now easier?

Questions
- Draw a diagram of the crow bar and show by arrows the direction of:
  a) Your effort.
  b) The force which moves the load.
- How can you make the crow bar work even better?
- Can you call a crow bar a machine? Explain.

Safety precautions when using tools
Very often people get injured by tools. This can happen when tools are not used or stored correctly. We need to always observe safety precautions to avoid injuring ourselves or others.

Book Features

Summaries at the end of each unit provide an opportunity to reflect on what has been learned

SUMMARY

Electric current flows in the form of electrons through conductors.
Electrical components can be represented by electrical symbols for easy identification and drawing.
There are two types of electric circuits: parallel and series circuits.
Connections are divided in a parallel circuit.
Household electricity circuits are parallel.

Key terms are defined in the glossary

GLOSSARY

Ammeter: instrument for measuring current.
Complete circuit: a complete path around which electricity can flow
Components: parts of a larger whole,
Electric current: flow of electrons
Electrical circuit: complete journey followed by an electric current
Electrons: very small particles whose flow creates an electric current
Flow of electrons: movement of free electrons
Parallel circuit: electrical components are connected in two or more branches.
Resistance: opposing the flow of current caused by components connected in the circuit.
Series circuit: electrical components are connected in a single line which does not branch.
Voltage: electrical force or pressure that drives current through a circuit.
Voltmeter: instrument used to measure voltage

Varied exercises test knowledge and provide revision after every unit

Revision Exercise

Section A

Current is the flow of.....
A conductors.
B. voltage.
C electrons.
D heat.

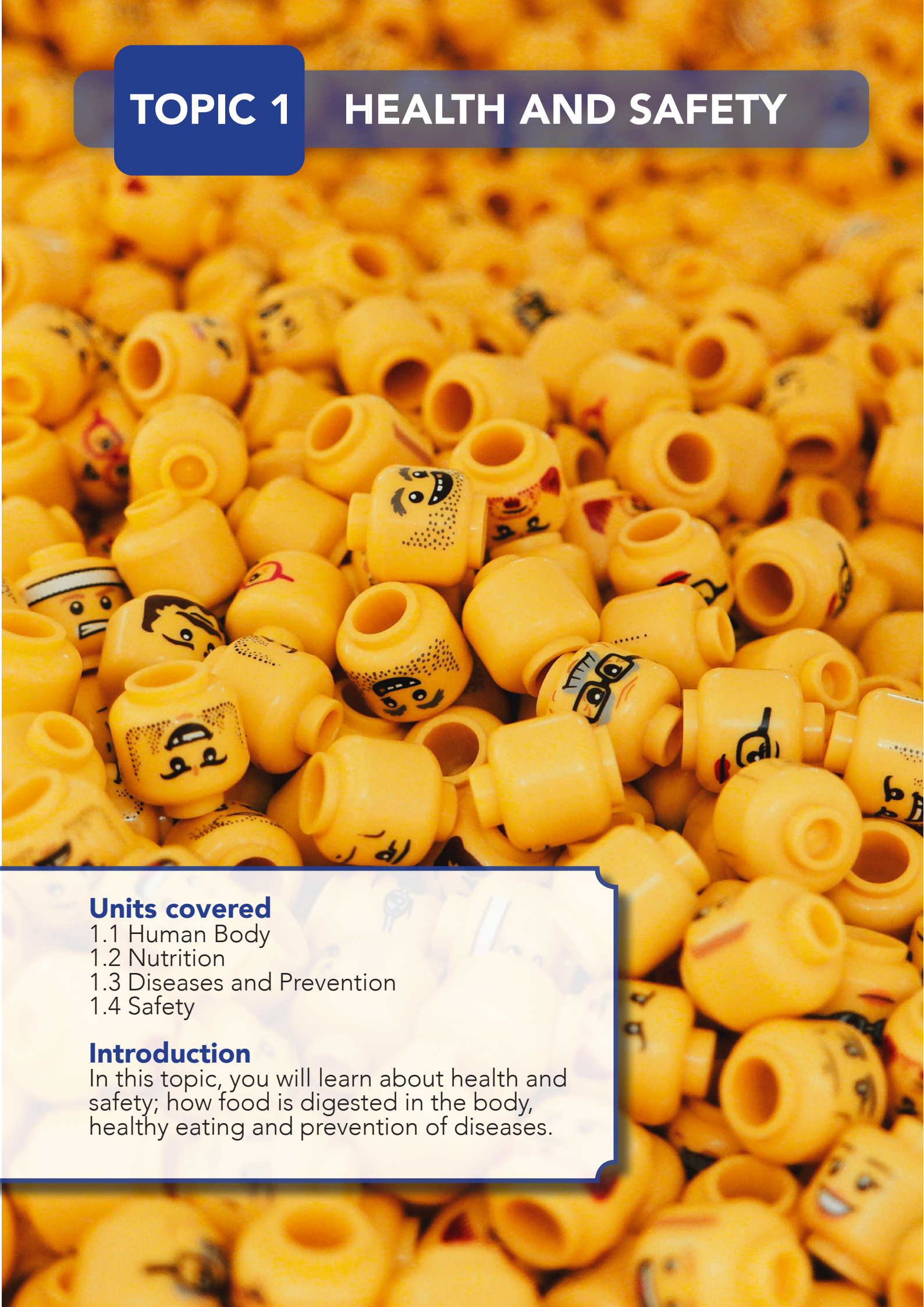
Which of the following symbols represents a fuse?
A
B
C
D

The type of circuit in which components are connected in a single line is .....
A. series.
B. parallel.
C. branched.
D. compound.

Which is the advantage of parallel circuits?
A. Appliances are in a single line.
B. Appliances are easy to reach.
C. Other appliances stop working when one stops.
D. Other appliances continue working when one stops.

The electrical force that drives current through a conductor is known as .....
A. current.
B. voltage.
C. resistance.
D. gravity.

TOPIC 1 HEALTH AND SAFETY



Units covered

1.1 Human Body
1.2 Nutrition
1.3 Diseases and Prevention
1.4 Safety

Introduction

In this topic, you will learn about health and safety; how food is digested in the body, healthy eating and prevention of diseases.

1.1 THE HUMAN BODY

KEY WORDS

digestion
absorb
enzymes

Objectives

By the end of this unit, you should be able to:

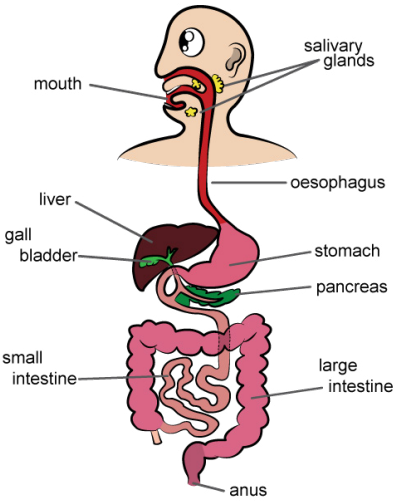
- identify parts of the digestive system
- state the function of parts of the digestive system
- describe the digestion process.

Introduction

The human body has many different parts called **organs** that perform different processes. In pairs, discuss the uses of your hands, legs and eyes. What about the stomach? What do you think happens to the food we eat?

The digestive system

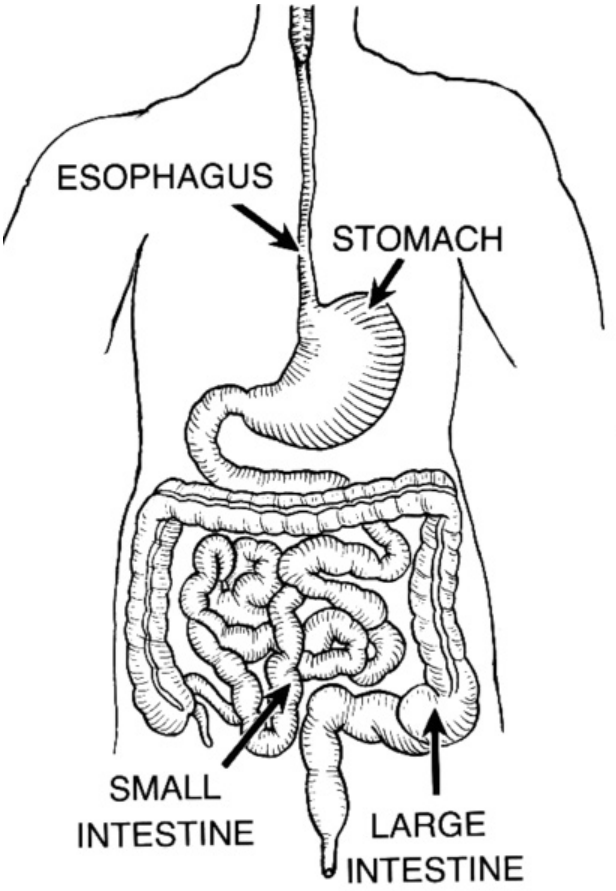
Let us now discuss what happens in our stomachs. The stomach is mainly responsible for **digestion**. Digestion is the breaking down of food into smaller parts that the body can use. Digestion takes place in the digestive tract. We eat food for energy and nutrients. During the digestion process, food is broken down into very small pieces that make it possible for the body to absorb it. The nutrients are absorbed into the blood and carried to different parts of the body.



Did you know?

There are more bacteria in the human mouth than the number of people in the world.

Parts of the digestive system



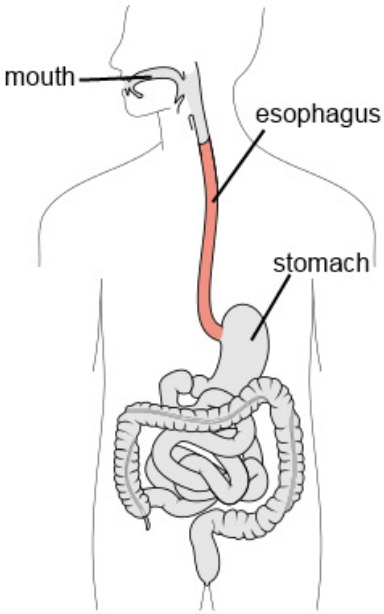
A digestive tract

ACTIVITY 1.1

Study the diagram above and discuss the various parts of the digestive tract.

Mouth

Digestion begins in the mouth. When we eat, our teeth cut and chew the food. **Saliva** mixes with the food and softens it. Chewing causes large food particles to break down into smaller particles. Saliva contains a substance called **enzymes** which also helps in breaking down food particles.



Oesophagus

The **oesophagus** is also known as the gullet or food pipe. It is a long tube that carries swallowed food from the mouth to the stomach.

Stomach

The stomach is a pear-shaped organ that receives food from the oesophagus. It has stomach juices that continue to break down food. The juices include

acids and enzymes that help in breaking down food further and pass it on to the small intestines.

Small intestines

Intestines are long continuous tubes. In the small intestines, food is absorbed into the body. The intestines absorb the food's nutrients and mineral substances. Food is also **chemically digested** in the small intestines.

Large intestines or colon

Water is absorbed in the large intestines. The large intestines also produce **faeces**. Faeces are a form of waste which the body does not require. The faeces are passed on to the rectum.

Rectum

The rectum stores faeces before they come out of the body. Any undigested material comes out of the body as waste.

Did you know?

Did you know that most dental problems are due to a lack of calcium? Adults around 65 years old have an average of only 19 remaining teeth. How many teeth do you have?

SUMMARY

- When food is digested, it is broken down into smaller units that can be absorbed by the body.
- Digestion takes place in the digestive tract.
- The digestive tract has many parts.
- Undigested food comes out of the body as waste.

GLOSSARY

Absorb: to take in.
Digestion: the breaking down of food into smaller particles which are absorbed by the body.
Enzymes: substances produced by our bodies that help us to digest the food we eat and speed up chemical reactions during digestion.
Faeces: solid body waste that could not be digested in the small intestines which is then discharged through the anus.
Oesophagus: the part that connects the throat to the stomach (also known as the gullet).
Undigested: food that has not been broken down.

REVISION EXERCISE 1.1

1. Digestion takes place in the .....
   A. digestive tract. B. lungs.
   C. brain. D. veins.

2. The following organ receives food from the oesophagus:
   A. Liver B. Anus
   C. Stomach D. Small intestines

3. Food that has not been absorbed.....
   A. is mixed with saliva. B. is broken down.
   C. is swallowed. D. is passed out as waste.

4. From the answers below, which one shows the correct passage of food?
   A. Oesophagus–stomach–mouth-intestines
   B. Mouth–oesophagus–stomach–intestines
   C. Mouth–intestines–oesophagus–stomach
   D. Stomach–mouth–intestines–oesophagus

5. What is stored in the rectum?
   A. Saliva B. Enzymes C. Faeces D. Food

6. Name the following part and state its function in the digestive system.

Beri beri

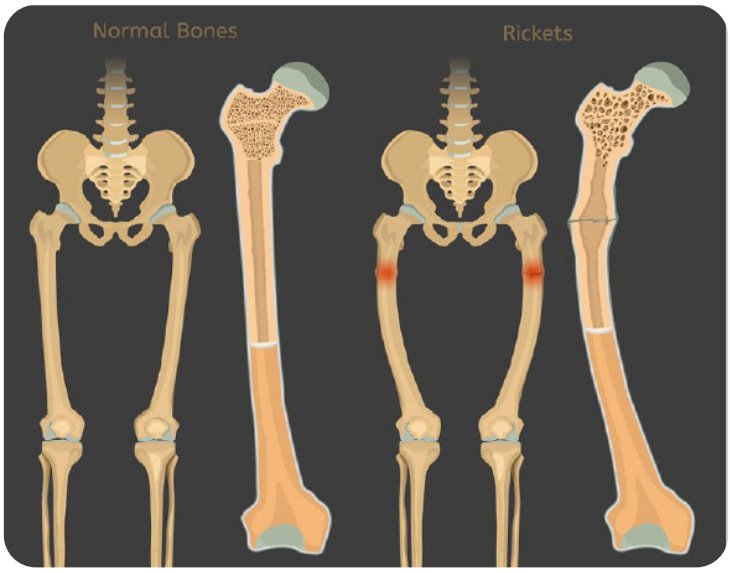
Beri beri is caused by lack of vitamin B1 in the body. For sources of vitamin B1 see table 1.

Symptoms of beri beri

- Heart problems
- Breathing problems
- Swollen legs and feet
- Mental confusion

A lady suffering from malnutrition

Rickets



Compare the two types of bones and discuss the causes of rickets

Rickets are a **bone disease** found in children. They are caused by lack of calcium and vitamin D. When a child has rickets his/her bones become weak and soft. The bones become weak and bend due to the weight of the body. See table 1 for sources of rickets.

Symptoms of rickets

- Bowed legs
- Knock knees
- Slow growth

Goitre

Goitre is a condition that causes the enlargement of the thyroid gland in the neck. It is caused by lack of **iodine**. Iodine is required in small amounts in the body. In Zimbabwe iodine is added to table salt.

A man with goitre

Symptoms of goitre

- A visible swelling at the base of the neck
- Difficulty in swallowing
- Difficulty in breathing

Night blindness

This is when one finds it difficult to see in the dark. It is caused by lack of vitamin A. Vitamin A is very important for good eye sight. Vitamin A is found in carrots.

Symptoms of night blindness

- Poor sight at night, in a dark room, or in dim light.
- Difficulty driving at night.

SUMMARY

- Good eating habits help in keeping one healthy and free from deficiency diseases.
- Lack of nutrients may lead to poor health.
- Eating disorders are wrong eating habits.
- Deficiency diseases occur when the body lacks some nutrients.
- Wrong eating habits can lead to deficiency diseases like anorexia, obesity and bulimia.
- Obesity is the excess body fat that causes one to be overweight.
- Anorexia is extreme dieting or starving to lose weight.
- Bulimia is a condition in which one eats and then forces them-self to vomit as a means to lose weight.

GLOSSARY

Abnormal: not usual.
Anorexia: an eating disorder which causes a person to eat very little in order to lose weight.
Balanced meal: a meal containing the very important nutrients needed by the body in their correct amount for the development of the body.
Bowed legs: curved legs.
Deficiency: shortage.
Dehydration: a condition where the water levels in the body are too low.
Eating disorder: abnormal eating habits.
Internal organs: parts of the body which are found inside the body.
Nervous system: a network of nerves and cells that carry messages to and from the brain and spinal cord to various parts of the body.
Obesity: the condition of being overweight.
Starvation: suffering from lack of food.

REVISION EXERCISE 1.2

1. Eating disorders are illnesses that are caused by ……
   A. abnormal eating. B. too much eating.
   C. stress. D. shortage of vitamin C.

2. Which of these words means the same as deficiency?
   A.Good nutrition B. Cause
   C. Adequate or enough D. Lack or shortage

3. Lack of iodine can lead to …….
   A. sore eyes. B. goitre.
   C. typhoid. D. rickets.

4. Beri beri is caused by ……..
   A. lack of vitamin B1.
   B. a severe lack of food.
   C. lack of protein in the diet.
   D. eating junk food.

5. The child below is suffering from which disease?

A. Kwashiorkor B. Marasmus
C. Anorexia D. Obesity

6. List two diseases that are caused by eating disorders .

7. In your own words, explain how you can practice proper eating habits.

8. What are the symptoms of rickets?

9. State the deficiency diseases caused by lack of the following nutrients.
a) Vitamin B1 b) Vitamin A c) Calcium
d) Protein e) Vitamin

10. The table below shows deficiency diseases and the insufficient nutrients. Match the two.

Deficiency Diseases	Insufficient Nutrients
Marasmus	All nutrients
Goitre	Vitamin A
Night blindness	Iodine

1.3 DISEASES AND PREVENTION

Objectives
By the end of this unit, you should be able to:

- describe the signs and symptoms of gut worm infection
- suggest ways of controlling gut worms
- demonstrate awareness of the dangers of gut worms.

KEY WORDS

diseases
prevention
symptoms
infection

hygiene
sexually transmitted infections
abstinence
HIV/ AIDS

Gut worms

Gut worms are worms that live and cause harm in the digestive tract. They are long and small animals with no legs or arms. They can also affect animals like cattle, dogs, donkeys and many others. There are many different types of gut worms. Some are flat, such as tapeworms and fluke while others are round.

Gut worms are also called **parasites**, because they live and get all their food from their hosts. They feed on food that is already digested.

A thin cow with internal parasites

- Do not forget to blow out candles after use.
- When using open fire for cooking, make sure you extinguish it properly.
- Make sure electric codes are not worn out.
- Never leave the stove unattended when using it.
- Lock away **inflammable** substances like paraffin, pesticides and methylated spirits.
- Always have fire extinguishers ready and close.
- Properly dispose pressure cans like spray cans.
- Pay attention to instructions on proper use of **flammable** substances.

Fire extinguisher

First aid

First aid is help given to a sick or injured person before full medical treatment is available.

First aid on fire burns

The following are steps to take when someone has been burnt by fire:

Fire burn

- Put out the fire completely.
- If the person is in flames, let them drop to the ground and roll until the flames stop – remove shoes and jewellery.
- If clothes have caught fire, remove them. If clothes stick to the skin, do not pull them out, you should cut or tear around the burnt area.
- Lay the burnt person on the ground comfortably.
- Dip the burnt part in cool water or run cool water around it for some time to cool down the skin.
- Cover the burn with a **sterilised**, non-stick bandage to avoid infection.
- Call for help.

First aid on chemical burns

A chemical burn is a wound caused by direct contact with a chemical or its fumes. They may occur in the science labs or at home. One must be very careful and avoid spilling chemicals on to the skin. A chemical like sulphuric acid may cause serious burns. The following are steps to take when someone has been burnt by a chemical:

An acid burn

- Wear protective clothing such as gloves.
- Remove clothing that has been in contact with the chemical.
- Pour running water on the affected area for at least 10 minutes in order to flush out the chemical.
- Bandage the burn using clean sterile, non-stick bandages.

SUMMARY

- Careless handling of chemicals and appliances in the home may lead to burns.
- Burns occur when one comes into contact with too much heat.
- When burns occur, first aid can be used to treat them.
- Chemical burns are caused by direct contact with a chemical or its flames.
- Hot water burns are caused when one comes into contact with hot water.

GLOSSARY

Extinguish: to put out a fire.
Inflammable: easily set on fire.
Scalding: burning.
Sterilised: something that has been treated so that it is free from germs.
Sulphuric acid: a colourless liquid that is very hot and mostly used in laboratories.

REVISION EXERCISE 1.4

1. Burns occur when the skin is in contact with……..
   A. hot objects. B. very cold objects.
   C. sunlight. D. water.

2. The following are accidents that can cause burns except…….
   A. touching a hot lid of a pot with bare hands when cooking.
   B. being in contact with steam.
   C. burning waste outdoors when it is windy.
   D. being in contact with cold water.

3. A chemical burn is …….
   A. a wound caused by direct contact with steam.
   B. a wound caused by direct contact with a chemical.
   C. a wound caused by direct contact with fire.
   D. none of the above.

6. A goitre can be prevented by eating food rich in ……

7. Explain the cause of obesity.

8. Using arrows, match these conditions with the respective nutrient required to prevent it:

•Vitamin	Difficulty seeing in darkness
•Calcium	Gums that bleed or are swollen
•Vitamin	Enlarged neck base or thyroid gland
•Iodine	Bowed legs

9. State the difference in appearance between a child with marasmus and one with kwashiorkor.

10. Explain the following eating disorders:
    a) bulimia
    b) anorexia nervosa
    c) obesity

11. How are gut worm eggs passed out in human beings?

12. Explain any three ways of preventing the spread of gut worms.

13. What are STIs?

14. State any four ways of stopping the spread of STIs.

15. HIV can be prevented from spreading through the following ways:
    A …….
    B …….
    C …….

16. State one method of practising safe sex.

17. Write a small paragraph to explain the importance of sex education.

18. Explain the first aid steps you would take to assist someone with chemical burns.

19. The common causes of burns are
    a) ……..

TOPIC 2 MATERIALS AND STRUCTURES

Units covered

2.1 Characteristics of Materials
2.2 Elements, Mixtures and Compounds
2.3 Tools
2.4 Structures

Introduction

In this topic, we will learn about the uses of different materials and the characteristics which make them useful. We will also learn about the three states of matter, that is solid, liquid and gas. We will also learn about tools and structures.

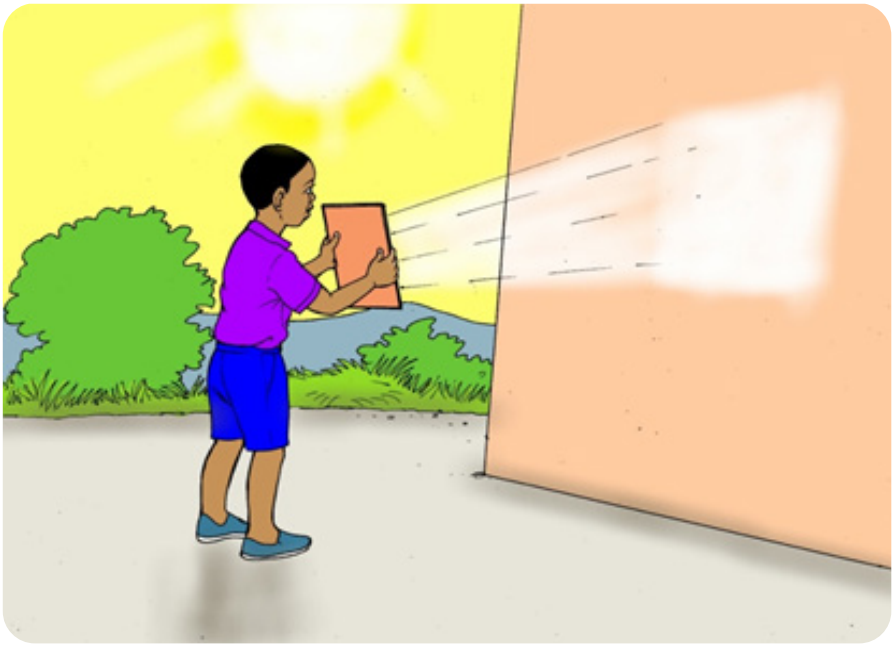
Wheel barrow 	Transporting materials and tools.
Knapsack sprayer 	Spraying chemicals and fertilisers.

Building tools

Building tools are used by builders in constructing various building structures. A builder constructs building like houses, schools, hospitals and offices. The following tools are used by builders in the construction of various building structures.

TOOL	USE
Trowel 	Spreading, levelling and shaping mortar or concrete.
Corner tools 	Shaping corners.
Wooden float 	Giving rough finish to a plaster.
Metal float 	Giving smooth finish to a plaster.
Shovel 	Loading, off-loading or carrying mortar, sand, concrete.
Wheel barrow 	Transporting materials.
Spirit level 	Ensuring that surfaces are level and upright.

3. Record your observations.



Questions

1. Which objects reflected light?
2. Which objects did not reflect light?
3. Which objects enabled you to see the image of your face?

From the activity, you should have clearly observed that the white and shiny objects reflected most of the light away. Objects such as mirrors can reflect so much light. They enable you to see the image of your face. On the other hand very little or no light is reflected from black or dull surfaces. This is because the dull or black surfaces absorb most of the light.

We can therefore agree that white shiny surfaces are good light reflectors while dull, black surfaces are poor light reflectors.

Formation of images

When you look into a mirror, you see the image of your face. A mirror reflects all the light and none can pass through. Think of other shiny surfaces you can use to see the image of your face. Probably people used such surfaces before mirrors were invented.

- **Ironing:** charcoal is used as fuel in charcoal irons to press clothes after washing them.
- **Refrigeration:** some refrigerators use fuel such as paraffin or gas.
- **Igniting or lighting up materials:** we can start up fires or burn materials using fuels. For example, when we want to burn rubbish materials we start up fires at home using fuels.
- **Joining materials:** gas fuels are used in joining materials through welding, brazing and soldering.
- **Industrial work:** fuels can be used in **manufacturing** or **processing industries**. The blast furnace is a good example because it uses coke as a fuel in **smelting iron.** Most **black smiths** use wood and charcoal when doing their work.
- **Electricity generation:** coal or coke is used to generate electricity in **thermal power** stations. This is done at Hwange and Munyati power stations. On a smaller scale a diesel or petrol generator uses petrol and diesel respectively to generate electricity.
- **Curing/baking bricks:** wood, charcoal or coke are used as fuels to cure bricks in a kiln.
- **Curing tobacco:** wood is one of the most common fuels used in curing tobacco in Zimbabwe. However, too much use of wood causes **deforestation** as most trees are destroyed in the tobacco farming areas. Tobacco farmers need to plant more trees to replace those they cut. They can also use **alternative** fuels such as coal and coke. The tobacco barn is common in most small scale tobacco farming areas.

Using charcoal to iron

A man using gas fuel to mend pots

A thermal power station

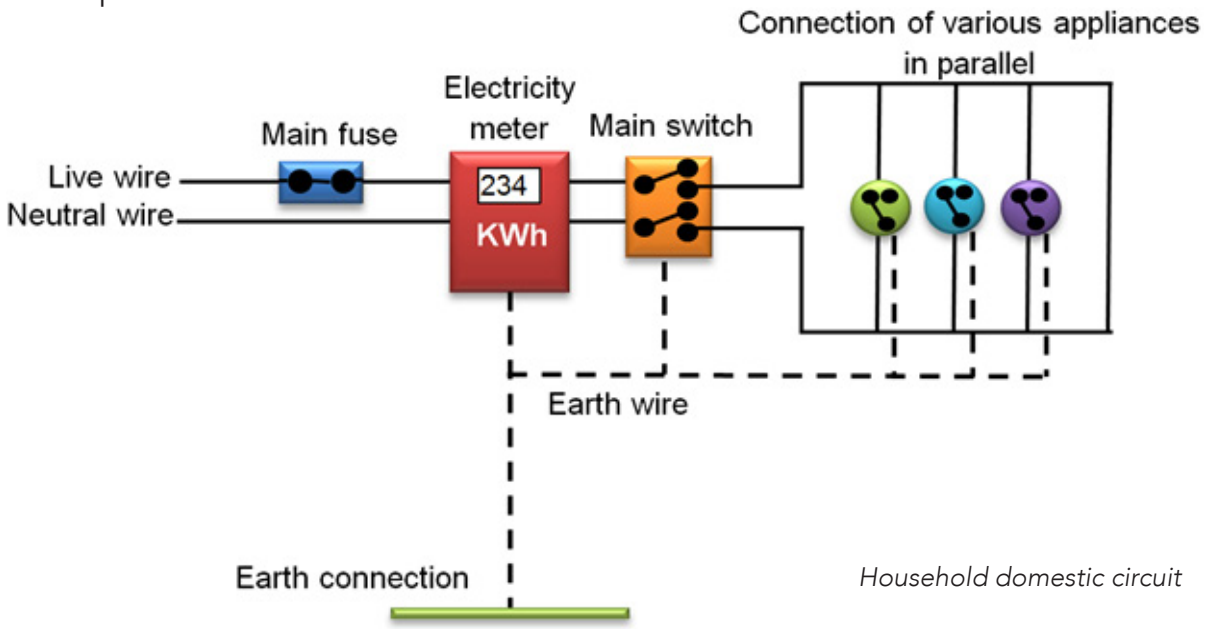
Petrol generator

Tobacco barn which uses wood

It is clear from observing the brightness of the bulbs in the parallel circuit that the addition of more bulbs causes them to get brighter. In a parallel circuit, therefore, as the number of components increases, the overall current also increases. This means that there is a decrease in overall resistance. Adding more components in a separate branch has the result of decreasing the overall resistance.
If an individual bulb in a parallel branch is removed, there is still current in the overall circuit and the other branches. Removing one bulb from the circuit simply has the effect of changing the circuit from a three-bulb parallel circuit to a two-bulb parallel circuit.

Circuits for household electricity

Suppose that all the appliances in a household were connected in series, all the components would have to be on, in order for any of them to work. For the refrigerator to work, the TV, the radio and the lights would all have to be on. You saw in Activity 4.2 that in order for one component in a series circuit to work, they must all work. If the current is cut from any one of the components, it is also cut from all of the others. For this reason, the appliances in the home are not connected in a series circuit. They are connected in parallel. This allows one appliance to work without the other appliances having to be switched on. Since each appliance is in its own separate branch, turning that appliance off simply cuts off the flow of current to that branch. There will still be current flowing through the other branches to the other appliances.
You can see the connections in household electricity by using the same parallel circuits we used in Activity 4.2. Now study the diagram below showing a normal household parallel circuit and discuss.



Household domestic circuit

REVISION EXERCISE 4.1

1. What is an electric current?

2. A complete journey made by an electric current is known as.....

3. Draw electrical symbols for each of the following electrical components:
   a) cell
   b) bulb
   c) voltmeter
   d) ammeter
   e) open switch

4. a) Explain the difference between a series circuit and a parallel circuit.
   b) What are the advantages of using a parallel circuit in household electricity?

CASE STUDY

Electrical circuit of a home or school

You will study the electrical circuit of a home or school. Think of the following:

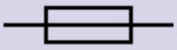
- What is the distance between the nearest electric pole and the building?
- How does the material which connects the pole to the building look like?
- What name is given to the box on the wall at the entry point of the circuit?
- Your teacher or guardian will open the entry box for you. Study and see what is inside. List the different things found in the box.
- Inside the building, is the circuit parallel or series?
- Which components or appliances are connected inside the building?
- What would be the effect of disconnecting one of the components?
- What are the colours of the wires and what does each colour represent?
- Find out from your teacher or guardian about the earth connection.
- Draw the home or school electrical circuit.
- Suggest any improvements that can be made to the electrical system.

Topic 4 Revision Test

Section A

1. Current is the flow of.....
   A conductors.
   B. voltage.
   C electrons.
   D heat.

2. Which of the following symbols represents a fuse?
   A 
   B 
   C 

   D 

3. The type of circuit in which components are connected in a single line is .....
   A. series.
   B. parallel.
   C. branched.
   D. compound.

4. Which is the advantage of parallel circuits?
   A. Appliances are in a single line.
   B. Appliances are easy to reach.
   C. Other appliances stop working when one stops.
   D. Other appliances continue working when one stops.

5. The electrical force that drives current through a conductor is known as .....
   A. current.
   B. voltage.
   C. resistance.
   D. gravity.

CASE STUDY

A study of a machine such as a wheelbarrow

1. Look for a machine at your school or home.
2. What is the name of the machine?
3. Describe how the machine operates.
4. Which parts move and which do not move during operation?
5. Which parts experience friction?
6. Is friction useful or negative in the machine? Explain why you say so?
7. How is friction managed on the machine?

SUMMARY

- Friction is a force that opposes motion.
- Friction is a contact force since it acts where objects are in contact with each other.
- There are three main causes of friction: roughness, deformities and attraction of particles in objects.
- Friction has both useful and negative effects.
- We can manage friction by either increasing or reducing it using various ways.

GLOSSARY

Contact force: force which acts when objects are in contact with each other.
Deformity: shape which is not normal for that object.
Friction: force that holds back the movement of a sliding object.
Frictional force: a force caused by two surfaces that contact and rub against each other.
Motion: movement.
Wear and tear: damage that is caused to something when it is being ordinarily used.

droplets. The process is called **condensation**. After condensation, water falls as rain in a process called precipitation.

The water cycle

There are four main stages in the water cycle. These are evaporation, condensation, precipitation and collection. Let's look at each of these stages.

Evaporation: This is when warmth from the sun causes water from oceans, lakes, streams, ice and soils to rise into the air and turn into water vapour (gas). Water vapour droplets join together to make clouds.

Condensation: This is when water vapour in the air cools down and turns back into liquid water.

Precipitation: This is when water (in the form of rain, snow, hail or sleet) falls from clouds in the sky.

Collection: This is when water that falls from the clouds as rain, snow, hail or sleet, collects in the oceans, rivers, lakes, streams. Most will infiltrate (soak into) the ground and will collect as underground water.

The water cycle is powered by the sun's energy and **gravity**. The sun kick starts the whole cycle by heating all the earth's water and making it evaporate. Gravity causes the moisture to fall back to earth.

ICT LINK

For more information about the water cycle, visit the following website:
https://www.dkit.ie/wow/cycle.php

The following conditions enable evaporation to take place:

- High temperatures are needed for evaporation. Water evaporates easily at boiling point and is slow at lower temperatures. Heat for evaporation may also come from the sun.
- Wind increases the rate of evaporation.
- If a surface area is large, the rate of evaporation is faster.

ACTIVITY 7.4

Do you know that you can take a sample of water in your community and have it tested by health officers at the nearest health centre?

1. a) Visit the nearest health centre and find out if there are any unsafe sources of drinking water in your community.
   b) Find out if there are any common water borne diseases in the area and list them.
2. Discuss the safety of ground water sources in your community.

Effects of water pollution

- Polluted water causes outbreaks of **waterborne diseases** like cholera, typhoid, dysentery and diarrhoea.
- Polluted water may kill organisms that live in water and depend on it like fish, birds and frogs. It may also affect animals which drink from the contaminated water source like cattle and wild animals.
- Polluted water may affect crops. It can cause stunted growth or destroy plants.
- Destruction of the **food chain** whereby water animals like fish eat **contaminants** in water and they are in turn eaten by human beings. This is how some diseases are transmitted.

The term food chain describes the order in which organisms, or living things, depend on each other for food.

Ways of preventing water pollution

- Reduce the use of fertilisers and **pesticides**.
- Avoid dumping litter at water sources.
- Do not bathe or wash clothes directly in water sources.
- Gardens should not be too close to river banks.
- Conserve soil so that top soil is not carried away into water sources.
- Pick up waste and **recycle** if possible. In Zimbabwe waste plastic papers and scrap metal are recycled.

QUICK DEFINITION

A waterborne disease is an illness caused by contaminated water. The germ which causes these diseases is found in contaminated water.

4. What is the importance of fencing game parks?

5. State the importance of natural resources to the community.

6. Give two examples of waste classified as hazardous.

Index