



RQF LEVEL 3







CCMHE301

Maintain SHE at Workplace

TRAINEE MANUAL





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FOREWORD

Welcome to the world of Technical and Vocational Education and Training (TVET) in the hospitality and tourism sector. In an era of constant evolution and growing demand for skilled professionals, the importance of specialized training cannot be overstated. As the global hospitality and tourism industry continues to flourish, the need for competent individuals equipped with relevant knowledge and practical skills has become crucial. This collection of TVET training manuals serves as a comprehensive resource for those seeking to embark on a fulfilling career or further their expertise within the hospitality and tourism sector. Developed with meticulous attention to detail and in collaboration with industry experts, these manuals offer a wealth of knowledge, practical insights, and hands-on training exercises.

The manuals cover a wide range of topics, ranging from essential foundational concepts to specialized areas within the industry. Whether you are interested in hotel management, culinary arts, event planning, travel and tourism, or any other facet of this vibrant sector, you will find invaluable guidance within these pages. At the heart of the TVET approach is the belief that learning should be both practical and relevant. These manuals have been carefully crafted to ensure that they reflect the real-world challenges and requirements of the hospitality and tourism industry. They are designed to empower learners with the skills, competencies, and confidence needed to excel in their chosen field.

Furthermore, the manuals adopt a learner-centered approach, encouraging active participation, critical thinking, and problem-solving. Throughout each module, learners are encouraged to engage in practical exercises, case studies, and interactive activities that simulate real-world scenarios. This hands-on approach allows learners to apply theoretical concepts and develop the necessary skills that are highly sought after in the industry.

We understand that education is a lifelong journey, and these manuals have been designed to cater to learners at various stages of their professional development. Whether you are a student taking your first steps in the industry, a working professional seeking to enhance your skills, or an instructor guiding aspiring individuals, you will find the manuals to be a valuable asset. I would like to express my sincere appreciation to the authors, industry experts, and educators who have contributed to the creation of these TVET training manuals. Their dedication and expertise have ensured that the manuals are of the highest quality and relevance.

I encourage you to embrace the opportunities presented within these pages, to explore the dynamic world of hospitality and tourism, and to unlock your potential in this exciting industry. By investing in your education and acquiring the skills offered in these manuals, you are taking a significant step towards a rewarding and successful career.

Best wishes on your journey of discovery and growth in the hospitality and tourism sector.

Dipl.-Ing. Paul UMUKUNZI

Director General/ RTB

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Acronyms

RTB	Rwanda TVET Board
SHE	Safety Health and Environment
PPEs	Personal Protection Equipment
WASH	Water Access Sanitation and Hygiene
WHO	World Health Organization
NCDs	Non-Communicable Diseases
PAC	Parent Adolescent Communication
GBV	Gender Based Violence
STIs	Sexually Transmitted Infections
VMMC	Voluntary Medical Male Circumcision
HIV	Human Immuno Deficiency Virus
AIDS	Acquired Immuno Deficiency Syndrome
STD	Sexually Transmitted Diseases
PID	Pelvic Inflammatory Disease
MTCT	Mother to Child Transmission
IUD	Intrauterine device
COVID-19	Coronavirus disease 2019
PCR	Polymerase Chain Reaction
AIIR	Airborne Infection Isolation Room
IPC	Infection prevention and control
RURA	Rwanda Utilities Regulatory Authority

INTRODUCTION

Welcome to the training manual on maintaining SHE at workplace, designed for learners pursuing TVET level 3 in Rwanda. This manual titled "Maintain SHE at workplace"; is a comprehensive guide to entrepreneurship for all economic sectors and trades.

The manual is structured into seven units, each covering a critical aspect of creating a safe and health work environment. These units include: maintaining personal safety health; sustaining hygiene and sanitation practices; applying safe reproductive health practices; applying covid-19 pandemic prevention measures; making safe situations at work place; responding to emergencies at workplace; and ensuring environmental sustainability.

This manual is designed to be an interactive learning experience, comprising discovery activities that encourage learners to explore and discover concepts, problem-solving activities that require learners to think critically and come up with solutions, guided practice activities that provide step-by-step instructions and application activities that enable learners to apply their newly acquired knowledge in real-life situations.

Additionally, this manual incorporates assessment activities that provide learners with feedback on their progress and help them identify areas where they need to improve.

By the end of this manual, learners will have gained a comprehensive understanding of the key aspects creating a safe and health work environment.

They will be equipped with the necessary skills to creating a safe and health work environment

Let's get started!

1

MAINTAIN SHE AT WORKPLACE

Units:

- Unit 1: maintain personal safety health
- Unit 2: sustain hygiene and sanitation practices
- Unit 3: apply safe reproductive health practices
- Unit 4: apply covid-19 pandemic prevention measures
- Unit 5: make safe situations at work place
- Unit 6: respond to emergencies at workplace
- **Unit 7: ensure environmental sustainability**



Figure 1: Maintain Personal Safety Health¹

¹ https://thumbs.dreamstime.com/z/hse-as-health-safety-environment-protection-standard-outline-diagram-company-labor-force-work-risk-awareness-hazards-213611937.jpg

Unit summary:

This unit describes the knowledge, skills and attitude required to maintain personal safety health at the workplace. It includes Prevention of food contamination, using work clothing and Personal Protective Equipment together with practicing nutritional behavior in adolescent and youth

Self-Assessment: Unit 1

- **1.** Study the Figure 1: Maintain Personal Safety Health and answer the following questions.
 - a. What do you see in the figure?
 - b. What do you think the figure is all about?
 - c. Do you think the figure reflects the learning unit? Briefly explain your response
 - d. What do you think will be topics to be covered under this unit based on the figure?
- 2. Fill in and complete the self-assessment table below to assess your level of knowledge, skills and attitudes under this unit.
 - a. There is no right or wrong ways to answer this assessment. It is for your own reference and self-reflection on the knowledge, skills and attitudes acquisition during the learning process.
 - b. Think about yourself: do you think you have the knowledge, skills or attitudes to do this? How well?
 - c. Read the statements across the top. Put a check in column that best represents your level of knowledge, skills or attitudes.

My experience Knowledge, skills and attitudes	I don't have any experienc e doing this.	l know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	l am confiden t in my ability to do this.
Meaning of good personal safety health Balanced diet					
Aspects of good personal safety health					
Main types of food contamination					

a) At the end of this unit, you will assess yourself again.

My experience Knowledge, skills and	I don't have any	I know a little	I have some	I have a lot of	l am confiden
attitudes	e doing	this.	ce doing	e with	ability to
	this.		this.	this.	do this.
Ways to prevent food contamination					
Edible products handlers					
qualities					
Assess Personal Protective					
Equipment					
Select personal protective					
equipment					
Describe the role of Personal					
Mointain work elething					
Describe Healthy nutrition for					
Describe the nutrition					
Describe the Hygiene of					
Describe the methods to					
product					
Describe the Descent					
behaviors to protect edible					
product					

Key Competencies:

Knowl	edge	Skills		Attitu	des
1.	Apply personal and	1.	Cook with care	•	Careful when preparing
	domestic hygiene				and cooking food
2.	Describe the aspects	2.	Prepare a	•	Always clean edible
	of good personal		balanced diet		products before eating
	safety health				them
3.	Describe a balanced	3.	Abstain from	•	Encourage others to
	diet		dangerous		practice personal and
			substances		domestic hygiene
4.	Describe ways of	4.	Differentiate the	•	Mobilize others to
	abstaining from		types of food		abstain from dangerous
	dangerous		contaminants		substances
	substances				
5.	Describe the types of	5.	Use different	•	Always take measures
	contaminants		strategies to		to avoid food
			prevent food		contamination
			contamination		
6.	Describe ways to	6.	Handle edible		Give advice to others to
	prevent food		products avoid foo		avoid food
	contamination		appropriately		contamination
7.	Describe the	7.	Select		Professionally hand
	qualities edible		appropriate PPEs		edible products
	products handlers				
8.	Describe the criteria	8.	Take care of PPEs	•	Being careful at the
	followed in selecting				workplace by using
	PPEs				
9.	Describe the sources of a balanced diet in adolescents and youth	9.	Plan a balanced diet for adolescents	-	Request for PPEs where necessary at the workplace

10. Describe the benefits	10. Develop	 Report misuse of PPEs
of balanced diet in	strategies to	at the workplace
adolescents	avoid the risks of	
	unhealthy eating	
	habits among	
	adolescents	
11. Describe the risks of	11. Design nutrition	 Encourage others to
unhealthy eating	measures at	always use PPEs
habits among	school and	
adolescents and	workplace	
youth		
12. Describe nutrition		 Always eat a balanced
measures at school		diet



Discovery activity





Figure 2: Good Personal Safety Habits

- 1. Study the Figure 2 and answer the following questions.
 - a. What do you see in the figure?

- b. What do you think the figure is all about?
- c. Do you think the figure reflects the topic? Briefly explain your response
- d. What do you think will be covered under this topic?

Topic 1.1: Maintenance of Personal safety and Health habits



The illustration above shows some of the habits of maintaining personal safety and health habits. Use it to answer questions below

i. Mention the health habit shown by numbers 1 to 6

	a.	
	b.	
	c.	
	d.	
	e.	
	f.	
ii.	What	should be considered (aspects) while maintaining personal safety and health
	habits	?
	a.	

- b.
 c.
 d.
 e.
 f.
- iii. Read and complete the table below by identifying the safety health practices under each aspect

Aspect of Personal Safety	Safety Health Practices
Health	
Balanced diet	•
	•
Cooking with care	•
	•
Personal hygiene	•
	•
Domestic hygiene	•
	•
Clean edible products and water	•
	•
Abstaining from habit-forming	•
substances (drugs abuse)	•
Exercise	•
	•
Regular sleep and relaxation	•
	•

Key Facts 1: Maintenance of Personal safety and Health habits

a) Meaning of Personal Safety Health

Hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases.

Personal hygiene refers to maintaining the cleanliness of one's own body and clothing to preserve overall health and well-being.

Personal safety also known as occupational safety refers to taking preventive action to reduce hazards that can result in slips, trip falls and manual handling injuries

b) Aspects of good personal safety health

• Balanced diet

Eating a healthy, balanced diet is an important part of maintaining good health, and can help you feel your best. To have a healthy, balanced diet, you try to:

- ✓ Eat at least 5 portions of a variety of fruit and vegetables every day
- ✓ Eat meals with higher fibre starchy foods like potatoes, bread, rice or pasta
- ✓ Have some diary or dairy alternatives (such as soya drinks)
- ✓ Eat some beans, pulses, fish, eggs, meat and other protein
- ✓ Choose unsaturated oils and spreads, and eat them in small amounts
- ✓ Drink plenty of fluids (at least 8 glasses a day)
- Personal hygiene

Personal hygiene is all about managing your body hygiene, essentially caring for your wellbeing incorporating some physical hygiene habits.

Bad personal hygiene includes those unconscious acts like picking your nose or ear with your finger, or habitual ones like not brushing your teeth properly.

Good personal hygiene habits include but not limited to:

- ✓ Taking regular shower
- ✓ Maintaining oral hygiene
- ✓ Washing your hands frequently
- ✓ Wash your genitals
- \checkmark Keep your hands and surrounding dry and clean
- Domestic hygiene

This generally refers to cleanliness in homes including all the work done to keep people's clothes, beddings, and houses clean. Domestic hygiene practices include but not limited to:

- ✓ Washing clothes and beddings
- ✓ Cleaning the toilet
- ✓ Sweeping and cleaning floors
- ✓ Washing dishes after meals
- ✓ Using soap
- ✓ Proper ventilation,
- ✓ Hygiene in food storage,
- ✓ Proper waste disposal
- ✓ Keeping away household pests, rats, and insects
- Clean edible products and water

It is extremely important to our health that edible products are washed with clean washing water so that no pesticide residue is left on our food. Cleaning edible products includes:

- Remove dirt and reduce bacteria on fresh fruits and vegetables by rinsing under cold running water
- Scrubbing the outside with a clean vegetable brush for fruits and vegetables with firm skin
- ✓ Do not wash fruits and vegetables with detergent or soap
- Cooking with care

Good cooking hygiene refers to knowing how to avoid the spread of bacteria when cooking, preparing, and storing food. Cooking with care includes but not limited to:

- Cleaning making sure hands, surfaces and equipment are clean before, during and after cooking
- ✓ Cooking making sure food is cooked throughout to kill harmful bacteria
- Chilling making sure foods are stored at the correct temperature to prevent growth of harmful bacteria
- Avoid cross-contamination preventing the spread of bacteria to surfaces and ready to eat food
- Abstaining from habit-forming substances (drugs abuse)

Using drugs and alcohol can have huge health effects throughout every part of your life. Benefits of abstaining from habit-forming substances include but not limited to:

- ✓ Better focus and memory
- ✓ Reduced heart attack and cancer risk

- ✓ Looking younger and lose weight
- ✓ You will sleep better
- ✓ Increased self-esteem and mental health
- ✓ You will have better relationships
- Exercise

Exercise is one of the best things one can do to stay healthy, as long as you get the habit of cleanliness, as far as total-body hygiene. Being physically active can:

- ✓ Improve your brain health
- ✓ Help manage weight
- ✓ Reduce the risk of disease
- ✓ Strengthen bones and muscles
- Improve your ability to do everyday activities
- Regular sleep and relaxation

It is important to get enough sleep as it helps keep your mind and body healthy. Getting enough sleep has many benefits including:

- ✓ Get sick less often
- ✓ Stay at a healthy weight
- ✓ Lower your risk for serious health problems, like diabetes and heart disease
- ✓ Reduce stress and improve your mood
- ✓ Get along better with people
- ✓ Make good decisions and avoid injuries



Task 2: Match activity

1. Read the safety health practice and match it with the appropriate aspect of personal safety health by writing the corresponding letter under the column 'My choice'

Aspect of Personal	Safety Health Practices	My choice
Safety Health		
A. Balanced diet	1. Taking regular shower	
	2. Eat at least 5 portions of a variety of fruit	
	and vegetables every day	
B. Personal	3. Remove dirt and reduce bacteria on fresh	
hygiene	fruits and vegetables by rinsing under cold	
	running water	
C. Domestic	4. Washing clothes and beddings	
hygiene	5. Scrubbing the outside with a clean	
	vegetable brush for fruits and vegetables	
D. Clean edible	with firm skin	
products and	6. Maintaining oral hygiene	
water	7. Eat meals with higher fibre starchy foods	
E. Abstaining from	like potatoes, bread, rice or pasta	
habit-forming	8. Scrubbing the outside with a clean	
substances	vegetable brush for fruits and vegetables	
(drugs abuse)	with firm skin	
F. Exercise	9. Cleaning the toilet	
	10. Remove dirt and reduce bacteria on fresh	
G. Regular sleep	fruits and vegetables by rinsing under cold	
and relaxation	running water	



Task 3: Speech about personal safety health

You have been invited to give a speech about personal safety health to a group of youth in your community.

- i. How will you prepare yourself to ensure to ensure that you meet the personal health standards:
 - a. Before the speech?
 - b. During the speech
 - c. After the speech?
- ii. Write down the key aspects of personal safety health that will be included in your speech.

Topic 1.2: Prevention of food contamination





Task: 4: Scenario analysis

1. Read the following scenario and answer questions that follow.

You friends went to XYZ beach to celebrate their performance in senior three (S.3) national exams results. They had a lot drinks and food, and really enjoyed the party. The day after the party they started complaining of pain in stomach, headache and some developed diarrhoea.

- i. What happened in the scenario?
- ii. What do you think might have happened to your friends?
- iii. What do you think caused the situation in the scenario?
- iv. What advice do you give to your friends regarding their solution?
- v. What do you think will be covered under this topic based on the scenario?
- 2. Analyse the figure below and answer the questions that follow.







D











F

Questions:

- 1. What type of food contamination is represented by each letter above from A –F?
- What do you caused the contamination in the food contamination types identified in (1) above by completing the table below.

Type of Food contamination	Contaminants
Α.	
	•••••
В	
	•••••
С.	
	••••••
D.	
	••••••
Ε.	
	••••••
F.	

Key Facts 2: Prevention of food contamination

Food contamination describes the event at which a foreign material or substance that can induce foodborne illnesses is introduced to the food material.

A food contaminant is a substance, object or organism that makes food unfit for human consumption. This can be an object, substance, organism, or microorganism that makes food unfit for human consumption.

Types of food contamination

Biological contamination

Biological contaminants include:

- bacteria
- viruses
- moulds
- · yeasts and fungi.

Biological contaminants are microscopic, single-celled organisms found everywhere and are quite hard to detect until they have formed large colonies.

Physical contamination

- 1. Finger nails
- 2. Screws, nuts and bolts
- 3. Bottle tops/bits of plastic
- 4. Hairs and eyelashes
- 5. Mouse poo
- 6. Coins and bits of metal
- 7. Dead flies
- 8. Dead mice/rats
- 9. Jewellery



Chemical contamination

The chemicals that might affect foods are:

- · cleaning products
- chemicals used in the garden
- pesticide residues on fruit and vegetables
- enzymes within foods which produce chemicals to ripen, and eventually spoil, foods.

BLEACH

Figure 3: Food Contaminants²

• Biological contamination

This occurs when bacteria or other harmful microorganisms get into food. They are a common cause of food poisoning, spoilage and costly waste. Biological hazards that cause contamination include:

- ✓ Salmonella
- 🗸 E-coli
- ✓ Clostridium botulinum/clostridium perfringrens
- ✓ Campylobacter
- ✓ Norovirus
- Physical contamination

This occurs when a foreign object gets in food that should not be there. This may occur at any stage of the production process. Causes of physical contamination:

- 🗸 Hair
- ✓ Glass or metal
- ✓ Pests
- ✓ Jewelry
- 🗸 Dirt
- ✓ Fingernails
- Chemical contamination

² <u>https://slideplayer.com/slide/17011683/</u>

This occurs when either artificial or natural substances that goes into food which could toxic or poisonous that could make us ill and even kill us. Sources of chemicals include:

- ✓ Chemical cleaning agents
- ✓ Unwashed fruits and vegetables
- ✓ Pest control products





 How can the identified food contaminations in Task 4 (2) above be prevented or controlled. Complete the table below

Type of Food contamination	Prevention of Contaminants
Α.	
В	
С.	
D.	
Ε.	
F.	

2. What qualities should a food handler possess?



- Wash your hands thoroughly with soap and water (warm or cold) and dry them before handling food, and after touching the bin, going to the toilet, blowing your nose or touching animals
- ✓ Wash dishcloths and tea towels regularly, and let them dry before you use them again
- Use a separate chopping board to prepare raw food, such as meat and fish to avoid contaminating ready to eat foods with harmful bacteria
- ✓ Keep raw meat separate away from ready to eat foods, such as salad, fruit and bread
- Always cover and store raw meat on the bottom shelf of the fridge, where it cannot drip onto other foods
- Make sure poultry, pork, burgers, sausages and kebabs are cooked until steaming hot, with no pink meat inside.
- ✓ Keep your fridge temperature below 5 ⁰C and use a fridge thermometer to check it
- ✓ Cool leftovers quickly that you are not going to eat straight away as quickly as possible (within 90 minutes) and store it in the fridge or freezer
- Respect "use by dates". Do not eat food that is past its expiry date, even if it looks and smells okay



³ https://food-handler.com/lessons/personal-hygiene-of-food-handlers/

- Work wear. Work clothes should be exclusively for work and food handling, clean and neat
- The cap or hairnet should cover the hair completely to prevent it from falling on the food
- It is not allowed to wear personal items (pendants, earrings, rings, piercings)
- If gloves are required for work, they should be kept clean and unbroken

Therefore a good food handler should:

- Be trained in handling food procedures
- Possess the skills and knowledge of handling food
- Have personal hygiene and safety
- Have a food handler's license
- Have proven experience in working in the food service industry
- Have sound knowledge of food health and safety regulations
- Possess the ability to follow proper food handling procedures
- Possess the ability to work as part of a team
- Possess excellent organizational, time management and problem solving skill
- Possess effective communication skills




Visit your school kitchen or any other place where foods and drinks are prepared, and observe how food and drinks are prepared. Prepare a report from your observation including:

- a. Kitchen safety health practices observed
- b. Handling of edible products
- c. Potential food contaminants observed
- d. Advice you would give to prevent contamination of the food or drinks.

Topic 1.3: Use of work clothing and personal protective equipment



Figure 3: work clothing and Personal Protective Equipment

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Activity 1: Problem Solving

Task 6: Read and Complete

- 1. Think of any workplace you have visited or had a chance to work in.
 - a) What was the workplace
 - b) What activity was it involved in?
 - c) How were the workers dressed? Were there any special clothing?
 - d) Mention special clothing or equipment you observed being worn by the workers?
 - e) Why do you think such special clothing or equipment was provided?
- 2. Referring to Figure 3: work clothing and Personal Protective Equipment or any workplace you have visited or worked in, complete the table below by filling in the function/use and giving examples of the Personal Protective Equipment (PPE)

Personal Protective	Function / use	Examples
Equipment		
Hearing Protection		•
		•
Breathing Protection		•
Respirators		•
Head Protection		•
		•
Foot and Leg Protection		•
		•
Hand and Arm Protection		•
		•
Skin & Body Protection		•
Equipment		•

1. Why is important to use PPE by the workers or provide PPEs by the employers?

i.	
ii.	
iii.	



• Respiratory protective equipment

PPE does not include:

- Ordinary working clothes or uniforms not designed to provide for the health or safety of workers
- Clothing provided for food hygiene purposes
- Equipment used for protection while travelling on a public road for example motorcycle or bicycle helmets)
- An offensive weapon used as self-defense or as deterrent equipment
- Portable devices for detecting and signaling risks and nuisances, such as badges for detecting radiation or personal gas

Role of Personal Protective Equipment

- **Reduction in Workplace Injury.** Wearing protective equipment (PPE) at work reduces workplace injuries.
- **Reduction in Staff Turnover**. Wearing Personal Protective Equipment (PPE) at work can reduce employee turnover and help to keep your workers safe.
- Reduction in Sickness Absence. Employees should be encouraged to wear PPE at work, as this reduces the risk of contracting an illness, and makes them less likely to take a day off sick.
- Helps Avoid Prosecutions, Fines, and Legal Fees. Wearing PPE at work is a legal requirement in many industries. It is not just about safety; it is about avoiding lawsuits, fines, and legal fees.
- Meets Legal Requirements and Standards. The law requires employers to provide their employees with a safe workplace. This includes providing PPE when necessary to protect the health and safety of workers.





1. Complete the table below by filling in the assessment criteria to be followed while selecting a given PPE

Personal Protective	Assessment criteria used while selecting					
Equipment						
Hearing Protection	•					
	•					
	•					
Breathing Protection	•					
Respirators	•					
	•					
Head Protection	•					
	•					
	•					
Foot and Leg Protection	•					
	•					
	•					
Hand and Arm Protection	•					
	•					
	•					
Skin & Body Protection	•					
Equipment	•					
	•					

2. How should PPEs be maintained at a workplace?

i.	
ii.	
iii.	

Key Facts 5: Use of work clothing and Personal Protective Equipment

Assessment and selection of Personal Protective Equipment

a) Breathing Protection Respirators

Breathing Protection Respirators to be worn in certain types of situations will need special consideration. There are two important factors to consider when selecting a respirator:

- The level of protection given by the respirator is suitable for the level of air contamination.
- The filter in the respirator is suitable for the type of airborne contaminants in the workplace

Criteria for assessment and selection of eye and nose protection includes:

- Protect against specific hazard(s) encountered by employees
- Comfortable to wear
- Must not restrict vision or movement
- Durable and easy to clean and disinfect
- Must not interfere with the function of other required PPE
- b) Head Protection

You must provide head protection for your employees if:

- Objects might fall from above and strike them on the head
- They might bump their heads against fixed objects, such as exposed pipes or beams
- They work near exposed electrical conductors

Criteria for assessment and selection of Head Protection includes:

In general, protective helmets, or hard hats, should:

- Resist penetration by objects,
- Absorb the shock of a blow,
- Be water resistant and slow burning,
- Come with instructions explaining proper adjustment
- and replacement of the suspension and head band

c) Foot and Leg Protection

Some of the potential hazards that would require foot and leg protection include:

- Heavy objects such as barrels or tools that might roll onto or fall on employees' feet
- Sharp objects such as nails or spikes that might pierce the soles or uppers of ordinary shoes

- Molten metal that might splash on feet or legs
- Hot or wet surfaces
- Slippery surfaces

Foot Protection Requirements

- Protective footwear purchased after July 5, 1994 must meet the requirements of ANSI Z41-1991
- Protective footwear purchased before that date must comply with ANSI Z41-1967
 Selecting Foot and Leg Protection
- Leggings. Protect lower legs and feet from heat hazards, like molten metal or welding sparks. Safety snaps allow leggings to be removed quickly.
- **Metatarsal Guards.** Strapped to outside of shoes to protect instep area from impact and compression. Made of aluminum, steel, fiber or plastic.
- **Toe Guards.** Fit over the toes of regular shoes to protect only the toes from impact and compression. Made of steel, aluminum, or plastic.
- **Combination Foot and Shin Guards.** May be used in combination with toe guards when greater protection is needed.
- **Safety Shoes.** These have impact-resistant toes and heat-resistant soles that protect against hot work surfaces common in roofing, paving, and hot metal industries.
 - ✓ May have metal insoles to protect against puncture wounds
 - ✓ May be designed to be electrically conductive for use in explosive atmospheres
 - May be designed to be electrically nonconductive to protect from workplace electrical hazard

d) Hand and Arm Protection

- When there is risk of injury to your employees' hands or arms, protective gloves are the primary means of protecting their hands
- When the risk of injury includes the arm, protective sleeves, often attached to the gloves, may be appropriate
- Nature of the hazard(s) and the operation to be performed will determine your selection of gloves

Selection of Gloves

• Durable work gloves made of metal mesh, leather or canvas

- Fabric and coated fabric gloves
- Chemical and liquid resistant gloves
- Insulating rubber gloves
- e) Skin & Body Protection Equipment

Workplace hazards that could injure your employees' bodies include the following:

- Intense heat
- Splashes of hot metals and other hot liquids
- Impacts from tools, machinery, and materials
- Cuts
- Hazardous chemicals
- Contact with potentially infectious materials, like blood
- Radiation

Types of Body Protection

- Vests
- Jackets
- Aprons
- Coveralls
- Surgical gowns
- Full body suits
- f) Hearing Protection
- Noise exposure depends on:
 - ✓ Level of sound, measured in decibels on the A-scale (dBA)
 - Duration of employee's exposure to sound of various levels throughout the work day
- Measured with noise dosimeter, which indicates daily noise dose in percent

When is Hearing Protection Required?

- As with other types of hazards, you must implement feasible engineering and work practice controls before resorting to PPE, in this case hearing protection
- OSHA's noise standard (29 CFR 1910.95) requires the use of hearing protection when the employee's noise exposure exceeds an 8-hour time-weighted average sound level (TWA) of 90 dBA (dose of 100 percent)

 Employees who are exposed to an 8-hour TWA of 85 dBA (dose of 50 percent) and who have measured hearing loss (as prescribed by the OSHA standard) are also required to wear hearing protection

Maintenance of personal protective equipment.

There are eight (8) key areas that you should check to ensure you followed personal protective equipment (PPE) rules:

- Assessment of need carry out a risk assessment. See does your business need personal protective equipment?
- **Compatibility** where more than one piece of PPE is worn or used the items must be compatible.
- Maintenance all equipment must be regularly maintained and replaced. You should follow the manufacturer's maintenance schedule, such as recommended replacement periods.
- **Storage** all equipment should be well looked after and stored properly. For example, pegs for weatherproof clothing or a dry, clean cupboard for overalls. Keep smaller items like goggles in a protective case or box.
- Use the make the user aware of why they need to use PPE what its limitations are.
 Make regular checks to ensure workers are wearing PPE. You should also learn and show employees how to spot signs of wear and tear in equipment.
- **Training** employers, employees and the self-employed have duties to use PPE properly and make sure it does not increase the risk of an accident.
- **Records** keep records of all PPE equipment on your premises and a schedule for when checks and replacements should be made.
- **Reporting loss or damage** employees must notify their employer if equipment is lost or damaged. Ensure they are aware of this.





You have been invited to give a speech to a group of workers at a certain workplace about Personal Protective Equipment. Write a report about your speech including:

- a) The types of PPEs in your speech
- b) The importance or role of PPEs
- c) Maintenance of the PPEs

Topic 1.4: Practice nutritional behavior in adolescent and youth



Task 9:

- 1. As an adolescent, refer to your eating behavior and answer the following questions:
 - a. Do you think you have a balanced diet? Explain.
 - b. What kinds of food do you eat?
 - c. Are there some substances you use and have failed to leave them? Name some of these substances?
 - d. Why is it important to have a variety of foods as an adolescent?
- 2. Who are adolescents and youth?
- 3. What is a balanced diet?
- 4. Adolescents and youth need extra nutrition to fuel these physical changes, which means they need to eat healthy food. Give examples of foods that they should be provided with.
- 5. What are the risks of unhealthy eating habits among adolescents and youth?
- 6. What measures should be taken at school to ensure good nutrition is followed at school or home?

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Key Facts 6: Practice nutritional behavior in adolescent and youth Healthy nutrition for adolescents and youth

Adolescents and youth go through big physical changes in puberty. They need extra nutrition to fuel these physical changes, which means they need to eat healthy food.

a) Balanced diet (Sources and Benefits)

Healthy food for adolescents and youth includes a wide variety of fresh foods from the five food groups. Each food group has different nutrients, which the body needs to grow and work properly. It is important to provide the adolescents with a range of foods from across all five food groups below:

• Fruit and vegetables

Fruit and vegies give your child energy, vitamins, anti-oxidants, fibre, and water. These nutrients help protect your child against diseases later in life, including diseases like heart disease, stroke and some cancers.

• Grain foods

Grain foods include bread, pasta, noodles, breakfast cereals, couscous, rice, corn, quinoa, polenta, oats and barley. These foods give your child the energy they need to grow, develop and learn.

• Reduced-fat dairy foods and dairy-free alternatives

Key dairy foods are milk, cheese and yoghurt. These foods are good sources of calcium and protein.

• Protein

Protein-rich foods include lean meat, fish, chicken, eggs, beans, lentils, chickpeas, tofu and nuts. These foods are important for your child's growth and muscle development, especially during puberty.

• Healthy drinks for teenagers

Water is the healthiest drink for your child. It's also the cheapest. Most tap water is fortified with fluoride for strong teeth too.

• Foods and drinks to limit

Encourage your child to limit the amount of 'sometimes' food they eat. This means your child will have more room for healthy, everyday foods.

b) Risks of unhealthy eating habits among adolescents and youth

Unhealthy eating habits like eating too much, not eating enough, or restricted eating can be bad for the adolescent's health and wellbeing.

- Eating too much, particularly unhealthy food, puts you at risk of overweigh and obesity
- Overweight or obesity increases risk of type-2 diabetes, sleep apnea and hip and joint problems
- **Overweight or obesity** may lead to heart disease and some cancers
- Not eating enough, eating fad or crash diets may lead to not getting the nutrients they need for healthy growth and development.
- Severe dieting can lead to health and other problems like fatigue, poor concentration and loss of muscle mass and bone density
- Eating disorders such like anorexia, bulimia and avoidant restrictive food intake disorder.
- A poorly long term vegetarian diet can result in not getting enough nutrients, especially iron and vitamin B12.
- **Poor diet** may increase the risk of iron deficiency anemia.
- c) Nutrition measures at school:
- Storing
- Food preparation
- Self-Service
- Food Service
- Keys to safe edible products
- Keep clean
- Separate raw and cooked
- Cook thoroughly
- Keep edible products at recommended temperatures
- Ensure edible product are stored in a fridge, in appropriate storage boxes and in separate fridge where necessary
- Use safe water and raw materials





- 1. As an adolescent, why is it important to eat the following?
 - a) Fruit and vegetables
 - b) Grain foods
 - c) Reduced-fat dairy foods and dairy-free alternative
 - d) Protein
 - e) Healthy drinks
- 2. What are the likely risks of unhealthy eating habits to you as an adolescent?
- 3. Referring to your school, what measures are taken to ensure nutrition?





 You are invited to a party involving a group of adolescents and youth in your community that will last for a week. Your role is to plan for their daily meals that will ensure that good nutritional behavior is practiced among the adolescents and youths.

Present your plan including:

- a) Reason for practicing good nutritional behavior
- b) The kinds of food that will make up the daily meals
- c) Benefits of the plan to the and adolescents and youths
- d) The nutritional measures that will be taken



Formative Assessment

- **1.** What is the benefits of:
 - a) Abstaining from habit-forming substances
 - b) Having enough sleep
 - c) Exercising
- 2. What are the possible causes of food contamination?
- 3. Suggest ways of preventing food contamination
- 4. What is the role of Personal Protective Equipment?
- 5. What measures should be taken at school to ensure good nutrition is followed at school or home?



Points to Remember

Maintain Hygiene •

- ✓ Clean edible products and water
- ✓ Abstaining from habit-forming substances (drugs abuse)

Range of foods from across all five food groups:

- ✓ Fruit and vegetables
- ✓ Grain foods
- Reduced-fat dairy foods and dairy-free alternatives
- ✓ Protein
- ✓ Healthy drinks for teenagers
- ✓ Foods and drinks to limit

Risks of unhealthy eating habits among adolescents and youth

- ✓ Eating too much
- ✓ Overweight or obesity
- ✓ Overweight or obesity
- ✓ Not eating enough,
- ✓ Severe dieting
- ✓ Eating disorders
- A poorly long-term vegetarian
- ✓ Poor diet

Nutrition measures at school:

- ✓ Storing
- ✓ Food preparation
- ✓ Self-Service
- ✓ Food Service
- ✓ Keys to safe edible products
- ✓ Keep clean
- ✓ Separate raw and cooked

- ✓ Cook thoroughly
- ✓ Keep edible products at recommended temperatures
- Ensure edible product are stored in a fridge, in appropriate storage boxes and in separate fridge where necessary
- ✓ Use safe water and raw materials



 Fill in and complete the self-assessment table below to assess your level of knowledge, skills and attitudes after the unit.

My experience Knowledge, skills and attitudes	I don't have any experienc e doing this.	l know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	l am confident in my ability to do this.
Meaning of good personal safety health Balanced diet					
Aspects of good personal safety health					
Main types of food contamination					
Ways to prevent food contamination					
Edible products handlers qualities					
Assess Personal Protective Equipment					
Select personal protective equipment					
Describe the role of Personal Protective Equipment					
Maintain work clothing					
Describe Healthy nutrition for adolescents and youth					
Describe the nutrition measures at school					

My experience Knowledge, skills and attitudes	I don't have any experienc e doing this.	l know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	I am confident in my ability to do this.
Describe the Hygiene of edible products					
Describe the methods to practice hygiene of edible product					
Describe the Personal behaviors to protect edible product					

2. Fill in the table below and share results with your trainer for further guidance.

Areas of strength	Areas for improvement	Actions to be taken to improve
1.	1.	1.
2.	2.	2.
3.	3.	3.



Figure 3: WASH in school⁴

Unit summary:

This unit describes the knowledge, skills and attitude required to Sustain hygiene and sanitation practice. It includes insuring water supply, description of WASH (Water Access Sanitation and Hygiene) together with applying measures for healthy diet.

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⁴ <u>https://slideplayer.com/slide/3471085/</u>

Self-Assessment: Unit 2

- **1.** Study the Figure 5: WASH in school and answer the following questions.
 - a. What do you see in the figure?
 - b. What do you think WASH in schools mean?
 - c. What does the illustration represent?
 - d. What do you think makes up the WASH in schools?
 - e. What do you think will be topics to be covered under this unit based on the figure?
- **2.** Fill in and complete the self-assessment table below to assess your level of knowledge, skills and attitudes under this unit.

There is no right or wrong ways to answer this assessment. It is for your own reference and self-reflection on the knowledge, skills and attitudes acquisition during the learning process.

Think about yourself: do you think you have the knowledge, skills or attitudes to do this? How well?

Read the statements across the top. Put a check in column that best represents your level of knowledge, skills or attitudes. At the end of this unit, you will assess yourself again.

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	l know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	l am confiden t in my ability to do this.
Describe the relationship					
between health and					
hygiene					
Describe the measures to					
ensure personal hygiene					
practice through					
Describe ways of preserving					
Personal Hygiene					

My experience	I don't	l know	I have	I have a	l am
Knowledge, skills and	experience	about	experien	experienc	t in my
	doing this.	this.	ce doing	e with	ability to
			this.	this.	do this.
Explain the relationship					
between water and hygiene					
and sanitation					
Describe the measures to					
ensure water supply					
Describe the measures for					
water collection and storage					
Describe the role of water					
in personal hygiene					
Describe the relationship					
between Water, Sanitation					
and Hygiene					
Describe the measures to					
ensure hygiene and					
sanitation					
Describe the measures to					
ensure sanitation practices					
Describe the relationship					
between hand washing and					
hygiene					
Describe the measures to					
ensure hand washing					
practices					
Explain the relationship					
between diet and health					

My experience	l don't	I know	I have	I have a	l am
Knowledge, skills and	have any	a little	some	lot of	confiden
attitudes	experience	about	experien	experienc	t in my
	doing this.	this.	ce doing	e with	ability to
			this.	this.	do this.
Describe the measures to					
ensure hygiene practice					
through					
Describe the ways of					
preventing contaminated					
diet					

Key Competencies:

Knowledge		Skills		Attitu	ıdes
1.	Describe the	1.	Use water to	•	Proactively use
	measures to ensure		promote hygiene		water to promote
	personal hygiene		and sanitation		hygiene and
	practice				sanitation
2.	Describe the	2.	Suggest measures	•	Encourage others to
	measures to ensure		to ensure water		use water to
	water supply		supply		promote personal
					hygiene
3.	Describe the	3.	Develop measures	•	Respect hand
	measures for water		to collect and store		washing practices
	collection and		water		
	storage				
4.	Describe the role of	4.	Apply measures to	•	Encourage others to
	water in personal		ensure hygiene and		have a healthy diet
	hygiene		sanitation		
5.	Describe measures	5.	Apply measures to		
	to ensure hygiene		ensure sanitation		
	and sanitation		practices		
6.	Describe measures	6.	Suggest measures		
	to ensure hygiene		to ensure hygiene		
	practice through		practice through		
7.	Describe ways of	7.	Suggest ways of		
	preventing		preventing		
	contaminated diet		contaminated diet		





Study the illustration above under the topic and answer the following questions.

- 1) What do you see in the illustration?
- 2) What habits/practices are illustrated?
- 3) How do you call the habits/practices illustrated?
- 4) What is the importance of such habits/practices to our health?
- 5) What do you think will be covered under this topic?





Figure 6: Practice Personal hygiene5

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⁵ <u>https://byjus.com/biology/health-and-hygiene/</u>

Activity 1: Problem Solving



Study Figure 6 above and answer questions that follow

- 1. What do you see in the illustration?
- 2. What health practices are shown in the illustration?
- 3. How do the health practices help you maintain health?
- 4. What is the difference between health and hygiene?
- 5. What is the relationship between health and hygiene?
- 6. What measures can be taken to ensure personal hygiene practice?
- 7. How can personal hygiene be preserved?



⁶ <u>http://www.pioneershiksha.com/news/3177-importance-of-health-and-hygiene.html</u>

✓ Avail hand washing facilities



- 1. There are some good personal hygiene practices that are good and should be promoted? Mention any 10 of these practices that you do everyday
- 2. There are some bad personal hygiene practices that should be discouraged. Mention any five (5) of those practices.
- 3. What is the best way to preserve personal hygiene?



Č ↓ ↓ ↓ Task 15:

You happen to be on the village health committee. On the World Health day the village has organized a village meeting and on the agenda is personal hygiene. You are chosen to talk about practicing personal hygiene in the meeting. Write down what you will tell the villagers about practicing personal health including:

- a) Relationship between health and hygiene
- b) Benefits of practicing personal hygiene
- c) Ways of practicing good personal hygiene
- d) What the village can do to preserve personal hygiene.

Topic 2.2 Insure Water supply



)))) Task 16:

- 1. Refer to the water supply in your school or community and answer the following questions.
 - a. What are the sources of water supply?
 - b. Do you think you have enough and safe water?
 - c. Why is important to our school or community to have enough safe water?
 - d. How can water be used to promote hygiene and sanitation in the school or community?
- 2. What is the relationship between water and hygiene and sanitation?
- 3. What measures can be taken to ensure water supply

Key Facts 8: Insure Water supply

Relationship between water and hygiene and sanitation

- Safe drinking-water, sanitation and hygiene are crucial to human health and wellbeing.
- Safe WASH is not only a prerequisite to health, but contributes to livelihoods, school attendance and dignity and helps to create resilient communities living in healthy environments.
- Drinking unsafe water impairs health through illnesses such as diarrhea, and untreated excreta contaminate ground waters and surface waters used for drinkingwater, irrigation, bathing and household purposes.
- Evidence suggests that improving service levels towards safely managed drinkingwater or sanitation such as regulated piped water or connections to sewers with wastewater treatment can dramatically improve health by reducing diarrheal disease deaths.

Measures to ensure water supply provision of water and sanitation

- Improve sanitation facilities by providing toilets and latrines that flush into a sewer or safe enclosure.
- Promote good hygiene habits through education. Proper hand washing with soap and water can reduce diarrhea cases by up to 35 percent.
- Implement rainwater harvesting systems to collect and store rainwater for drinking or recharging underground aquifers.
- Build wells to extract groundwater from underground aquifers.
- Provide home water-treatment capability through the use of filters, solar disinfection, or flocculants, to make drinking water safe.
- Promote low-cost solutions, such as chlorine tablets or plastic bottles that can be exposed to sunlight, to improve water quality.



Task 17:

- 1. What is the role of water in personal hygiene?
- 2. What methods can be used to collect and store water

Key Facts 9: Insure Water supply

Measures for water collection and storage

- Storage by construction of Dams
- Construction of Valley dams
- Construction of water Ponds
- Use of Rooftop rain water harvesting tanks including masonry tank, Plastic tanks,

Role of water in personal hygiene

- Body washing
- Cleaning Utensils
- Cleaning edible products
- Washing Clothing



Č ↓ ↓ ↓ Task 18:

You happen to be on the village health committee. On the World Health day the village has organized a village meeting and on the agenda is water supply. You are chosen to talk about insuring water supply in the meeting. Write down what you will tell the villagers about insuring water supply including:

- a) Relationship between Water, Health and Sanitation
- b) Role of water in maintaining personal hygiene
- c) Measures to ensure supply of water and provision of sanitation in the village
- d) Measures of collecting and storing water in the village

Topic 2.3 Description of WASH (Water Access Sanitation and Hygiene)

Activity 1: Problem Solving



- 1. Referring to you community, answer the questions below
 - a) Do all people have access to safe water?
 - b) How does having or not having access to safe water affect the sanitation of your community?
 - c) How does having or not having access to safe water affect the hygiene of your community?
 - d) How do people use water to maintain sanitation and hygiene in your community?
 - e) What does the term WASH mean?

WASH stands for:

- W Water: Essential liquid for survival of human, animals and plants. It includes:
 - ✓ Access and availability of safe drinking water
 - ✓ Access to adequate water supply
- **S Sanitation:** Conditions related to clean drinking water and adequate treatment and disposal of human excreta and sewage. It includes:
 - ✓ Clean toilets
 - Access and practice of basic latrines and techniques to distinct human waste from interaction with people
 - ✓ Management of water and waste material
 - ✓ Clean household/environment
- H Hygiene: Hygiene is vital to avoid disease and health of the children. It includes:
 - ✓ Personal hygiene
 - ✓ Hand washing with soap
 - ✓ Menstrual hygiene
 - ✓ Food hygiene

2. Study the illustration below and answer the questions that follow



- a) What do you see in the illustration?
- b) Describe how inadequate WASH affect our lives as illustrated above
- c) Describe how the above situation in (b) above avoided?
- d) How can one use water to maintain personal hygiene?
- e) What is the relationship between hand washing and hygiene?
- f) What measures should be in place to ensure hand washing practices
Key Facts 10: Description of WASH (Water Access Sanitation and Hygiene)

Relationship between Water, Sanitation and Hygiene

- Safe drinking-water, sanitation and hygiene (WASH) are crucial to human health and well-being.
- Safe WASH is not only a prerequisite to health, but contributes to livelihoods, school attendance and dignity and helps to create resilient communities living in healthy environments.

Measures to ensure hygiene and sanitation

- Hand hygiene and personal hygiene;
- Edible products hygiene
- Cross infection reduction
- Ensuring safe water at 'point of use
- Water distribution

Measures to ensure sanitation practices

- Household sanitation
- School sanitation
- Safe disposal of wastes (from human and animals)
- Disposal of solid waste
- Control of wastewater and rainwater
- Relationship between hand washing and hygiene
- Hand washing on hygiene
- Use of sanitizer on hygiene

Measures to ensure hand washing practices:

- Education on Hand hygiene and personal hygiene;
- Avail education materials
- Ensuring safe water at 'point of use
- Use of hand sanitizer





Study the illustration below showing the key aspects of WASH and answer questions that follow.









Hygiene and Sanitation Education

Clean Drinking Water

Toilet with Sceptic Tank

Handwashing with Soap

- a) What aspects of WASH are shown in the illustration?
- b) How does clean water ensure hygiene and sanitation?
- c) How does toilet with septic tank ensure hygiene and sanitation?
- d) How does hand washing with soap ensure hygiene and sanitation?
- e) Describe other measures to ensure sanitation practices in addition to ones identified above
- f) How can one use water to maintain personal hygiene apart from hand washing?
- g) What measures should be in place to ensure hand washing practices





You happen to be on the village health committee. On the World Health day the village has organized a village meeting and on the agenda is WASH. You are chosen to talk about WASH in the meeting. Write down what you will tell the villagers about WASH including:

- a) The meaning of WASH
- b) Relationship between the three aspects of WASH
- c) How clean water can ensure hygiene and sanitation?
- d) Hand washing with soap to ensure hygiene and sanitation
- e) Other measures to ensure sanitation practices
- f) Using water to maintain personal hygiene
- g) Measures to be in place to ensure hand washing practices

Topic 2.4 Applying measures for healthy diet



Figure 9: Healthy diet⁷





- 1. By studying the Figure 6: Healthy diet above and answer the following questions:
 - a) What do you see in the illustration?
 - b) What do you think is a healthy diet?
 - c) Why do you think it is important for a person to have a healthy diet?
- 2. Referring to diet prepared at your school or home, answer the following questions.
 - d) Do you think a healthy diet is prepared?
 - e) Support your answer by naming what should make a healthy diet
 - f) What is the benefit of having a healthy diet?

⁷ <u>https://betterme.world/articles/balanced-diet/</u>

- g) Mention some of the ways diet is contaminated
- h) Suggest ways of preventing contamination of diet
- i) Suggest measures to ensure hygiene practices

Key Facts 11: Applying measures for healthy diet

Relationship between diet and health

- Good nutrition is essential to keeping current and future generations healthy across the lifespan.
- A healthy diet helps children grow and develop properly and reduces their risk of chronic diseases.
- A healthy diet helps to protect against malnutrition in all its forms, as well as noncommunicable diseases (NCDs), including diabetes, heart disease, stroke and cancer.
- Healthy eating can help people with chronic diseases manage these conditions and avoid complications.



Figure 10: Healthy diet and Health⁸

Measures to ensure hygiene practice



Figure 8: Ensure diet hygiene⁹

- Clean: Wash your hands and surfaces often.
- ✓ Germs that cause food poisoning can survive in many places and spread around your kitchen.
- Wash your hands for at least 20 seconds with soap and warm or cold water before, during, and after preparing food and before eating.
- Always wash hands after handling uncooked meat, chicken and other poultry, seafood, flour, or eggs.
- Wash your utensils, cutting boards, and countertops with hot, soapy water after preparing each food item.
- ✓ Rinse fresh fruits and vegetables under running water.
- Separate: Don't cross-contaminate.
- Raw meat, poultry, seafood, and eggs can spread germs to ready-to-eat food unless you keep them separate.
- ✓ When grocery shopping, keep raw meat, poultry, seafood, and their juices away from other foods.

⁸ <u>https://www.cdc.gov/nutrition/resources-publications/benefits-of-healthy-eating.html</u>

⁹ <u>https://hilltoptimes.com/2017/12/07/steps-to-holiday-food-safety/</u>

- Keep raw or marinating meat, poultry, seafood, and eggs separate from all other foods in the refrigerator.
- Use one cutting board or plate for raw meat, poultry, and seafood and a separate cutting board or plate for produce, bread, and other foods that won't be cooked.
- ✓ Do not wash raw meat, poultry, or eggs. Washing these foods can actually spread germs because juices may splash onto your sink or counters.

• Cook to the right temperature.

- ✓ Food is safely cooked when the internal temperature gets high enough to kill germs that can make you sick.
- ✓ Use a food thermometer to ensure foods are cooked to a safe internal temperature.
- Letting food sit for a few minutes after microwaving allows cold spots to absorb heat
- ✓ When reheating, use a food thermometer to make sure that microwaved food reaches
- Chill: Refrigerate promptly.
- ✓ Keep your refrigerator at 40°F or below and your freezer at 0°F or below, and know when to throw food out before it spoils.
- ✓ Package warm or hot food into several clean, shallow containers and then refrigerate.
- Refrigerate perishable food (meat, seafood, dairy, cut fruit, some vegetables, and cooked leftovers) within 2 hours.
- ✓ Thaw frozen food safely in the refrigerator, in cold water, or in the microwave.

Ways of preventing contaminated diet

- ✓ Ensure Personal Hygiene
- ✓ Clean Utensils with clean water and soap
- ✓ Clean raw edible products
- ✓ Safely store edible products
- ✓ Handle Pests and waste control properly
- ✓ Clean Protective Clothing





Study the illustartion below and answer questions that follow



- a) Do you think a healthy diet is prepared?
- b) Support your answer by naming what should make a healthy diet
- c) What is the benefit of having a healthy diet?
- d) Mention some of the ways diet is contaminated
- e) What ways of preventing contamination of diet are applied above?
- f) Suggest measures to ensure hygiene practices





You happen to be on the village health committee. On the World Health day the village has organized a village meeting and on the agenda is applying measures for healthy diet. You are chosen to talk about applying measures for healthy diet in the meeting. Write down what you will tell the villagers about applying measures for healthy diet including:

- a) Meaning of a healthy diet
- b) What makes a healthy diet?
- c) Relationship between a healthy diet and health. Benefits
- d) Ways of contaminating diet
- e) Ways of preventing diet contamination
- f) Measures to ensure hygiene practices



- 1. What measures can be taken to ensure personal hygiene practice?
- 2. What measures can be taken to ensure water supply
- 3. Suggest ways of preventing diet contamination



Ways of preventing contaminated diet

- **Health** is a complete state of physical, mental and social well-being, and not merely the absence of disease or infirmity.
- Personal hygiene included physical exercise, cleanliness, sleep, proper rest and other related practices such as keeping away from consuming alcohol, smoking, drugs etc.
- Regular hand washing is one of the best ways to remove germs and prevent the spread of disease and illness. Key times to clean hands include:
 - ✓ Before, during, and after preparing food
 - ✓ Before eating food
 - ✓ Before and after caring for someone who is sick
 - ✓ Before and after treating a cut or wound
 - ✓ After using the toilet
 - ✓ After changing diapers or cleaning up a child who has used the toilet
 - ✓ After blowing nose, coughing, or sneezing
 - ✓ After handling pet food or pet treats
 - ✓ After touching garbage
- Personal hygiene includes:
 - ✓ cleaning your body every day
 - ✓ washing your hands with soap after going to the toilet
 - ✓ brushing your teeth twice a day
 - covering your mouth and nose with a tissue (or your sleeve) when sneezing or coughing
 - ✓ washing your hands after handling pets and other animals
 - ✓ Clean Utensils with clean water and soap
 - ✓ Clean raw edible products
 - ✓ Safely store edible products
 - ✓ Clean Protective Clothing



1. Fill in and complete the self-assessment table below to assess your level of knowledge, skills and attitudes after the unit.

My experience	l don't	I know	I have	I have a	l am
Knowledge, skills and	nave any	alittie	some	lot of	in my
attitudes	doing this.	this.	ce doing	e with	ability to
			this.	this.	do this.
Describe the relationship					
between health and					
hygiene					
Describe the measures to					
ensure personal hygiene					
practice through					
Describe ways of preserving					
Personal Hygiene					
Explain the relationship					
between water and hygiene					
and sanitation					
Describe the measures to					
ensure water supply					
Describe the measures for					
water collection and storage					
Describe the role of water in					
personal hygiene					
Describe the relationship					
between Water, Sanitation					
and Hygiene					

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	l know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	I am confident in my ability to do this.
Describe the measures to ensure hygiene and sanitation					
Describe the measures to ensure sanitation practices					
Describe the relationship between hand washing and hygiene					
Describe the measures to ensure hand washing practices					
Explain the relationship between diet and health					
Describe the measures to ensure hygiene practice through					
Describe the ways of preventing contaminated diet					

Areas of strength	Areas for improvement	Actions to be taken to improve
1.	1.	1.
2.	2.	2.
3.	3.	3.

2. Fill in the table below and share results with your trainer for further guidance.

UNIT 3: APPLY SAFE REPRODUCTIVE HEALTH PRACTICES



Figure 4: Apply safe reproductive health practices¹⁰

Unit summary:

This unit describes the knowledge, skills and attitude required to apply safe reproductive health practices. It includes description of reproductive health; applying reproductive system hygiene; description of transmission, prevention and treatment of HIV/AIDS and other STI's; identification gender-based violence cases together with prevention of unwanted pregnancy.

¹⁰ https://www.nursingpath.in/2018/06/reproductive-health.html

Self-Assessment: Unit 3

- **1.** Study the Figure 8: Apply safe reproductive health practices and answer the following questions.
 - a. What do you see in the figure?
 - b. What do you think is happening in the figure?
 - c. Do you think the figure reflects the learning unit? Briefly explain your response
 - d. What do you think will be topics to be covered under this unit based on the figure?
- 2. Fill in and complete the self-assessment table below to assess your level of knowledge, skills and attitudes under this unit.

There is no right or wrong ways to answer this assessment. It is for your own reference and self-reflection on the knowledge, skills and attitudes acquisition during the learning process.

Think about yourself: do you think you have the knowledge, skills or attitudes to do this? How well?

Read the statements across the top. Put a check in column that best represents your level of knowledge, skills or attitudes. At the end of this unit, you will assess yourself again.

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	l know a little about this.	I have some experience doing this.	I have a lot of experienc e with this.	I am confiden t in my ability to do this.
Explain puberty and sexual development					
Describe human reproduction system					
Describe technics to conduct the counseling and reproductive health					

My experience Knowledge, skills and	l don't have any	l know a little	I have some	I have a lot of	l am confiden
attitudes	experience	about	experience	experienc	t in my
	doing this.	this.	doing this.	e with this.	ability to do this.
information with adolescent and youth					
Describe Youth Friendly services					
Describe PAC (Parent					
Adolescent Communication)					
Describe Menstrual					
hygiene management					
Describe the Materials					
used to collect					
Describe the Materials					
needed for menstrual					
waste management					
Describe Healthy habits for					
safe menstruation					
Define male circumcision					
Describe the basic information on voluntary					
medical male circumcision (VMMC)					
Describe benefits of male circumcision					
Describe the classification					
ot STIs					

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	l know a little about this.	I have some experience doing this.	I have a lot of experienc e with this.	I am confiden t in my ability to do this.
Describe STIs modes of Transmission					
Describe STIs prevention strategies					
Identify gender based violence cases					
Define unwanted pregnancy and abortion					
Describe the types of unwanted pregnancies					
Describe types of acceptable abortion in Rwanda					
Describe methods of birth control					
Use of each birth control					
Describe side effects of each birth control					

Key Competencies:

Knowle	edge	Skills		Attitu	des
1.	Explain puberty and	1.	Describe Youth	•	Encourage
	sexual development		Friendly services		others to get
					circumcised
2.	Describe human	2.	Describe PAC (Parent	•	Avoid causes of
	reproduction system		Adolescent		unintended
			Communication)		pregnancies
3.	Describe technics to	3.	Conduct counseling	•	Report cases
	conduct the counseling		and reproductive		that may lead to
	and reproductive health		health information		unintended
	information with		with adolescent and		pregnancies
	adolescent and youth		youth		
4.	Describe Menstrual	4.	Use right materials to		
	hygiene management		collect menstruation		
			blood		
5.	Describe the Materials	5.	Get circumcised		
	used to collect				
6.	Describe the Materials	6.	Apply safe habits for		
	needed for menstrual		safe menstruation		
	waste management				
7.	Describe Healthy habits for safe menstruation	7.	Classify STIs		
8.	Define male circumcision	8.	Apply strategies to		
			Prevent STIs		
9.	Describe the	9.	Respond to GBV		
	classification of STIs				
10.	Describe STIs modes of	10	. Use appropriate		
	Transmission		method of birth		
			control		
11.	Describe STIs prevention	11	. Suggest appropriate		
	strategies		birth control method		

12. Define GBV	12. Know when give	
	advice regarding	
	abortion	
13. Describe the Forms of		
GBV		
14. Describe the Responses		
to GBV		
15. Describe the legal aspect		
of GBV in Rwanda		
16. Describe the		
consequences Sexual		
Behavior		
17. Describe the causes of		
Gender Based Violence		
18. Define Unwanted		
pregnancy and abortion		
19. Describe the causes of		
unwanted pregnancies		
20. Describe when abortion		
is acceptable in Rwanda		
21. Describe the Methods of		
birth control		
22. Describe the Use of each		
birth control		
23. Describe the Side effects		
of each birth control		

Discovery activity



Figure 5: reproductive health¹¹

Study the Figure 9: reproductive health above and answer the questions below:

- 1) What do you see in the figure?
- 2) What process is illustrated?
- 3) What changes are happen during the process illustrated?
- 4) What do you think will be covered under this topic?

¹¹ <u>https://www.sciencephoto.com/media/137848/view</u>

Topic 3.1 Description of reproductive health



Task 26: Figure analysis

Study the figure below showing changes that happen in boys and girls and answer questions that follow



- 1. Name the changes that take place in girls shown from 1 to 6
- 2. Name the changes that take place in boys shown from 1 to 8
- 3. How is the period that causes the changes above called?
- 4. Explain puberty and sexual development
- 5. What do you understand by human reproduction system?

Key Facts 12: Description of reproductive health

• Puberty and sexual development

The basis or foundation for a person's sexual development and sexual health starts at birth and continues throughout childhood.

• Physiological changes

- ✓ Sexual Maturation (Puberty). Puberty is the time where sexual organs mature and having a baby becomes possible.
- ✓ Puberty starts when changes in the child's brain cause sex hormones to start being released from the gonads, which are the ovaries and testes.
- This typically happens around 10-11 years for girls and around 11-12 years for boys.
- But it's normal for the start of puberty to range from 8-13 years in girls and
 9-14 years in boys.

a) Girls: key physical changes in puberty

In girls, these are the main external physical changes in puberty that you can expect.





Physical changes observed in males:

- Skin becomes oily, sometimes with pimples and acne
- Hair grows under arms, pubic areas, legs, chest, face
- Muscles especially in legs and arms get bigger and stronger
- Shoulders and chest broaden, weight and height increase, hands, feet, arms and legs become larger
- Perspiration increases and body odor may appear
- Voice cracks and then deepens
- Penis and testicles grow and begin to hang down
- Wet dreams and erection occur frequently
- Ejaculation occurs during sexual climax.
- c) Social and emotional changes during puberty
- Starting to think independently/make decisions for themselves
- Starting to have sexual feelings
- Experimentation and curiosity (sexual intercourse, alcohol, drugs and other stimulants)
- Friends may matter more than they used to (what they wear, do, how they speak and use language e.g. slang and informal speech)
- Mood changes

- Need for privacy
- Concern about body image, need to be seen as attractive and able to sexually attract people
- Need to break social sanctions and laws
- Disrespect for authority including parental supervision
- Argumentative and aggressive behaviors become evident and often disturb parents and teachers
- Delinquency/law-breaking activities
- Political extremism.

Human reproductive system

- The reproductive system is a collection of internal and external organs in both males and females that work together for the purpose of procreating.
- Due to its vital role in the survival of the species, many scientists feel that the reproductive system is among the most important systems in the entire body.
- Of the body's major systems, the reproductive system is the one that differs most between sexes, and the only system that does not function until puberty.

a) Female Reproductive System

In females the reproductive system includes external and internal genitalia.



- The internal genitalia include a three-part system of ducts: the uterine tubes, the
- The internal genitalia include a three-part system of ducts: the uterine tubes, the uterus, and the vagina.
- The ovaries produce egg cells and release them for fertilization.
- Fertilized eggs develop inside the uterus.
- No eggs are manufactured after birth a female is born with a full set.
- The vagina extends down from the cervix, the lower part of the uterus, to the vestibule, which is part of the vulva and the external genitalia. The vagina has three core functions:
 - ✓ It carries menstrual flow outside the body
 - ✓ It receives the male penis during sexual intercourse
 - ✓ It serves as a birth canal during labor.

b) Male Reproductive System

- The male reproductive system is responsible for delivering sperm to the female reproductive system
- In males, the reproductive organs include the penis, the testes, a number of storage and transport ducts, and some supporting structures.



- Testes (testicles) are oval-shaped glands responsible for the manufacture of sperm and the sex hormone testosterone.
- The scrotum contains two testes (testicles) where sperm are manufactured and stored.
- A man will produce roughly 525 billion sperm during his whole lifetime and close to 1 billion per month.
- There are around 200 to 500 million sperm in an average in a single human ejaculation!
- Penis contains erectile tissue; deposits sperms in the vagina of the female; produces sensations during sexual activity



- 1. What techniques can be used to counsel adolescents and youth about reproductive health information?
- 2. What do you understand by PAC (Parent Adolescent Communication)?
- 3. What should make up Youth Friendly health services?
- 4. What do adolescents perceive as 'friendly' health services?
- 5. Describe the Main Components of Life Skills

- 6. What is the Basic information on PAC
- 7. Describe the steps of PAC (5W: WHO, WHERE, WHAT, WHEN and WHY)

Key Facts 13: Description of reproductive health

Technics to conduct the counseling and reproductive health information with adolescent and youth

- Clear and effective communication is basic in helping young people to achieve healthy sexual and reproductive lives.
- Establish good relationships with young people to enable effective counseling on sexual and reproductive health issues to take place.
- The purpose of counseling is to help young people make rational decisions and cope with the situation they find themselves in.
- The more a young people can be made comfortable, the more likely they are to express their sexual and reproductive health problems.
- When a young person is face-to-face with you they may have various feelings which could include:
 - ✓ shyness, embarrassment,
 - ✓ anxiousness, and inadequacy to describe their problems and worries.
- Understanding their feelings will foster better communication between you.
- Conditions that could encourage trust and a good relationship with the young people include:
 - ✓ Allowing sufficient time for the counseling,
 - ✓ showing understanding,
 - ✓ honesty and willingness to help them,
 - ✓ expressing non-judgmental views and
 - ✓ showing confidence and professional competence.
- It is good to remember ROLES when counseling young people. ROLES is abbreviation for:
 - ✓ R = Relax the client by using facial expressions that show interest
 - Government of the second seco
 - ✓ L = Lean towards the client, not away from them
 - E = Establish and maintain eye contact with the client

- ✓ S = Smile.
- Techniques for good counseling include:
 - ✓ Creating a good, friendly first impression,
 - ✓ establishing rapport during the first session, and
 - ✓ Providing simple information in an appropriate way.
- When you are counseling a young client on sexual and reproductive health issues, use the following approaches:
 - ✓ consider their age and sex;
 - ✓ be patient;
 - ✓ ensure privacy and confidentiality;
 - ✓ respond to expressed needs;
 - ✓ explore feelings as well as facts;
 - ✓ encourage them to identify possible alternatives and
 - ✓ then consider the advantages, disadvantages and consequences of these options and
 - ✓ assist them to make an informed decision and plan how to implement their choice.

Youth Friendly services

What do adolescents perceive as 'friendly' health services?

- Adolescents and youth want to be treated with respect and to be sure that their confidentiality is protected.¹²
- To be considered adolescent friendly, health services should be accessible, acceptable, equitable, appropriate and effective, as outlined below:
 - ✓ Accessible. Adolescents are able to obtain the health services that are available.
 - Acceptable. Adolescents are willing to obtain the health services that are available.
 - Equitable. All adolescents, not just selected groups, are able to obtain the health services that are available.

¹² Adolescent-friendly health services: An agenda for change. Geneva, World Health Organization, 2003

- Appropriate. The right health services (i.e. the ones they need) are provided to them
- ✓ Effective. The right health services are provided in the right way, and make a positive contribution to their health.

The following should be considered as key to providing youth friendly services:

- Girl's room (location, equipment, staffing)
- Youth corner (location, Friendly staff, Equipment, Accessibility, Services affordability,
- Service delivery)
- Youth center (location, Friendly staff, Equipment, Accessibility, Services affordability)
- Youth clubs (Location, Health, Size of youth club, Norms, regulations and activities in the club)

Life skills

- World Health Organization has defined life skills as, "the abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life".
- Life skills are essentially those abilities that help promote mental well-being and competence in young people as they face the realities of life.

The Main Components of Life Skills



- Critical thinking skills/Decision-making skills include decision-making/problem solving skills and information gathering skills. The individual must:
 - ✓ be skilled at evaluating the future consequences of their present actions and the actions of others.
 - ✓ be able to determine alternative solutions and to analyze the influence of their own values and the values of those around them.
- Interpersonal/Communication skills include verbal and non-verbal communication, active listening, and the ability to express feelings and give feedback. Also in this category, are:
 - Negotiation/refusal skills and assertiveness skills that directly affect ones' ability to manage conflict.
 - Empathy, which is the ability to listen and understand others' needs, is also a key interpersonal skill.
 - Teamwork and the ability to cooperate include expressing respect for those around us.
- Coping and self-management skills refer to skills to increase the internal locus of control, so that the individual believes that they can make a difference in the world and affect change. These include:
 - ✓ Self-esteem,
 - ✓ self-awareness,
 - ✓ self-evaluation skills and
 - ✓ the ability to set goals
 - ✓ anger, grief and anxiety management
 - ✓ stress and time management

Parent Adolescents Communication (PAC)

Effective parent-adolescent communication on sexual health issues is a factor that can influence adolescents towards adopting safer sexual behavior and therefore prevent teenage pregnancies and sexually transmitted infections.

Basic information on PAC

- Abstinence from sex until marriage,
- The negative direct consequences of engaging in pre-marital sex on adolescents' health and

• Indirect consequences on future social and economic prospects.

Steps of PAC (5W: WHO, WHERE, WHAT, WHEN and WHY)

Communication can be a tricky thing. When you add an adolescent with a growing brain and fluctuating emotions to the mix, communication with the goal of balancing freedom for teens and control from caregivers can be a challenge.

Here are five (5) steps to follow during PAC sessions:

- Who will be part discussion?
- Where will the meeting be?
- Why will you be communicating with the youth?
- When will be the appropriate time to talk?
- What will be discussed about?





- 1. What are the differences between key physical changes in puberty that happen to boys and girls?
- 2. Do boys and girls exhibit same social and emotional changes during puberty? Explain your responses
- 3. What are the main differences between female and male reproductive system?
- 4. Describe the Technics to conduct the counseling and reproductive health information with adolescent and youth
- 5. What should be included in youth friendly health services?
- 6. What are the examples of Life Skills?
- 7. What basic information should be included in PAC?
- 8. Describe how you can apply the steps of PAC (5W: WHO, WHERE, WHAT, WHEN and WHY)





You have been invited to talk to a group of parents with their young children about reproductive health. Make a report of what your talk will cover. Include in your report the following:

- a) The meaning of Puberty and sexual development
- b) The Physiological changes among adolescents and youth
- c) The key physical changes in puberty among Girls and Boys
- d) The Social and emotional changes during puberty
- e) The differences between Female Reproductive System and Male Reproductive System
- f) Techniques to conduct the counseling and reproductive health information with adolescent and youth
- g) Meaning of PAC

- h) Features of 'friendly' health services
- i) The steps of PAC (5W: WHO, WHERE, WHAT, WHEN and WHY)

Topic 3.2 Applying Reproductive system hygiene





Study the figure below and answer questions that follow





- 1. What do you see in the illustration above?
- 2. What do you think the materials in the illustration used for in applying reproductive system hygiene?
- 3. Name the materials illustrated above from (a) to (i).
- 4. What do you understand by:
 - a. Menstrual cycle

¹³ <u>https://www.semanticscholar.org/paper/Menstrual-Hygiene%2C-Management%2C-and-Waste-Disposal%3A-Kaur-Kaur/c30110f7900fc3712a5df0e55fd9d32754dab543/figure/0</u>

- b. Menstruation
- 5. Mention the materials used to collect menstruation blood
- 6. Name the Materials needed for menstrual waste management
- 7. Describe Healthy habits for safe menstruation

Key Facts 14: Applying Reproductive system hygiene

Menstrual hygiene management

Definition of menstrual cycle

- A menstrual cycle begins when you get your period or menstruate.
- This is when you shed the lining of your uterus.
- This cycle is part of your reproductive system and prepares your body for a possible pregnancy.
- A typical cycle lasts between 24 and 38 days.

Definition of menstruation

- Menstruation or menses is the natural bodily process of releasing blood and associated matter from the uterus through the vagina as part of the menstrual cycle.
- Menstruation is the monthly shedding of the lining of your uterus. Menstruation is also known by the terms menses, menstrual period, menstrual cycle or period.
- Menstrual blood which is partly blood and partly tissue from the inside of your uterus — flows from your uterus through your cervix and out of your body through your vagina.

Materials used to collect menstruation blood

From Figure 13: Menstrual materials: Types of sanitary products used by women during menstruation¹⁴

- a) reusable cloth pads
- b) commercial sanitary pads
- c) tampons
- d) pads made from banana fibre
- e) sea sponges used as sanitary material

¹⁴ <u>https://www.semanticscholar.org/paper/Menstrual-Hygiene%2C-Management%2C-and-Waste-Disposal%3A-Kaur-Kaur/c30110f7900fc3712a5df0e55fd9d32754dab543/figure/0</u>
- f) pads made up of water hyacinth
- g) Menstrual cup
- h) pads made from wool
- i) Reusable tampons.

Materials needed for menstrual waste management

- Clean water
- Soap
- Adequate infrastructure
- Hygiene of reusable pads (wash, warm)

Healthy habits for safe menstruation

- Changing sanitary napkins or tampons every 4-6 hours is the cardinal guideline for maintaining perianal hygiene
- Clean your perianal area (vaginal area) properly each time you change your napkin
- Avoid using soaps or other vaginal hygiene products
- Properly dispose the sanitary napkin
- Stick to one method of sanitation



Visit your library or computer lab and make research on the following aspects of Reproductive

system hygiene

- a. Definition of male circumcision
- b. Basic information on voluntary medical male circumcision (VMMC)
- c. Benefits of male circumcision
- d. When to do VMMC?
- e. Where can one get VMMC?



Figure 14: Male Circumission¹⁵

Circumcision is when the foreskin that covers the end of the penis is removed during surgery.

Basic information on voluntary medical male circumcision (VMMC)

Voluntary medical male circumcision (VMMC)—the removal of all or part of the foreskin of the penis by a trained health-care professional

Benefits of male circumcision

- Easier hygiene. Circumcision makes it simpler to wash the penis. However, boys with uncircumcised penises can be taught to wash regularly beneath the foreskin.
- Decreased risk of urinary tract infections. The risk of urinary tract infections in males is low, but these infections are more common in uncircumcised males.
- Decreased risk of sexually transmitted infections. Circumcised men might have a lower risk of certain sexually transmitted infections, including HIV.
- Prevention of penile problems. Occasionally, the foreskin on an uncircumcised penis can be difficult or impossible to retract (phimosis).
- Decreased risk of penile cancer. Although cancer of the penis is rare, it's less common in circumcised men.

When to do VMMC

- VMMC can be carried out at any age.
- But the World Health Organization recommends VMMC for boys aged 15 years and older and men.
- It is particularly recommended for males at higher risk of HIV infection.

Where to get VMMC

- Circumcision should always be done by a trained health professional in a clinical setting.
- Traditional circumcision carried out by a traditional healer or religious leader is often poorly performed.
- This means it does not have the same HIV risk reduction.





What happens in the female reproductive system during the menstrual cycle?

- 2. What materials used to collect menstruation blood locally in your community?
- 3. How should menstrual waste be managed?
- 4. What advice would you give girls in order to have safe menstruation?
- 5. Why is it important for boys to go for VMMC?
- 6. When can one for VMMC?
- 7. Where should one go for VMMC?





You have been invited to talk to a group of parents with their young children about applying Reproductive system hygiene. Make a report of what your talk will cover. Include in your report the following:

- a. The meaning of Menstrual cycle and Menstruation
- b. Materials used to collect menstruation blood
- c. Materials needed for menstrual waste management
- d. Healthy habits for safe menstruation
- e. Meaning of male circumcision
- f. The Basic information on voluntary medical male circumcision (VMMC)
- g. Benefits of male circumcision
- h. When to do VMMC?
- i. Where get VMMC?

Topic 3.3 Description of transmission, prevention and treatment of HIV/AIDS and other STI's



Figure 14: Reduce risk of HIV/AIDS¹⁶

¹⁶ <u>https://cdn.who.int/media/images/default-source/campaigns---aids-day-2021/aids-day-2021/who-social-04 1080.png?sfvrsn=49ea9b92 5</u>



Task 34:

Study the Figure 14: Reduce risk of HIV/AIDS and answer the questions below:

- 1) What do you see in the figure?
- 2) What diseases are prevented by the measures above?
- 3) What is the difference between HIV and STIs?

Key Facts 16: Description of transmission, prevention and treatment of HIV/AIDS and other STI's.

What is HIV?

- HIV (human immunodeficiency virus) is a virus that attacks the body's immune system.
- If HIV is not treated, it can lead to AIDS (acquired immunodeficiency syndrome).
- There is currently no effective cure. Once people get HIV, they have it for life.
- But with proper medical care, HIV can be controlled.
- People with HIV who get effective HIV treatment can live long, healthy lives and protect their partners.

What are STIs?

- Sexually transmitted infections (STIs) are spread predominantly by unprotected sexual contact.
- The bacteria, viruses or parasites that cause sexually transmitted diseases may pass from person to person in blood, semen, or vaginal and other bodily fluids.
- Sometimes these infections can be transmitted nonsexual, such as:
 - ✓ from mothers to their infants during pregnancy or childbirth, or
 - ✓ through blood transfusions or shared needles.
- STIs don't always cause symptoms. It's possible to contract sexually transmitted infections from people who seem perfectly healthy and may not even know they have an infection.
- If untreated, STIs can lead to serious consequences including:

- ✓ neurological and cardiovascular disease,
- ✓ infertility,
- ✓ ectopic pregnancy,
- ✓ stillbirths, and
- ✓ Increased risk of Human Immunodeficiency Virus (HIV).
- they are also associated with stigma, domestic violence, and affects quality of life

Symptoms and signs

STDs or STIs can have a range of signs and symptoms, including no symptoms. That is why they may go unnoticed until complications occur or a partner is diagnosed.

Signs and symptoms that might indicate an STI include:

- Sores or bumps on the genitals or in the oral or rectal area
- Painful or burning urination
- Discharge from the penis
- Unusual or odorous vaginal discharge
- Unusual vaginal bleeding
- Pain during sex
- Sore, swollen lymph nodes, particularly in the groin but sometimes more widespread
- Lower abdominal pain
- Fever
- Rash over the trunk, hands or feet

Risk factors

Anyone who is sexually active risks some degree of exposure to an STD or STI. Factors that may increase that risk include:

- Having unprotected sex with an infected partner who isn't wearing a latex condom
- Oral sex may be less risky, but infections can still be transmitted
- Having sexual contact with multiple partners.
- Having a history of STIs. Having one STI makes it much easier for another STI to take hold.
- Being forced to engage in sexual activity.

- Misuse of alcohol or use of recreational drugs. Substance misuse can inhibit your judgment, making you more willing to participate in risky behaviors.
- Injecting drugs. Needle sharing spreads many serious infections, including HIV, hepatitis B and hepatitis C.
- Being young. Half the new STIs occur in people between the ages of 15 and 24.



Visit your school library or computer lab and make a research on the following aspects of reproductive hygiene.

- 1. The classification of STIs
- 2. How STIs and HIV/AIDS Transmitted?
- 3. The strategies to prevention STIs

Key Facts 17: Description of transmission, prevention and treatment of HIV/AIDS and other STI's.

SEXUALLY TRANSMITTED DISEASE



- Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS)
- Chlamydia
- Gonorrhea

- Chlamydia infection
- Gonorrhea
- Pelvic Inflammatory Disease (PID)
- Genital Warts and Human Papillomavirus (HPV)
- Genital Herpes (HSV-1, HSV-2)
- Syphilis

Diseases characterized by genital ulcer

Genital Ulcer Disease

Genital ulcer diseases are usually sexually transmitted disease, including genital herpes, syphilis, and chancroid. Genital ulcer diseases increase the risk of sexual transmission of HIV.

What causes genital ulcers?

The most common cause is STIs. Ulcers in the genital area can form if you have:

- Chancroid, which is a bacterial disease that causes open sores.
- Chlamydia.
- Genital herpes.
- Human immunodeficiency virus (HIV).
- Syphilis.
- Noninfectious ulcers like aphthous ulcers (like canker sores) or Behçet's disease.
- Cytomegalovirus, which causes viral hepatitis, encephalitis and more.
- Epstein-Barr, which causes mononucleosis (mono).
- Influenza A, which causes the flu.
- Paratyphoid, which causes typhoid fever.
- Varicella zoster, which causes chickenpox and shingles.

Diseases characterized by urethritis and cervicitis

Urethritis is inflammation (swelling and irritation) of the urethra. The urethra is the tube that carries urine from the body.

Causes

- Both bacteria and viruses may cause urethritis.
- Some of the bacteria that cause this condition include E coli, chlamydia, and gonorrhea.

- These bacteria also cause urinary tract infections and some sexually transmitted diseases.
- Viral causes are herpes simplex virus and cytomegalovirus.

Cervicitis is an inflammation of the cervix, the lower, narrow end of the uterus that opens into the vagina.

- Possible symptoms of cervicitis include:
 - ✓ Bleeding between menstrual periods,
 - ✓ pain with intercourse or during a pelvic exam, and
 - ✓ abnormal vaginal discharge.

Possible causes of cervicitis include:

- Sexually transmitted infections. Cervicitis can result from common sexually transmitted infections (STIs), including gonorrhea, chlamydia, trichomoniasis and genital herpes.
- Allergic reactions. An allergy, either to contraceptive spermicides or to latex in condoms, may lead to cervicitis.
- Bacterial overgrowth. An overgrowth of some of the bacteria that are normally present in the vagina (bacterial vaginosis) can lead to cervicitis.

Diseases characterized by vaginal discharge

- Most causes of abnormal vaginal discharge such as yeast infection, bacterial vaginosis or menopause symptoms — are relatively harmless, but they can be uncomfortable.
- Abnormal vaginal discharge can also be a symptom of certain sexually transmitted infections (STIs).
- Since these can spread to involve the uterus, ovaries and fallopian tubes, and can be passed on to sexual partners, detection and treatment of STIs is important.
- Rarely, a brownish or blood-tinged vaginal discharge could be a sign of cervical cancer.

Possible causes of abnormal vaginal discharge include:

- Bacterial vaginosis
- Cervicitis
- Chlamydia trachomatis
- Gonorrhea

- Forgotten (retained) tampon
- Pelvic inflammatory disease (PID)
- Trichomoniasis
- Vaginitis
- Yeast infection (vaginal)
- Certain hygiene practices, such as douching or using scented sprays or soaps
- Cervical cancer
- Pregnancy
- Vaginal cancer
- Vaginal fistula

Pelvic inflammatory Disease (PID)

- Pelvic inflammatory disease (PID) is an infection of the female reproductive organs.
- It most often occurs when sexually transmitted bacteria spread from your vagina to your uterus, fallopian tubes or ovaries.

Symptoms

The signs and symptoms of pelvic inflammatory disease might be mild and difficult to recognize. Some women don't have any signs or symptoms. When signs and symptoms of PID are present, they most often include:

- Pain ranging from mild to severe in your lower abdomen and pelvis
- Unusual or heavy vaginal discharge that may have an unpleasant odor
- Unusual bleeding from the vagina, especially during or after sex, or between periods
- Pain during sex
- Fever, sometimes with chills
- Painful, frequent or difficult urination

Causes

Many types of bacteria can cause PID, but gonorrhea or chlamydia infections are the most common. These bacteria are usually acquired during unprotected sex.

STIs modes of Transmission

STIs can transmit through:

- direct contact with a lesion or sore
- close personal contact, in the case of pubic lice
- exposure to blood that contains the infectious agent

- contact with vaginal fluid or semen
- the sharing of needles
- Sexual Transmission
- Sharing injecting equipment
- Mother to Child Transmission (MTCT)
- Breast-Feeding Transmission

STIs prevention strategies

- Have safe sex,
- Use condoms and use them correctly,
- Access reliable sexual health education,
- Seek timely testing and treatment if you are at risk; Remember, most STIs have no symptoms
- Limit casual sex and use condoms with a new partner.
- Get tested for STIs between partners and after unprotected sex If you feel you may be at risk of having been infected or reinfected
- Talk about the potential risk of acquiring STIs with your partner
- Make informed choices about the level of risk you are comfortable taking with your sex life.
- If you are pregnant and are at risk for STIs, it is important to get tested and treated before your baby is born.
- Reinfection is common even after successful treatment. Make sure your partners get treated to prevent reinfection
- Vaccination (Hepatitis B and HPV)
- Seek and encourage STI testing
- Circumcision
- Abstinence
- HIV post-exposure pro phylaxis (PEP)
- Post exposure prophylaxis for other STIs





Your friends have not been feeling well. They approach and want your advice about their problem. Help them identify the posibble disease they could have by describing to them the type of STIs and:

- 1. The mode of transmission of STIs
- 2. Characteristics of vaginal discharge diseases
- 3. Characteristics of urethritis and cervicitis diseases
- 4. Characteristics of genital ulcer diseases
- 5. Prevention strategies of STIs prevention





You have been invited to talk to a group of parents with their young children about transmission, prevention and treatment of HIV/AIDS and other STI's. Make a report of what your talk will cover. Include in your report the following:

- 1. The meaning of HIV/AIDS
- 2. The meaning of STIs
- 3. The difference between HIV and STIs
- 4. The classification of STIs
- 5. How STIs and HIV/AIDS Transmitted?
- 6. The strategies to prevention STIs

Topic 3.4 Identification gender-based violence cases



Figure 16: Forms of GBV¹⁷



Task 37: Figure Analysis

Study Figure 16: Forms of GBV and using your own experience about GBV, answer the following questions.

- 1. What do you see in the illustration?
- 2. What do you think GBV means?
- 3. What forms of GBV are shown in the illustration?
- 4. What behavior is illustrated above?
- Are there some habits in the illustration that you have noticed in your community? Name them
- 6. What are the causes of GBV in the community?

Key Facts 18: Identification gender based violence cases

Meaning of GBV

 Gender-Based violence refers to harmful acts directed at an individual based on their gender. It is rooted in gender inequality, the abuse of power and harmful norms.

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¹⁷ <u>https://controlarms.org/blog/10-reasons-to-tackle-diversion-at-the-csp-2018-2/</u>



Figure 15: Forms of GBV¹⁸

- **Physical violence.** Any act which causes physical harm as a result of unlawful physical force. Physical violence can take the form of, among others, serious and minor assault, deprivation of liberty and manslaughter.
- **Sexual violence.** Any sexual act performed on an individual without their consent. Sexual violence can take the form of rape or sexual assault.
- Psychological violence. Any act which causes psychological harm to an individual.
 Psychological violence can take the form of, for example, coercion, defamation, verbal insult or harassment.

¹⁸ <u>https://indolabourdatabase.wordpress.com/2021/01/21/gender-based-violence-at-work-an-organizational-prevention-strategy/</u>





Visist your school library or computer lab or a local health advisor (Umujanama w'ubuzima) and make a research on. Your research should include:

- 1. Responding or handling to GBV
- 2. The legal aspect of GBV in Rwanda
- 3. The consequences Sexual Behavior

Key Facts 19: Identification gender based violence cases

Responses to GBV

- Health Care Training health care providers to recognize and respond to genderbased violence is one of the most important ways of identifying and assisting victims.
- Victim Assistance Services These are services created or incorporated to respond to gender-based violence, such as:
 - ✓ battered women shelters;
 - ✓ financial assistance programs;
 - victim advocacy programs;
 - ✓ rape crisis,
 - ✓ domestic violence and suicide prevention hotlines;
 - ✓ legal services;
 - ✓ runaway programs;
 - ✓ social welfare programs;
 - ✓ psychological support services and
 - ✓ teen sexuality programs/health services.
- Support Groups While support groups can fall under the heading of victim assistance services, they merit special mention because they are not always externally organized services. Support groups can be an important way for victims themselves to:
 - ✓ organize pro-actively and take charge of their own situation
 - ✓ provide emotional support,
 - ✓ group members can also provide one another with a sense of security and even, if needed, a place to go
- Working with Perpetrators Working with the perpetrators of violence (battererintervention programs) has been a controversial and occasionally successful response. While victim assistance services are a useful Band-Aid to address an existing problem, this approach targets efforts at the source of the problem, attempting to change violent men's behavior.
- **Exploring Masculinities** Programs which address masculinities attempt to explore what "makes a man". The central idea is to educate boys from the earliest age that

violence (against anyone) is wrong, that the prevailing definition of masculinity in any society is not the only alternative, and that even though they are physically different, girls are entitled to the same rights and opportunities as men.

- Media Information and Awareness Campaigns The media is a key conduit for making GBV visible, advertising solutions, informing policy-makers and educating the public about legal rights and how to recognize and address GBV. Newspapers, magazines, newsletters, radio, television, the music industry, film, theatre, advertising, the internet, posters, leaflets, community notice boards, libraries and direct mail are all channels for providing information to victims and the general public about GBV prevention and available services.
- Education School systems are instrumental to stopping GBV before it starts. Regular curricula, sexuality education, school counseling programs and school health services can all convey the message that violence is wrong and can be prevented, suggest alternative models of masculinity, teach conflict-resolution skills and provide assistance to children/adolescents who may be victims or perpetrators of violence. Integrating GBV as a subject into psychology, sociology, medicine, nursing, law, women's studies, social work and other programs enables providers to identify and tend to this problem.
- Faith-Based Programs and Services Religious counseling, support groups, education programs, study groups and assistance programs can address GBV with their participants/worshippers. Most religions emphasize the importance of peace and tolerance. Framing a discussion of GBV in the context of religious tenets is one way to foster awareness and discussion of the problem.

It may also be a way to identify and assist victims who do not feel comfortable talking to a health care provider or police officer.

- Legal Responses The criminalization of all forms of GBV domestic violence, rape, sexual harassment, psychological violence etc. has been an important step in eliminating it. What remains is the consistent application of these laws, the implementation of penalties, and a greater focus on rehabilitating convicted perpetrators. Other legal responses to GBV have included:
 - ✓ legal aid services;
 - ✓ training of police and judicial personnel;

- ✓ women's police stations;
- ✓ legal advocacy and lobbying;
- training of family, criminal, immigration and juvenile court lawyers and bar association advocacy.
- International Conferences and Conventions The international community has come together to address gender-based violence through a variety of conferences, conventions and agreements. Though these do not have the same binding force as domestic law, international conventions such as the Declaration on the Elimination of Violence Against Women and the Convention of Belém do Pará (see links) can be demonstrative of a state's willingness to acknowledge the problem of GBV and seek solutions. International conventions also hold states accountable to an international and externally monitored standard. International conferences on GBV bring together groups and actors from all over the world, giving them the opportunity to share their own experiences, and learn from others.
- Community Networks and Interventions A number of studies have shown that involving entire communities in recognizing, addressing and working to prevent GBV is one of the surest ways of eliminating it. To be optimally effective, community networks must bring together all of the responses outlined above, integrating members from all sectors of the community: families; businesses; advocacy groups/civil society; public services such as police, fire fighters and medical examiners; social services such as welfare, unemployment, public housing and health; education; the media and officials from national, state/provincial and local/municipal governments. Community interventions must send a clear message about what gender-based violence is, the different forms it can take, why it is wrong and how to prevent it.

Legal aspect of GBV in Rwanda

The Gender Based Violence in Rwanda is covered in the Law N°59/2008 Of 10/09/2008 on Prevention And Punishment of Gender- Based Violence, which was adopted by the Parliament, Sanctioned, Promulgated the Law and ordered it be published in the official Gazette of the Republic of Rwanda

Consequences of sexual behavior

• Feeling powerless

- Seeking power over others thru sexual bullying or violence
- Loss of sense of self (dissociative disorder)
- Poor self-esteem
- Social distancing due to fear or shame
- Excessive preoccupation with sexual words, sexual body parts and sexual activity, especially when seen in school-age or older children.
- Repeated display of sexual body parts in public, especially when seen in school-age or older children.
- Persistent, secretive sex play with other children after being told not to.
- Putting objects in sexual body parts.
- Imitating or trying to have sexual intercourse with toys, pets or other children, especially in preschool or school age children.
- Doing sexual things with much younger children or children who are emotionally or socially at a much younger stage of development.
- Pressuring or forcing others into sexual activity of any kind.

Activity 2: Guided Practice



Referring your community, either at home, school or workplace, answer the following questions:

- 1. What forms of Forms of GBV do you see?
- 2. What do you think causes the forms of GBV mentioned?
- 3. How ii GBV responded to or handled in your community?
- 4. How are cases of GBV handled in Rwanda? Where can one go in case of GBV?
- 5. What are the various consequences of different sexual behavior in your community?





You have been invited to talk to a group of parents with their young children about gender based violence. Make a report of what your talk will cover. Include in your report the following:

- 1. The meaning of GBV
- 2. The forms of GBV
- 3. Responding or handling to GBV
- 4. The legal aspect of GBV in Rwanda
- 5. The consequences Sexual Behavior
- 6. The causes of Gender Based Violence

Topic 3.5 Prevention of unwanted pregnancy

Activity 1: Problem Solving

Task 41:

Referring to people who have got pregnant in your community, at home or at school, answer the following questions.

- 1. Do you think all people get pregnant because they wanted?
- 2. How might people get pregnant when they do not want?
- 3. What happens when people get pregnancies they do not want?
- 4. How do people control themselves from getting pregnancies they do not want?
- 5. What do you understand by unintended pregnancy?
- 6. What do understand by abortion?
- 7. Describe the causes of unwanted pregnancies
- 8. Describe when abortion is acceptable in Rwanda

Key Facts 20: Prevention of unwanted pregnancy

Meaning of unwanted pregnancy and abortion

- Unintended Pregnancy
 - ✓ An unintended pregnancy is a pregnancy that is either unwanted, such as the pregnancy occurred when no children or no more children were desired.
 - ✓ Or the pregnancy is mistimed, such as the pregnancy occurred earlier than desired.
- Abortion
- ✓ Abortion is a procedure of terminating a pregnancy by removing the fetus/embryo.

Causes of unwanted pregnancies

- Lack of knowledge about reproductive health, especially about contraception,
- lack of social welfare,
- poverty,
- sex with coercion, and
- rape could be the cause of unwanted pregnancies in adolescents

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- Rape
- Forced marriage
- Unprotected sexual intercourse
- Non-agreed artificial insemination

When is abortion accepted in Rwanda?

- In June 2012, Rwanda approved a new penal code. Article 162 on criminal abortion expanded the exceptions for permissible abortion to include:
 - ✓ rape
 - ✓ incest
 - ✓ forced marriage
 - ✓ risk to the health of the woman or the fetus.
 - ✓ In case of minors
- To obtain a legal abortion under exceptions 1–3, a woman seeking abortion needs certification from a "competent Court" that the pregnancy resulted from rape, incest or forced marriage.
- To obtain a legal abortion because of risk to health, a petitioner must get permission from two doctors, and one must make "a written report in three copies."
- To be legal, an abortion must then be performed by a doctor. Self-induced abortion is considered illegal.



- 1. Describe the Methods of birth control commonly used in your community
- 2. What are the Side effects of the birth control identified above?



¹⁹ <u>https://www.invitra.com/en/birth-control-methods/family-infographics-pregnancy/</u>



A contraceptive sponge	\checkmark It is a small, round sponge that is
	placed in the vagina near the cervix
	before sex.
R	\checkmark It helps to block sperm from
	reaching the cervix.
	✓ It can also kill sperm because it has
	spermicide in it.
	\checkmark You can have sex more than one
	time before the sponge needs to
	be taken out.
	\checkmark The sponge can be left in for up to
	24 hours.
Vaginal spermicides	✓ Kills sperm or keep it from reaching
The 6 Types of Spermicide	an egg.
	\checkmark It may be in the form of a cream,
Contraceptive film Spermicidal form	jelly, foam, tablet, or vaginal
	suppository. Suppositories and
	tablets must be put in about 30
Contraceptive sponge Spermicidal creams and cels	minutes before sex.
	\checkmark Creams, jellies, and foams are put
	into the vagina right before sex.
	✓ Spermicides can be used alone or
	with other barrier methods.
	✓ Spermicides may take up to 15
	minutes to start working.
	\checkmark They provide a barrier for only 60
	minutes.
A cervical cap	✓ It is a small rubber cap that covers
	the cervix and blocks sperm from
	entering the uterus.



	releasing hormones into her body in order to prevent ovulation. ✓ The main advantage of the implant is that it may last one, three, or even five years.
Vaginal ringImage: Straight of the second sec	 ✓ It consists of a flexible ring that is placed in the cervix and keeps on releasing hormones. ✓ The woman herself has to replace it once a month after three weeks. ✓ It is removed from the vagina during the fourth week and then her period is expected in that moment. ✓ A new ring has to be inserted the next week.
Emergency contraception (EC)	 ✓ It is a morning-after pill, a hormonal contraception that inhibits ovulation and fertilization. ✓ It usually entails a higher dose than that of birth control pills. ✓ It is a plan-B birth control method that prevents pregnancy in a large percentage as long as it is taken within 72 hours following unsafe sexual intercourse. ✓ If taken within 12 hours after intercourse, it is highly effective.





- 1. What is the difference between unwanted pregnancy and abortion?
- 2. What are the main causes of unintended pregnancies in your community?
- 3. Under what circumstances can abortion be accepted in Rwanda?
- 4. Describe any birth control methods you know of used in your community





You have been invited to talk to a group of parents with their young children about Prevention of unwanted pregnancy. Make a report of what your talk will cover. Include in your report the following:

- 1. The meaning of unintended pregnancy
- 2. The meaning of abortion
- 3. The causes of unwanted pregnancies
- 4. When abortion is acceptable in Rwanda
- 5. Methods of birth control
- 6. The Side effects of the birth control



- 1. Describe STIs modes of Transmission
- 2. Describe STIs prevention strategies
- 3. Describe the causes of unwanted pregnancies
- 4. Describe methods of birth control



- Sexual Maturation (Puberty). Puberty is the time where sexual organs mature and having a baby becomes possible.
- Puberty starts when changes in the child's brain cause sex hormones to start being released from the gonads, which are the ovaries and testes.
- This typically happens around 10-11 years for girls and around 11-12 years for boys.
- But it's normal for the start of puberty to range from 8-13 years in girls and 9-14 years in boys.
- The reproductive system is a collection of internal and external organs in both males and females — that work together for the purpose of procreating.
- Due to its vital role in the survival of the species, many scientists feel that the reproductive system is among the most important systems in the entire body.
- Of the body's major systems, the reproductive system is the one that differs most between sexes, and the only system that does not function until puberty.
- It is good to remember ROLES when counseling young people. ROLES is abbreviation for:
 - \checkmark R = Relax the client by using facial expressions that show interest
 - ✓ O = Open up the client by using a warm and caring tone of voice
 - ✓ L = Lean towards the client, not away from them
 - E = Establish and maintain eye contact with the client
 - ✓ S = Smile.



1. Fill in and complete the self-assessment table below to assess your level of knowledge, skills and attitudes after the unit.

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	l know a little about this.	I have some experience doing this.	I have a lot of experienc e with this.	l am confiden t in my ability to do this.
Explain puberty and sexual					
development					
Describe human					
reproduction system					
Describe technics to					
conduct the counseling					
and reproductive health					
information with					
adolescent and youth					
Describe Youth Friendly					
services					
Describe PAC (Parent					
Adolescent					
Communication)					
Describe Menstrual					
hygiene management					
Describe the Materials					
used to collect					
menstruation blood					

My experience	l don't	I know	I have	I have a	l am
Knowledge, skills and	have any	a little	some	lot of	confiden
attitudes	experience	about	experience	experienc	t in my
	uonig tins.	uns.	uonig tins.	this.	do this.
Describe the Materials					
wasto management					
Describe Healthy habits for					
safe menstruation					
Define male circumcision					
Describe the basic					
information on voluntary					
medical male circumcision					
(VMMC)					
Describe benefits of male					
circumcision					
Describe the classification					
of STIs					
Describe STIs modes of					
Transmission					
Describe STIs prevention					
strategies					
Identify gender based					
violence cases					
Define unwanted					
pregnancy and abortion					

My experience	l don't	I know	I have	I have a	l am
Knowledge, skills and	have any	a little	some	lot of	confiden t in my
attitudes	doing this.	this.	doing this.	e with	ability to
				this.	do this.
Describe the types of					
unwanted pregnancies					
Describe types of					
acceptable abortion in					
Rwanda					
Describe methods of birth					
control					
Use of each birth control					
Describe side effects of					
each birth control					

2. Fill in the table below and share results with your trainer for further guidance.

Areas of strength	Areas for improvement	Actions to be taken to improve
1.	1.	1.
2.	2.	2.
3.	3.	3.

UNIT 4: APPLY COVID-19 PANDEMIC PREVENTION MEASURES



Figure 6: Covid-19 pandemic²⁰

Unit summary:

This unit describes the knowledge, skills and attitude required to Apply Covid-19 pandemic prevention measures. It includes description of Covid-19 pandemic; prevention of contamination of Covid-19 pandemic; together with prevention of spreading Covid-19 pandemic.

²⁰ <u>https://www.thestar.com.my/lifestyle/health/2021/11/24/when-will-we-know-the-covid-19-pandemic-is-over</u>

Self-Assessment: Unit 4

- 1. Study the Figure 11: Covid-19 pandemic and answer the following questions.
 - a. What do you see in the figure?
 - b. Do you think the figure reflects the learning unit? Briefly explain your response
 - c. What do you think will be topics to be covered under this unit based on the figure?
- Fill in and complete the self-assessment table below to assess your level of knowledge, skills and attitudes under this unit.

There is no right or wrong ways to answer this assessment. It is for your own reference and self-reflection on the knowledge, skills and attitudes acquisition during the learning process.

Think about yourself: do you think you have the knowledge, skills or attitudes to do this? How well?

Read the statements across the top. Put a check in column that best represents your level of knowledge, skills or attitudes. At the end of this unit, you will assess yourself again.

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	I know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	I am confiden t in my ability to do this.
Define Covid-19					
Describe the modes of contamination of Covid-19					
Describe the signs and symptoms of person with Covid-19					
Describe some important information about Covid-19					

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	I know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	l am confiden t in my ability to do this.
Apply the preventive measures of Covid-19 prevention					
Use the tools and equipment to prevent the contamination of covid-19					
Use tools and equipment to prevent the contamination of covid-19					
Apply specific measures at school to avoid the contamination of covid-19					
Apply World Health Organization guidelines to prevent the contamination of Covid-19					
Use tools and equipment to prevent the contamination and spread of covid-19					
Apply measures to avoid the spread of Covid-19					
Key Competencies:

Knowledge	Skills		Attitudes
1. Define Covid-19	1.	Report people with	 Proactive in
		the signs and	reporting cases of
		symptoms of person	COVID-19
		with Covid-19	
2. Describe the modes	2.	Differentiate the	 Encourage others
of contamination of		modes of	to apply preventive
Covid-19		contamination of	measures of
		Covid-19	COVID-19
			prevention
3. Describe the signs	3.	Spread important	 Proactive in using
and symptoms of		information about	preventive of
person with Covid-19		Covid-19	COVID-19
			prevention and
			contamination
4. Describe some	4.	Apply the preventive	•
important		measures of Covid-	
information about		19 prevention	
Covid-19			
5. Describe the	5.	Apply specific	
preventive measures		measures at school	
of Covid-19		to avoid the	
prevention		contamination of	
		covid-19	
6. Use the tools and	6.	Apply World Health	
equipment to		Organization	
prevent the		guidelines to prevent	
contamination of		the contamination of	
covid-19		Covid-19	

7.	Use tools and	7.	Use of tools and	
	equipment to		equipment to	
	prevent the		prevent the	
	contamination of		contamination and	
	covid-19		spread of covid-19	
8.	Describe the tools			
	and equipment to			
	prevent the			
	contamination and			
	spread of covid-19			
				1

Discovery activity



Referring to a pandemic that started in the year 2020 to date, answer the following the questions.

a) What do the following statements remind of you of?

Wear your mask properly (agafuka munwa)

Social distance (shiramo intera)

Wash your hands (karaba muntoki)

Lock-down (guma murugo)

- b) Why were those statements used?
- c) How was the pandemic spread?
- d) How did the government of Rwanda control the spread of the pandemic?
- 4) What do you think will be covered under this topic?

Topic 4.1 Description of Covid-19 pandemic

Activity 1: Problem Solving

Task 46: Figure analysis

Study the illustration below about Covid-19 and answer questions that follow



Figure 10: Modes of contamination of Covid-19²¹

- a) What is Covid-19?
- b) How is Covid-19 contaminated based on the illustration?
- c) Describe the signs and symptoms of Covid-19
- d) Describe some important information about Covid-19

²¹ <u>https://acsjournals.onlinelibrary.wiley.com/doi/10.1002/cncy.22280</u>

Key Facts 22: Description of Covid-19 pandemic

Definition of Covid-19

Coronavirus disease 2019 (COVID-19) is a respiratory tract infection caused by a new strain of coronavirus that was first recognized in Wuhan, China, in December 2019 that causes illness in humans

Modes of contamination of Covid 19

COVID-19 transmission routes: droplets, direct contact, and indirect contact



- Touching infected surfaces then touch their mouth, eyes or nose,
- Contact with infected persons

Signs and symptoms of person with Covid-19



COVID-19 affects different people in different ways. Most infected people will develop mild to moderate illness and recover without hospitalization.

• Most common symptoms:

- ✓ fever
- ✓ cough
- ✓ tiredness
- ✓ loss of taste or smell.
- Less common symptoms:
 - ✓ sore throat
 - ✓ headache
 - ✓ aches and pains
 - 🗸 diarrhea
 - \checkmark a rash on skin, or discoloration of fingers or toes
 - ✓ red or irritated eyes.

²² <u>https://news.sanfordhealth.org/coronavirus-disease-2019-covid-19/faqs-coronavirus-symptoms/</u>

• Serious symptoms:

- ✓ difficulty breathing or shortness of breath
- ✓ loss of speech or mobility, or confusion
- ✓ chest pain.

Important information about Covid-19

- Risk factors. Severity of COVID-19 is associated with
 - ✓ Increased age,
 - ✓ pre-existing medical conditions and
 - ✓ the male sex
- Reporting on suspect covid-19 cases. Report any of the following cases
 - Suspect case. A patient with any acute respiratory illness (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath etc.)
 - ✓ Probable case. A suspect case for whom testing for the COVID-19 virus is presumptive
 - ✓ Confirmed case. A person with laboratory confirmation of COVID-19 infection using a PCR method, irrespective of clinical signs and symptoms.
 - Contact. A contact of a Covid-19 case is any person who had contact with a Covid-19 case within a timeframe ranging from 72 hours before the onset of symptoms of the case to 14 days after the onset of symptoms.
- Covid-19 case management
 - Screening and triage on admission. Early diagnosis, treatment and isolation should be carried out whenever possible.
 - ✓ Treatment. It is crucial to identify severe cases and start supportive treatment without delay but also applying strict IPC measures
 - ✓ Infection prevention measures.

Isolation of the patient COVID-19. To protect other patients and health-care workers, patients with suspected or confirmed Covid-19 should ideally be admitted to an airborne infection isolation room (AIIR)

Staff engaged in environmental cleaning and waste management should wear appropriate PPEs.

- Environmental measures. Routine cleaning of frequently used surfaces, clothes and objects, minimizing the sharing of objects, and ensuring appropriate ventilation.
- Visits. It should be restricted or banned to prevent further transmission, except perhaps for the imminently dying.
- Hand hygiene. The risk of transmitting or acquiring Covid-19 infection can be reduced by the correct application of hand hygiene
- Cough etiquette. Covering the mouth and nose when coughing and sneezing (e.g. using a paper tissue or cloth handkerchief) with the aim of reducing person-to-person transmission through droplets which are a known mode of transmission for coronaviruses

• Rumors on Covid-19

- ✓ Is there any drug that can prevent and treat Covid-19? NO
- ✓ Can rinsing your nose regularly with saline solution prevent Covid-19? NO
- ✓ Can Pneumonia vaccine prevent Covid-19? NO
- ✓ Can eating garlic prevent covid-19? **NO**
- ✓ Can spraying alcohol or chlorine on your body kill the virus inside? **NO**
- ✓ Can UV bulbs used for disinfecting be used to kill Covid-19 on our body? NO
- ✓ Is it true that Covid-19 is transmitted in cold climate and not in hot and humid climate? NO
- ✓ Can drinking alcohol help prevent Covid-19? **NO**
- ✓ Can Covid-19 be transmitted through mosquitoes? NO
- ✓ Can Covid-19 be transmitted through goods produced in countries where there is ongoing transmission? NO





Below is a list of symptoms and signs which may be for a cold, flu or Covid-19.

Read the symptoms and tick appropriately for either cold, flu or Covid-19

Symptoms	Flu	Cold	Covid-19
Cough or chest discomfort			
Sore throat			
Muscle aches			
Headache or fatigue			
Fever			
Difficulty breathing			
Chills			
New loss of taste			
Nausea or vomiting			
Diarrhea			
Stuffy or runny nose			
Sneezing			



کے ایک Task 48:

At your school, there has been a health meeting organized by the school health committee of which you are a member. You have been chosen to talk about Covid-19 pandemic to the rest of the school. Make a plan of what your speech will be about including:

- a) The meaning of Covid-19
- b) Mode of Covid-19 contamination
- c) The signs and symptoms of Covid-19
- d) Some important information about Covid-19

Topic 4.2 Prevention of contamination of Covid-19 pandemic



Figure 12: Prevention of contamination of Covid-19 pandemic²³

Activity 1: Problem Solving

Task 49: Figure analysis

- 1. Referring to your experience about the Covid-19 pandemic and Figure 12: Prevention of contamination of Covid-19 pandemic, answer the following questions
 - 1) What measures did you have to follow to prevent the contamination of Covid-19?
 - 2) What tools and equipment did you use to prevent the contamination of Covid-19?
 - 3) What topics do you think will be covered under this topic?
- 2. Study the figure below and answer questions that follow

²³ <u>https://www.fda.gov/consumers/consumer-updates/help-stop-spread-coronavirus-and-protect-your-family</u>



Figure 16: Prevention of contaminantion of Covid-19²⁴

- a) From the illustration mention any preventive measures of Covid-19 contamination you can identify
- b) From the illustration mention any tools and equipment to prevent contamination of Covid-19 you can identify
- c) How can the tools and equipment identified above (b) used to prevent Covid-19 contamination
- d) How can the measures above in (a) be applied at your school to prevent the contamination of Covid-19?

²⁴ <u>https://www.shutterstock.com/image-vector/outline-icons-about-coronavirus-prevention-clean-1701046576</u>



²⁵ https://www.medicalnewstoday.com/articles/coronavirus-prevention#hand-washing

- Use of hand sanitizer
- Social distancing
- Use of face masks
- Avoid personal contacts
- Avoid to touch on mouth, noise and eyes
- well-ventilated spaces
- Cover your nose and mouth with your bent elbow or a tissue when you cough or sneeze
- Limitation of movements

Tools and equipment to prevent the contamination of covid-19



²⁶ <u>https://www.cdc.gov/coronavirus/2019-ncov/global-covid-19/home-based-care-kit.html</u>

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²⁷ <u>https://www.who.int/westernpacific/emergencies/covid-19/information/covid-19-safe-schools</u>

- Keep yourself and others safe from COVID-19. Protect yourself and those around you:
- ✓ Get vaccinated as soon as it's your turn and follow local guidance on vaccination.
- Keep physical distance of at least 1 meter from others, even if they don't appear to be sick.
- ✓ Avoid crowds and close contact.
- Wear a properly fitted mask when physical distancing is not possible and in poorly ventilated settings.
- ✓ Clean your hands frequently with alcohol-based hand rub or soap and water.
- ✓ Cover your mouth and nose with a bent elbow or tissue when you cough or sneeze.
- ✓ Dispose of used tissues immediately and clean hands regularly.
- ✓ If you develop symptoms or test positive for COVID-19, self-isolate until you recover
- Practice the basics of good hygiene. By following good respiratory hygiene you
 protect the people around you from viruses that cause colds, flu and COVID-19. To
 ensure good hygiene you should:
- Regularly and thoroughly clean your hands with either an alcohol-based hand rub or soap and water.
- Cover your mouth and nose with your bent elbow or a tissue when you cough or sneeze.
- ✓ Dispose of the used tissue immediately into a closed bin and wash your hands.
- Clean and disinfect surfaces frequently, especially those which are regularly touched, such as door handles, faucets and phone screens
- Make your environment safer. The risks of getting COVID-19 are higher in crowded and inadequately ventilated spaces where infected people spend long periods of time together in close proximity. To make your environment as safe as possible:
- ✓ Avoid the 3Cs: spaces that are closed, crowded or involve close contact.
- Meet people outside. Outdoor gatherings are safer than indoor ones, particularly if indoor spaces are small and without outdoor air coming in.
- ✓ If you can't avoid crowded or indoor settings, take these precautions:

Open a window to increase the amount of natural ventilation when indoors.

- 🖶 Wear a mask (see above for more details).
- What to do if you feel unwell

- ✓ If you have a fever, cough and difficulty breathing, seek medical attention immediately.
- ✓ Call by telephone first and follow the directions of your local health authority.
- ✓ Know the full range of symptoms of COVID-19.
- ✓ Stay home and self-isolate for 10 days from symptom onset, plus three days after symptoms cease.
- ✓ Call your health care provider or hotline for advice.
- ✓ Have someone bring you supplies.
- ✓ If you need to leave your house or have someone near you, wear a properly fitted mask to avoid infecting others.
- ✓ Keep up to date on the latest information from trusted sources, such as WHO or your local and national health authorities.
- Local and national authorities and public health units are best placed to advise on what people in your area should be doing to protect themselves.





Study the illustration below and answer questions that follow



13 November 2020

Figure 13: Preventive measures of Covid-19²⁸

Required:

- a) Name the ways Covid-19 is contaminated/spread
- b) Which measures can be taken to prevent the contamination of Covid-19?

²⁸ <u>https://www.who.int/news-room/questions-and-answers/item/coronavirus-disease-covid-19-how-is-it-transmitted</u>

- c) Which tools and equipment can you identify that can be used to prevent the contamination of Covid-19?
- d) How are the tools and equipment identified above in (c) being used to prevent the contamination of Covid-19?
- e) Which of the measures and tools above used to prevent contamination of Covid-19 at your school?

Activity 3: Application



At your school, there has been a health meeting organized by the school health committee of which you are a member. You have been chosen to talk about prevention of Covid-19 contamination to the rest of the school. Make a plan/report of what your speech will be about including:

- a) The ways in which Covid-19 is contaminated/spread
- b) The measures that be taken to prevent the contamination of Covid-19
- c) The tools and equipment that can be used to prevent the contamination of Covid-19
- d) How are the tools and equipment can be used effectively to prevent the contamination of Covid-19

Topic 4.3 Prevention of spreading Covid-19 pandemic



Figure 20: Prevention of spreading Covid-19 pandemic²⁹

²⁹ <u>https://www.nddb.coop/sites/default/files/covid-19/1.jpg</u>

¹⁵³





Task 52: Figure analysis

- 1. Referring to your experience about the Covid-19 pandemic and Figure 20: Prevention of spreading Covid-19 pandemic, answer the following questions
 - a) What measures did you have to follow to prevent the spread of Covid-19?
 - b) What tools and equipment did you use to prevent the spread of Covid-19?
 - c) What topics do you think will be covered under this topic?
- 2. Study the figure below and answer questions that follow



Figure 16: Prevention of contaminantion of Covid-19³⁰

- a) From the illustration mention any preventive measures of the spread Covid-19 you can identify
- b) From the illustration mention any tools and equipment to prevent the spread of Covid-19 you can identify
- c) How can the tools and equipment identified above (b) used to prevent the spread of Covid-19?
- d) How can the measures above in (a) be applied at your school to prevent the spread of Covid-19?

³⁰ <u>https://www.shutterstock.com/image-vector/outline-icons-about-coronavirus-prevention-clean-</u> <u>1701046576</u>

Key Facts 24: Prevention of spreading Covid-19 pandemic

Tools and equipment to prevent the contamination and spread of covid-19

- Face mask
- Hand sanitizer
- Gloves
- Water
- Soap

Measures to avoid the spread of Covid-19

- Community mobilization
- Respect of preventive measures
- Safety of preventive materials
- Systematic screening in public areas
- Vaccination
- Isolation
- Treatment centers





Study the illustration below and answer questions that follow



Figure 13: Preventive measures of Covid-19³¹

Required:

a) Name the ways Covid-19 is spread

³¹ <u>https://www.who.int/news-room/questions-and-answers/item/coronavirus-disease-covid-19-how-is-it-transmitted</u>

- b) Which measures can be taken to prevent the spread of Covid-19?
- c) Which tools and equipment can you identify that can be used to prevent the spread of Covid-19?
- d) How are the tools and equipment identified above in (c) being used to prevent the spread of Covid-19?
- e) Which of the measures and tools above used to prevent spread of Covid-19 at your school?





At your school, there has been a health meeting organized by the school health committee of which you are a member. You have been chosen to talk about prevention of Covid-19 spread to the rest of the school. Make a plan/report of what your speech will be about including:

- a) The ways in which Covid-19 is contaminated/spread
- b) The measures that be taken to prevent the spread of Covid-19
- c) The tools and equipment that can be used to prevent the spread of Covid-19
- d) How are the tools and equipment can be used effectively to prevent the spread of Covid-19



- 1. Describe the signs and symptoms of Covid-19
- 2. Describe the preventive measures of Covid-19 contamination
- 3. Describe the tools and equipment to prevent contamination of Covid-19
- 4. What measures can be used to avoid the spread ofCovid-19?

Points to Remember

Measures to avoid the spread ofCovid-19

- Community mobilization
- Respect of preventive measures
- Safety of preventive materials
- Systematic screening in public areas
- Vaccination
- Isolation
- Treatment centers

Specific measures at school to avoid the contamination of covid-19

- Hand washing
- Temperature measurement
- Stay in school
- Safe games with respect of distancing
- Not exchange school materials
- Stay in your place
- Open windows
- Go straight home after school
- Personal protective equipment
- Stay home if you feel unwell.

Modes of contamination of Covid 19

- Through droplets of water in infected person's respiratory system, if they sneeze, cough
- or touch their nose or mouth, these particles can spread
- Touching infected surfaces then touch their mouth, eyes or nose,
- Contact with infected persons

Signs and symptoms of person with Covid-19

• Coughing

- Sneezing
- Fever
- Pneumonia
- Difficulty breathing
- Kidney failure



1. Fill in and complete the self-assessment table below to assess your level of knowledge, skills and attitudes after the unit.

My experience	l don't	l know	I have	I have a	l am
Knowledge, skills and	have any	a little	some	lot of	confident
attitudes	experience	about	experience	experie	in my
	uonig tins.	uns.	uoning tinis.	this.	do this.
Define Covid-19					
Describe the modes of contamination of Covid-19					
Describe the signs and					
symptoms of person with					
Covid-19					
Describe some important					
information about Covid-19					
Apply the preventive					
measures of Covid-19					
prevention					
Use the tools and					
equipment to prevent the					
contamination of covid-19					
Use tools and equipment to					
prevent the contamination					
of covid-19					
Apply specific measures at					
school to avoid the					
contamination of covid-19					

My experience	I don't	l know	I have	I have a	l am
Knowledge, skills and	experience	about	experience	experie	in my
attitudes	doing this.	this.	doing this.	nce with	ability to
				this.	do this.
Apply World Health					
Organization guidelines to					
prevent the contamination					
of Covid-19					
Use tools and equipment to					
prevent the contamination					
and spread of covid-19					
Apply measures to avoid the					
spread of Covid-19					

2. Fill in the table below and share results with your trainer for further guidance.

Areas of strength	Areas for improvement	Actions to be taken to improve
1.	1.	1.
2.	2.	2.
3.	3.	3.



Figure 7: Make safe situations at Work Place

Unit summary:

This unit describes the knowledge, skills and attitude required to Make safe situations at Work Place. It includes description of unsafe situation at work place; avoiding unsafe situation at work place; identification of hazards at workplaces; addressing of Hazards at workplace together with implementation of control measures to avoid hazard.

Self-Assessment: Unit 5

- **1.** Study the Figure 15: Make safe situations at Work Place and answer the following questions.
 - a. What do you see in the figure?
 - b. What do you think is happening in the figure?
 - c. Do you think the figure reflects the learning unit? Briefly explain your response
 - d. What do you think will be topics to be covered under this unit based on the figure?
- 2. Fill in and complete the self-assessment table below to assess your level of knowledge, skills and attitudes under this unit.

There is no right or wrong ways to answer this assessment. It is for your own reference and self-reflection on the knowledge, skills and attitudes acquisition during the learning process.

Think about yourself: do you think you have the knowledge, skills or attitudes to do this? How well?

Read the statements across the top. Put a check in column that best represents your level of knowledge, skills or attitudes. At the end of this unit, you will assess yourself again.

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	l know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	l am confiden t in my ability to do this.
Describe unsafe situation at work place					
Describe the common types of unsafe working conditions					
Describe the cause of unsafe unhealthy working environment					

My experience	l don't	I know	I have	l have a	l am
Knowledge, skills and	experience	about	experien	experienc	t in my
attitudes	doing this.	this.	ce doing	e with	ability to
			this.	this.	do this.
Describe the technics to identify unsafe situation					
Address unsafe conditions					
Describe the methods of identifying workplace					
hazards in line with occupation					
Describe the types of					
hazards in the workplace					
Identify the characteristics					
of emergency control					
Explain the different					
warning time for					
emergencies					
Describe the different					
phases of an emergency					
Describe the actions related					
to different time and phases					
of an emergency:					
Categorize equipment					
needed in emergencies					
Select Items to survey in					
monitoring the risk or					
hazard					

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	l know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	l am confiden t in my ability to do this.
Apply responsive					
Leadership Style in					
addressing specific problem					
Apply the basics for survival					
and how to maintain them					
in an emergency					
Follow steps in Hierarchy of					
Hazards					

Key Competencies:

Knowl	edge	Skills		Attitu	des
1.	Describe unsafe	1.	Differentiate unsafe	•	Being careful at
	situation at work		from safe situations		workplace
	place		at workplace		
2.	Describe the	2.	Differentiate the	•	Being cautious
	common types of		type of unsafe		about unsafe
	unsafe working		working conditions		working conditions
	conditions				
3.	Describe the cause	3.	Identify an unsafe	•	Being careful at
	of unsafe unhealthy		and unhealthy		workplace
	working		working		
	environment		environment		
4.	Avoid unsafe	4.	Report unsafe work		Being cautious
	situations at		situations		about hazards
	workplace				
5.	Describe hazards at	5.	Differentiate		
	work place		hazards at		
			workplace		
6.	Describe the	6.	Differentiate the		
	common types of		type of hazards		
	hazards				
7.	Avoid unsafe	7.	Report hazards at		
	situations at		the workplace		
	workplace				
8.	Identify the	8.	Categorize		
	characteristics of		equipment needed		
	emergency control		in emergencies		

9. Explain the different	9. Select Items to	
warning time for	survey in	
emergencies	monitoring the risk	
	or hazard	
10. Describe the	10. Apply responsive	
different phases of	Leadership Style in	
an emergency	addressing specific	
	problem	
11. Describe the actions	11. Follow steps in	
related to different	Hierarchy of	
time and phases of	Hazards control	
an emergency:		



Task 55: Figure analysis

Study the figure below and answer questions that follow.



- 1) What do you see in the figure?
- 2) Do you think this a safe workplace? Explain your response
- 3) What things do you think make this workplace unsafe?
- 4) What do you think can be done to make the workplace safe?
- 5) What do you think will be covered under this topic?

Topic 5.1 Description of and avoiding unsafe situation at work

place

Activity 1: Problem Solving

Task 56: Figure analysis

Study the illustration below about a workplace situation and answer questions that follow



- 1. Describe the situation at the workplace illustrated. Is it safe or unsafe?
- 2. What do you think is the meaning of unsafe situation at work place?
- 3. Mention some of unsafe working conditions illustrated above
- 4. How can the above mentioned unsafe working conditions be avoided?
- 5. What are the causes of the unsafe unhealthy working environment above?

Key Facts 25: Description of unsafe situation at work place

Meaning of unsafe situation at workplace

Unsafe situations- are situations at the workplace that have potential to cause injury or death to an employee.

Identification of an unsafe situation at the workplace

To identify an unsafe situation at workplace, use the following questions.

- What materials or situations do I come into contact with?
 - ✓ electricity
 - ✓ Chemicals (liquids, gases, solids, mists, vapors, etc.)
 - ✓ temperature extremes of heat or cold (e.g., bakeries, foundries, meat processing)
 - ✓ ionizing/non-ionizing radiation (e.g., x-rays, ultraviolet (sun) rays)
 - ✓ oxygen deficiency
 - ✓ water
- What materials or equipment could I be struck by?
 - ✓ moving objects (e.g., forklifts, overhead cranes, vehicles)
 - ✓ flying objects (e.g., sparks or shards from grinding)
 - ✓ falling material (e.g., equipment from above)
- What objects or equipment could I strike or hit my body upon, or that part of my body might be caught in, on, or between?
 - ✓ stationary or moving objects
 - ✓ protruding objects
 - ✓ sharp or jagged edges
 - ✓ pinch points on machines (places where parts are very close together)
 - ✓ objects that stick out (protrude)
 - ✓ Moving objects (conveyors, chains, belts, ropes, etc.)
- What could I fall from? (e.g., falls to lower levels)
 - ✓ objects, structures, tanks, silos, lofts
 - ✓ ladders, overhead walkways
 - ✓ roofs
 - ✓ trees, cliffs
- What could I slip or trip on? (e.g., falls on same level)
 - ✓ obstructions on floor, stairs
- ✓ surface issues (wet, oily, icy)
- ✓ footwear that is in poor condition
- How could I overexert myself?
 - ✓ lifting
 - ✓ pulling
 - ✓ pushing
 - ✓ carrying
 - ✓ repetitive motions
- What other situations could I come across?
 - ✓ unknown/unauthorized people in area
 - ✓ a potentially violent situation
 - ✓ working alone
 - ✓ confined space
 - ✓ missing/damaged materials
 - ✓ new equipment/procedure at work site
 - ✓ fire/explosion
 - ✓ chemical spill or release

Unsafe unhealthy situation at workplace

- Ineffective or negative communication,
- Unprofessional or dishonest behavior,
- Punitive practices or policies and/or strained relationships between employees and office leadership.

Cause of unsafe unhealthy working environment

- Lack of recognition,
- Favoritism
- Allocating tasks to staff or contractors without checking their competence
- Failure to supply or use adequate safety equipment and PPE
- Unhealthy communication
- Gossiping

Addressing unsafe conditions at the workplace

- Stop and take the time to evaluate your work area and work task.
- Recognize unsafe conditions or what can possibly turn into one.

- Take action to immediately correct the condition if possible.
- Stop work and involve other personnel to have the condition corrected if the situation requires you to do so.
- Follow through to ensure any hazards you identified are properly mitigated.
- Continue to evaluate your work area throughout the workday for possible new hazards.



Task 57: Figure analysis

Study the illustration below and answer questions that follow



Required:

- a) Which workplace is illustrated above?
- b) Describe the above situation at workplace
- c) Do you think it is a safe workplace?

- d) Try and find as much as many situations in the illustration that make the workplace unsafe and circle and name them
- e) What makes these particular situations unsafe?
- f) Do you think there is a healthy work environment at the workplace above? Support your answers
- g) How can the above workplace be made safer?

Activity 3: Application

Task 58: Workplace Observation activity

Visit a local workplace or your school kitchen. Your job is to observe as many different types of unsafe situations at the workplace as you can see present. After make a workplace observation report which should include:

- a) List of all unsafe situations identified
- b) What made the situation unsafe
- c) Suggestions to make the workplace safer
- d) Working environment among workers
- e) Causes of the working environment observed

Topic 5.2 Identification of hazards at workplaces



Task 59:

- 1. Think of any workplace situation you have been to, or at school, or at home.
 - a) How do people get hurt in the workplace identified?
 - b) What happens when people get hurt?
 - c) Are there any warnings in the workplace against potential danger or injury?
 - d) What do you think will be covered under this topic?



2. Study the illustration below and answer the questions that follow

Required:

- a) What do you understand by a 'Hazard' at a workplace?
- b) Name any hazards you see in the illustration
- c) Name and briefly explain the types of workplace hazards.
- Below is a list of things/situations that can be a source of potential damage, harm or adverse health effects on something or someone. Group them according to type of hazard by completing the table below.

Hot surfaces • Cleaning products • Viruses • Noise • Slippery floors • Pesticides
Bacteria • Vibration • Unsafe ladders • Solvents • Molds • Radiation
Machines without protection • Acids • Animals • Heat or cold • Sharp knives
Mill dust (cassava, millet...) • Birds • Repetitive movements • Hot grease • Lead
Insects • Awkward posture • Unsafe electric circuits • Ozone • Snakes • Heavy lifting
Lack of fire exits • Machines without protection • Poisonous plants • Fast pace of work • Motor vehicles • Wood dust • Used needles • Harassment (including sexual harassment) • Cluttered work areas and pathways • Mercury • Stress • Falling objects
Poor air quality • Areas too dark or too bright • Gasoline • Violence

Types of hazards					
Safety Hazards	Chemical Hazards	Biological Hazards	Other Health Hazards		

4. How can the different types of hazards be identified at a workplace?

Key Facts 26: Identification of hazards at workplaces.

A hazard is any source of potential damage, harm or adverse health effects on something or someone

Hazard identification is part of the process used to evaluate if any particular situation, item, thing, etc. may have the potential to cause harm.

Hazard identification can be done:

- During design and implementation
 - ✓ Designing a new process or procedure
 - ✓ Purchasing and installing new machinery
- Before tasks are done
 - ✓ Checking equipment or following processes
 - ✓ Reviewing surroundings before each shift
- While tasks are being done
 - ✓ Be aware of changes, abnormal conditions, or sudden emissions
- During inspections
 - ✓ Formal, informal, supervisor, health and safety committee
- After incidents
 - ✓ Near misses or minor events
 - ✓ Injuries

To be sure that all hazards are found:

- Look at all aspects of the work and include non-routine activities such as maintenance, repair, or cleaning.
- Look at the physical work environment, equipment, materials, products, etc. that are used.
- Include how the tasks are done.
- Look at injury and incident records.
- Talk to the workers: they know their job and its hazards best.
- Include all shifts, and people who work off site either at home, on other job sites, drivers, teleworkers, with clients, etc.

- Look at the way the work is organized or done (include experience of people doing the work, systems being used, etc.).
- Look at foreseeable unusual conditions (for example: possible impact on hazard control procedures that may be unavailable in an emergency situation, power outage, etc.).
- Determine whether a product, machine or equipment can be intentionally or unintentionally changed (e.g., a safety guard that could be removed).
- Review all of the phases of the lifecycle.
- Examine risks to visitors or the public.
- Consider the groups of people that may have a different level of risk such as young or inexperienced workers, persons with disabilities, or new or expectant mothers.

Types of hazards



A common way to classify hazards is by category:

- biological bacteria, viruses, insects, plants, birds, animals, and humans, etc.,
- chemical depends on the physical, chemical and toxic properties of the chemical,
- ergonomic repetitive movements, improper set up of workstation, etc.,
- physical radiation, magnetic fields, temperature extremes, pressure extremes (high pressure or vacuum), noise, etc.,
- psychosocial stress, violence, etc.,
- **Safety** slipping/tripping hazards, inappropriate machine guarding, equipment malfunctions or breakdowns.

Types of hazards					
Safety Hazards Chemical Hazards Biological Hazards Other Health Hazards Hazards					
Hot surfaces	Cleaning products	Viruses	Noise		
Slippery floors	Pesticides	Bacteria	Vibration		
Unsafe ladders	Solvents	Molds	Radiation		

Machines without protection	Acids	Animals	Heat or cold
Sharp knives	Mill dust (cassava, millet)	Birds	Repetitive movements
Hot grease	Lead	Insects	Awkward posture
Unsafe electric circuits	Ozone	Snakes	Heavy lifting
Lack of fire exits	Machines without protection	Poisonous plants	Fast pace of work
Motor vehicles	Wood dust	Used needles	Harassment (including sexual harassment)
Cluttered work areas and pathways	Mercury		Stress
Falling objects	Poor air quality		Areas too dark or too bright
	Gasoline		Violence



Task 60: Workplace analysis

Study the illustration below and answer questions that follow



- a) Which workplace is illustrated above?
- b) Describe the above situation at workplace
- c) Do you think it is a safe workplace?

- d) Try and find as much as many hazards in the illustration that make the workplace unsafe and circle and name them
- e) Group the hazards identified above according to types.



Task 61: Workplace Observation activity

Visit a local workplace or your school kitchen. Your job is to observe as many different hazards at the workplace as you can see present. After make a workplace observation report which should include:

- a) List of all hazards identified
- b) Hazards according to the types

Topic 5.3 Addressing of Hazards at workplace



Task 62: Figure analysis

- 1. Refer to any workplace you have visited or worked in. it can be your school canteen or kitchen.
 - a) How do they address or handle hazards?
 - b) What control measures are used?
 - c) What do you think will be covered under this topic?
- 2. Study the illustration below and answer questions that follow

- a) Identify the potential hazards in the illustration
- b) What are some of the safety measures in the illustration that were used to address the potential hazards?
- c) How can the hazards identified be controlled?

Key Facts 27:Addressing of Hazards at workplace

Managing hazards at work place

The best way to prevent injuries or illness in your workplace is to find the hazards that could cause injury or illness, and fix them, by following four simple steps:

• Spot the Hazard

The first step in ensuring a safe workplace is to identify hazards which can be done though:

- ✓ ask workers and contractors in your workplace about any hazards they may have noticed
- ✓ look at the physical structure of your workplace: for example, stairs, desks, floor surfaces, exits, driveways
- ✓ check all machinery, appliances and vehicles used for work
- ✓ examine how substances are stored, used and moved from one place to another
- ✓ review your injury records, including 'near misses'
- ✓ review information from designers, manufacturers or suppliers of the equipment and substances in your workplace.

• Assess the Risk of the hazard

A risk is the likelihood of a hazard causing injury, illness or damage to your health.

To assess the risk associated with each hazard, ask these questions:

- ✓ How severe could an injury or illness be?
- ✓ What's the worst possible damage the hazard could cause to someone's health?
- Would it require simple first aid only? Or cause permanent ill health or disability?
 Or could it kill?
- ✓ Could it happen at any time or would it be a rare event?
- ✓ How often are workers exposed to the hazard?
- Fix the Problem

You should always aim to remove a hazard completely from your workplace. Fix the hazard by:

✓ **Eliminate the hazard**. Remove it completely from your workplace. For example:

+ repair damaged equipment;

Outsource processes involving hazardous chemicals or equipment to a company set up to manage them safely.

✓ **Substitute the hazard.** Replace it with a safer alternative. For example:

🖊 use a less toxic chemical;

🖶 Lift smaller packages.

✓ **Isolate the hazard.** Keep it away from workers as much as possible. For example:

relocate photocopiers to separate, ventilated rooms;

install barriers to restrict access to hazardous work areas.

 Use engineering controls. Adapt tools or equipment to reduce the risk. For example:

place guards on dangerous parts of machinery;

use a trolley for moving heavy loads.

✓ Use administrative controls. Change work practices and organization. For example,

rotate jobs to reduce the time spent on any single work task;

train staff in safe work procedures;

carry out routine maintenance of equipment.

✓ Use personal protective equipment (PPE). For example:

use hearing/eye protection equipment, hard hats, gloves and masks;

train staff to use PPE correctly.

• Evaluate Results

After fixing the problem, find out whether the changes have been effective.

- ✓ Get feedback from those affected by the changes and include them in any modifications to their workplace or work routines.
- ✓ Look at your incident records to see if numbers are going down.
- ✓ Make sure your solution does not introduce new hazards.
- ✓ Maybe you and your workers can even see more ways to make further improvements.
- ✓ Set a date to re-assess the risk.
- ✓ Choose a timeframe appropriate to the task and the risk involved.
- ✓ If the work process changes, or new equipment is introduced to a task, then the risk assessment must be reviewed.
- During each of these four steps, employers, managers, contractors and workers need to communicate with each other and work together.

Responsive Leadership Style in addressing specific problem:

- Attitude of Open Communication
- Availability
- Awareness of Reactions
- Acknowledgment of loss
- Appreciation of efforts

Control measures minimize or eliminate hazards or separate hazards from workers.

The 5 levels of the risk control hierarchy are the following: (ordered from most effective solutions to least effective solutions)

- Elimination (most effective)
- Substitution
- Engineering controls
- Administrative controls
- Personal protective equipment (least effective)³²



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https://commons.wikimedia.org/wiki/File:NIOSH%E2%80%99s %E2%80%9CHierarchy of Controls infographi c%E2%80%9D as SVG.svg



Task 63: Analysis of Scenario

Read the scenario below and answer the questions that follow



Alphonsine is a 17-year-old dishwasher in a restaurant kitchen. To clean cooking pans, she soaks them in a powerful chemical solution. She uses no gloves to protect her hands and arms. One day, as Marie was lifting three large pans out of the sink at once, they slipped out of her hands and back into the sink. The cleaning solution splashed all over the side of her face and got into her right eye. She was blinded in that eye for two weeks. What solutions can you think of that might prevent this injury from happening again?

- a) What potential hazards are identified above? Give reasons to support your response
- b) How can these hazards be addressed or handled?



Task 64: Workplace Observation activity

Visit a local workplace or your school kitchen. Your job is to observe as many different hazards at the workplace as you can see present. After make a workplace observation report which should include:

- a) List of all hazards identified
- b) Hazards according to the types
- c) The control measures applied to address hazards



- 1. Briefly explain the causes of unsafe situations at the workplace
- 2. How can unsafe situations be avoided at a workplace?
- 3. Name and briefly describe the types of hazards you know at a workplace
- 4. What control measures can be used to address the hazards in the workplace?



- It is better to prevent risks than to manage accidents.
- Health and safety for workers is the key.
- The hierarchy of risk control provides a framework for finding solutions to risks.
- Comply with all safety rules.
- Report all unsafe acts or conditions to your supervisor.
- Encourage fellow employees to work safely.
- Use Personal Protective Equipment that is the correct PPE for a specific hazard.
- Comply with all safety rules.
- Report all unsafe acts or conditions to your supervisor.
- Encourage fellow employees to work safely.
- Use Personal Protective Equipment that is the correct PPE for a specific hazard.



1. Fill in and complete the self-assessment table below to assess your level of knowledge, skills and attitudes after the unit.

My experience	l don't	I know	I have	I have a	l am
Knowledge, skills and attitudes	have any experience doing this.	a little about this.	some experien ce doing	lot of experienc e with	confiden t in my ability to
			this.	this.	do this.
Describe unsafe situation at work place					
Describe the common types of unsafe working conditions					
Describe the cause of unsafe unhealthy working environment					
Describe the technics to identify unsafe situation					
Address unsafe conditions					
Describe the methods of identifying workplace hazards in line with occupation					
Describe the types of hazards in the workplace					
Identify the characteristics of emergency control					

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	l know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	l am confiden t in my ability to do this.
Explain the different warning time for emergencies					
Describe the different phases of an emergency					
Describe the actions related to different time and phases of an emergency:					
Categorize equipment needed in emergencies					
Select Items to survey in monitoring the risk or hazard					
Apply responsive Leadership Style in addressing specific problem					
Apply the basics for survival and how to maintain them in an emergency					
Follow steps in Hierarchy of Hazards					

2. Fill in the table below and share results with your trainer for further guidance.

Areas of strength	Areas for improvement	Actions to be taken to improve
1.	1.	1.
2.	2.	2.
3.	3.	3.

UNIT 6: RESPOND TO EMERGENCIES AT WORKPLACE



Figure 8: Respond to emergencies at workplace³³

Unit summary:

This unit describes the knowledge, skills and attitude required to Respond to emergencies at workplace. It includes recognizing emergency situations, handling emergencies, and managing safety equipment

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³³<u>https://www.binaryplustraining.co.uk/index.php/public-course/course/faw-0421-01</u>

Self-Assessment: Unit 6

- Study the Figure 18: Respond to emergencies at workplace and answer the following questions.
- a. What do you see in the figure?
- b. What do you think is happening in the figure?
- c. Do you think the figure reflects the learning unit? Briefly explain your response
- d. What do you think will be topics to be covered under this unit based on the figure?
- 2. Fill in and complete the self-assessment table below to assess your level of knowledge, skills and attitudes under this unit.

There is no right or wrong ways to answer this assessment. It is for your own reference and self-reflection on the knowledge, skills and attitudes acquisition during the learning process.

Think about yourself: do you think you have the knowledge, skills or attitudes to do this? How well?

Read the statements across the top. Put a check in column that best represents your level of knowledge, skills or attitudes. At the end of this unit, you will assess yourself again.

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	l know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	l am confiden t in my ability to do this.
Common types of					
emergencies					
Importance of emergencies					
identification					
Signs of Critical Event					
Possible Immediate					
Reactions					

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	l know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	l am confiden t in my ability to do this.
Guidelines of an emergency protocol					
Chain of command and their responsibilities					
Principles of Early Intervention					
Response to the Emergency					
Identify Safety Equipment.					
Safety equipment handling					

Key Competencies:

Knowledge	Skills	Attitudes
1. Describe the	1. Respond to	 Respond
common types of	emergencies	appropriately to
emergencies		emergences
2. Describe the	2. Identify	 Proactive in
importance of	emergencies in the	identifying
emergencies	workplace	emergencies in the
identification		workplace
3. Describe the signs	3. Interpret signs of	 Act appropriately
of Critical Event	critical event	following signs of
		critical event
4. Describe the	4. React appropriately	
possible Immediate	to emergences	
Reactions		
5. Describe guidelines	5. Follow guidelines of	
of an emergency	an emergency	
protocol	protocol	
6. Describe the	6. Respond	
principles of Early	appropriately to	
Intervention	emergences	
7. Respond to the	7. Follow the	
Emergency	principles of early	
	interventions	
8. Identify Safety	8. Differentiate safety	
Equipment	equipment	
9. Handle Safety	9. Handle safety	
equipment	equipment properly	
	10. Take care of safety	
	equipment	



Task 65: Reflection activity

- 1. What do you think qualifies an emergency in the workplace?
- 2. Can you give some examples of emergency situations you know or have encountered?
- 3. Referring to any emergency situation you have ever experienced either at work or elsewhere?
 - a. What was the situation?
 - b. How did you respond?
 - c. What was the outcome?
- 4. What do you think will be covered under this topic?

Topic 6.1: Recognize Emergency Situations



Task 66: Figure analysis

Study the illustration below and answer the questions that follow.



- 1. What do you think is the emergency above?
- 2. Why do you think is important for the friend to have identified the emergency above?
- 3. How do you think the person above reacted in the emergency situation above?
- 4. identify

Key Facts 28: Recognize Emergency Situations

An emergency is any unplanned event that threatens employees, customers, or the public;

that shuts down business operations; or that causes physical or environmental damage.

Common types of emergencies:

- Serious injuries,
- Explosion,
- Flood,
- Poisoning,
- Electrocution,
- Fire,
- Release of radioactivity and
- Chemical spills.
- Medical emergencies
- Severe weather
- Earthquakes
- Major power failure
- Hazardous material spill

Importance of emergencies identification

- Keep employees and responders free from harm
- Manage life-threatening situations
- Minimize damage to the environment, equipment, machinery, tools, etc.
- Prevent fatalities and injuries.
- Reduce damage to buildings, stock, and equipment.
- Protect the environment and the community.
- Accelerate the resumption of normal operations.
- Save lives and reduce injury. Knowing the proper protective actions to take enables people to reduce their risk.
- Protect property and the environment. Understanding how to mitigate risk to property and the environment may lessen the damage inflicted by disasters.
- Facilitate the tactical response by calming fears and managing expectations. People who know what to expect are more likely to follow instructions and allow responders to do their jobs.

- Educate, inform, and change behavior and attitudes. An educated public is more likely to prepare for emergencies and be ready when they occur.
- Seek the public's cooperation. Whether the need is for volunteers to help with sand bagging, citizens to cooperate with investigators, or residents to evacuate their homes, public information is an instrument that can help make it happen.
- Instill public confidence. Providing timely, accurate, and understandable information builds confidence in emergency management's competence.
- Provide information to help families reunite. Public information about shelter message boards, hotlines, survivor registries, and other linkages can help reunite families and enable them to move forward with their recovery.

Steps taken in an emergency include:

- Follow any emergency procedures that you have put in place
- Contact the appropriate emergency services
- If evacuating, do so in an orderly and calm manner. Take a first aid kit. Ensure everyone is accounted for.
- Check in with the people who are on your emergency contact lists
- Be aware of any risks that the emergency situation is posing
- Follow the directions of law enforcement or other first responders.

Signs and Symptoms of Critical Incident Stress

After a critical incident, people are likely to experience one or more of the following:

- Exhaustion
- Nausea/vomiting
- Weakness
- Difficulty breathing
- Chest pains
- Rapid heart rate
- Headaches
- Dry mouth/always thirsty
- Elevated blood pressure
- Fainting/dizziness
- Exacerbation of allergy problems
- Symptoms of shock

Possible Immediate Reactions:

- Physical reaction
 - ✓ First aid treatment,
 - ✓ Call form help,
 - ✓ Take the patient emergently to hospital
- Emotional reaction
 - ✓ Personal counseling,
 - ✓ Stay close with the patient







Patrick is 18 years old. He is very proud to have gotten a job working as a waiter in a hotel restaurant. One day he slipped on some stairs while carrying a bowl of soup. He tried to stop his fall but burned his arm and a customer's back in the process. He also injured his back when

he hit the stairs. What solutions can you think of that might prevent this injury from happening again?

- 1. What kind of emergency situation is in the scenario?
- 2. What steps would you follow to handle the emergency?
- 3. What would be the immediate reaction for the emergency?

Activity 3: Application



You have been invited to talk about "how to respond to emergencies" to a group 'IRONDO RY'UMWUGA' in your village. Make a report of what your speech about and include:

- a) The common types of emergences they will deal with
- b) Importance of identifying emergences
- c) Steps to be taken in case of an emergency
- d) Possible signs and symptoms of victims in case of an emergency
- e) Possible immediate reactions in case of emergences

Topic 6.2 Handling emergencies



Figure 9: Handling Emergences

- 1. Study the Figure 16: Handling Emergences and answer the following questions:
 - a) What do you see in the figure?
 - b) Where have you seen such illustration?
 - c) What is the purpose of the illustration in workplace?
 - d) What topics do you think will be covered under this topic?
- 2. Referring to any emergency situation you have experienced in a workplace or elsewhere, answer the following questions.
 - a) What steps were taken to handle emergencies?
 - b) What are the guidelines followed in an emergency protocol
 - c) What are the principles of an early intervention in case of an emergency?
 - d) How would handle the following emergency situations:
 - a. Earthquakes
 - b. Major power failures
 - c. Hazardous material spill

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Key Facts 29: Handling emergencies

An emergency can happen with no warning, so the best thing your company can do is be prepared. When an emergency situation unfolds in your workplace, your immediate priority should be the safety of your employees.

Steps you need to take in an emergency include:

- Follow any emergency procedures that you have put in place
- Contact the appropriate emergency services
- If evacuating, do so in an orderly and calm manner. Take a first aid kit. Ensure everyone is accounted for.
- Check in with the people who are on your emergency contact lists
- Be aware of any risks that the emergency situation is posing
- Follow the directions of law enforcement or other first responders.

Guidelines of an emergency protocol:³⁴

- **Prevention.** Actions taken to avoid an incident. Stopping an incident from occurring.
- **Mitigation.** Refers to measures that prevent an emergency, reduce the chance of

emergency an happening, or reduce the damaging effects of unavoidable

emergencies.

- Preparedness. Activities increase a community's ability to respond when a disaster occurs.
- Response. Actions carried out immediately before, during, and immediately after а hazard impact, which



³⁴ https://www.stlouis-mo.gov/government/departments/public-safety/emergencymanagement/about/Steps-of-Emergency-Management.cfm

• **Recovery.** Actions taken to return a community to normal or near-normal conditions, including the restoration of basic services and the repair of physical, social and economic damages.

Principles of Early Intervention:

- **Remain Calm.** You are only able to respond to an emergency situation if you are in a stable and calm state of mind.
- Move to a Safe Location. It is very important to move yourself and others to a safe location to avoid further damage to life and property.
- **Provide First Aid.** Determine if you or others have received injuries that require first aid treatment.
- Ask for Help. As soon as you have provided first aid, call 911 and give them as precise information as possible about the situation.
- **Communicate with the Victims.** Until the rescuers arrive, communicate with those wounded to help them divert their attention from pain and stay hopeful about their recovery.
- Convey Accurate Information. When the rescuers arrive, focus on providing them as accurate information as possible to help them figure out the right treatment for the victims.
- **Document Your Progress.** Note down details of how you responded to the emergency situation so that you are able to react even better in the future.

Response to the Emergency

Earthquakes³⁵

- DROP down onto your hands and knees before the earthquake knocks you down.
- COVER your head and neck (and your entire body if possible) underneath a sturdy table or desk.
- HOLD ON to your shelter (or to your head and neck) until the shaking stops.
- DO NOT run outside or to other rooms during an earthquake. You are less likely to be injured if you stay where you are.

³⁵ <u>https://www.cdc.gov/disasters/earthquakes/during.html</u>

- If possible, within the few seconds before shaking intensifies, quickly move away from glass, hanging objects, bookcases, china cabinets, or other large furniture that could fall.
- If available nearby, grab something to shield your head and face from falling debris and broken glass.
- If you are in the kitchen, quickly turn off the stove and take cover at the first sign of shaking.
- If you are in bed, hold on and stay there, protecting your head with a pillow. You are less likely to be injured staying where you are.
- DO NOT stand in a doorway. You are safer under a table.
- Move away from windows and outside walls.
- Stay in the building.
- DO NOT use the elevators. The electricity may go out, and the sprinkler systems may come on.
- If you are trapped, stay calm. Try to get someone's attention by tapping on hard or metal parts of the structure. Doing so may increase your chances of being rescued.
- Move away from display shelves containing objects that may fall.
- If you can, take cover and grab something to shield your head and face from falling debris and glass.
- Move away from buildings, utility wires, sinkholes, and fuel and gas lines. The greatest danger from falling debris is just outside doorways and close to outer walls of buildings.
- Go to an open area away from trees, telephone poles, and buildings. Once in the open, get down low and stay there until the shaking stops.
- Turn on the radio for emergency broadcast information.
- If a power line falls on the car, stay inside until a trained person removes the wire.
- When it is safe to begin driving again, watch for hazards created by the earthquake, such as breaks in the pavement, downed utility poles and wires, rising water levels, fallen overpasses, or collapsed bridges.
- If you are in a stadium or theater, stay in your seat. Protect your head and neck with your arms or any way possible.
- Do not leave until the shaking is over.

- If you are in a wheelchair, lock your wheels. Remove any items that are not securely attached to the wheelchair.
- Protect your head and neck with a large book, a pillow, or your arms. The goal is to prevent injuries from falling down or from objects that might fall or be thrown at you.
- If you are unable to move from a bed or chair, protect yourself from falling objects by covering up with blankets and pillows.

Major power failures

- Turn off or disconnect appliances, equipment, or electronics. Keep them turned off until 20 minutes after power has been restored.
- Leave one light turned on so you will know when power is restored.
- Disconnect appliances and electronics to avoid damage from electrical surges

Hazardous material spill

- **RESCUE** -Evacuate the spill area.
 - ✓ Provide assistance including the use of safety showers and eyewashes.
 - ✓ Seek emergency medical assistance once properly decontaminated.
- **CONFINE** -Confine the spill area by closing the nearest doors to the spill area.
 - Isolate contaminated persons and do not allow them to leave or spread the contamination.
 - ✓ Cover drains to prevent spills from entering the environment.
- **REPORT** Immediately report the spill to the appropriate emergency response office as specified in the material specific spill cleanup procedures.
- **SECURE** -Secure the area until emergency response personnel arrive to ensure no one enters the spill area.
- **CLEANUP** Cleanup must only be conducted by qualified personnel with the appropriate training, protective equipment and cleanup materials.



³⁶ <u>https://www.safety.uwa.edu.au/incidents-injuries-emergency/procedures</u>





Study the following scenario and answer the questions that follow.



Safari was helping unload a big truck that supplies cement to the local area. He was under a lot of pressure from the boss to get the truck unloaded quickly. When he picked up one large and heavy sack, he slipped and fell. He tried to keep his balance so that he wouldn't drop the sack. He felt a very sharp pain in his lower back. He kept working because he was embarrassed to let anyone know how much he was hurting. The next day he couldn't come to work, he was in so much pain. He lost 5 days of work and his back still hurts. What solutions can you think of that might prevent this injury from happening again?

- a) What is the emergency in the scenario?
- b) What caused the emergency?
- c) Which guidelines of an emergency protocol should be followed?
- d) What early interventions could have been followed?
- e) What steps should have been taken in the emergency above?





You have been invited to talk about "handling emergencies" to a group 'IRONDO RY'UMUGA' in your village. Make a report of what your speech about and include: The common types of emergences they will deal with

- a) Guidelines of an emergency protocol
- b) Principles of Early Intervention
- c) Guidelines of an emergency protocol
- d) Steps you need to take in an emergency
Topic 6.3 Managing safety equipment



Task 72: Analysis of figures

- 1. Name any equipment used in handling emergency situations
- 2. How are the equipment mentioned above handled during an emergency situation?
- 3. What do you think will be covered under this topic?
- 4. Study the illustrations below and answer questions that follow.



- a) Name the safety equipment above (A to F)
- b) What is the purpose of the safety equipment identified above?
- c) How are the safety equipment above handled in an emergency?

Key Facts 30: Managing safety equipment

Identify Safety Equipment.

- Fire extinguisher
- Fire hose
- Fire blanket
- First aid kit
- Fire triangle
- Water fire extinguisher

Safety equipment handling:

• Fire extinguisher



SQUEEZE

NEEP

While the specifics may vary depending on the model you own, most fire extinguishers operate the same basic way. Stand six to eight feet away from the fire and remember to **PASS**:

1. Pull the pin at the top to break the tamper seal.

2. Aim the extinguisher low, pointing the nozzle at the base of the fire. Do not aim at the flames themselves.

 Squeeze the handle to release the extinguishing agent.

4. Sweep the extinguisher from side to side, continuing to aim at the base of the fire until it appears to be out.

- Fire horse
 - ✓ Grasp the nozzle and pull the load partially out of the hose bed.
 - ✓ Pull loops down. Grab nozzle and place one arm through each loop
 - ✓ Walk away from the apparatus, pulling the hose out of the bed.
 - ✓ Keep loops on shoulders until one pulls taut, drop it off shoulder.
 - ✓ Flake out hose. If entering a structure, flake hose in line with entry point (not perpendicular).
- Fire blanket
 - ✓ Turn off the heat source if it is safe to do so
 - \checkmark Pull the tapes to release the fire blanket from its box
 - ✓ Hold the blanket in a shield position and, if possible, wrap the blanket around your hands for protection
 - ✓ Place the fire blanket over the fire to smother the blaze
 - Leave it to cool completely and ensure the fire is fully extinguished, with no chance of it reigniting
- First aid kit
 - ✓ Combining dressing pads cover and pack bleeding wounds
 - ✓ Use of non-adherent dressings to cover up wounds and burns
 - ✓ Use of crepe bandages to provide support for sprains and strains
 - ✓ Shock blankets to help manage body temperature
 - ✓ Use of sterile saline tubes to clean minor cuts and grazes
- Fire triangle
 - ✓ Remove fuel
 - ✓ Remove heat
 - ✓ Remove oxygen





- 1. Name and briefly describe safety equipment that can be used to handle emergences
- 2. How should the above safety equipment be handled?





You have been invited to talk about "management of safety equipment for emergences" to a group 'IRONDO RY'UMWUGA' in your village. Make a report of what your speech about and include:

The common types of emergences they will deal with

- a) The safety equipment needed in an emergency situation
- b) How to handle the safety equipment identified?



- 1. Name the common types of emergences
- 2. Give the importance of identifying emergences
- 3. Name any safety equipment used during emergence situations
- 4. Mention the possible signs and symptoms of victims in case of an emergency



An emergency is any unplanned event that threatens employees, customers, or the public; that shuts down business operations; or that causes physical or environmental damage.

- Common types of emergencies:
- Serious injuries,
- Explosion,
- Flood,
- Poisoning,
- Electrocution,
- Fire,
- Release of radioactivity and
- Chemical spills.
- Medical emergencies
- Severe weather
- Earthquakes
- Major power failure
- Hazardous material spill
- Principles of Early Intervention:
- Remain Calm. You are only able to respond to an emergency situation if you are in a stable and calm state of mind.
- Move to a Safe Location. It is very important to move yourself and others to a safe location to avoid further damage to life and property.
- Provide First Aid. Determine if you or others have received injuries that require first aid treatment.
- ✓ Ask for Help. As soon as you have provided first aid, call 911 and give them as precise information as possible about the situation.
- Communicate with the Victims. Until the rescuers arrive, communicate with those wounded to help them divert their attention from pain and stay hopeful about their recovery.

- Convey Accurate Information. When the rescuers arrive, focus on providing them as accurate information as possible to help them figure out the right treatment for the victims.
- ✓ Document Your Progress. Note down details of how you responded to the emergency situation so that you are able to react even better in the future



1. Fill in and complete the self-assessment table below to assess your level of knowledge, skills and attitudes after the unit.

My experience	l don't	I know	I have	I have a	l am
Knowledge, skills and attitudes	have any experience doing this.	a little about this.	some experien ce doing	lot of experienc e with	confiden t in my ability to
			unis.	unis.	do this.
Common types of emergencies					
Importance of emergencies					
identification					
Signs of Critical Event					
Possible Immediate					
Reactions					
Guidelines of an emergency protocol					
Chain of command and their					
responsibilities					
Principles of Early					
Intervention					
Response to the Emergency					
Identify Safety Equipment.					
Safety equipment handling					

2. Fill in the table below and share results with your trainer for further guidance.

Areas of strength	Areas for improvement	Actions to be taken to improve
1.	1.	1.
2.	2.	2.
3.	3.	3.



Figure 10: Ensure environmental sustainability³⁷

Unit summary:

This unit describes the knowledge, skills and attitude required to ensure environmental sustainability. It includes identification of environmental laws, standards and regulations in Rwanda; application of the best practices to keep the environment clean; and description of climate change adaptation and mitigation measures.

³⁷ <u>http://www.techstartupschool.com/training/business-idea-generation-training-course.html</u>

Self-Assessment: Unit 7

- **1.** Study the Figure 17: Ensure environmental sustainability and answer the following questions.
 - a. What do you see in the figure?
 - b. What do you think is happening in the figure?
 - c. Do you think the figure reflects the learning unit? Briefly explain your response
 - d. What do you think will be topics to be covered under this unit based on the figure?
- 2. Fill in and complete the self-assessment table below to assess your level of knowledge, skills and attitudes under this unit.

There is no right or wrong ways to answer this assessment. It is for your own reference and self-reflection on the knowledge, skills and attitudes acquisition during the learning process.

Think about yourself: do you think you have the knowledge, skills or attitudes to do this? How well?

Read the statements across the top. Put a check in column that best represents your level of knowledge, skills or attitudes. At the end of this unit, you will assess yourself again.

My experience Knowledge, skills and attitudes	I don't have any experience	l know a little about	l have some experien	I have a lot of experienc	l am confiden t in my
	doing this.	this.	ce doing	e with	ability to
			uns.	uns.	uo tins.
Describe Rwanda's					
environmental features					
Describe Rwanda's					
Environmental problems					
Describe the Fundamental					
principles of protection,					
conservation and					

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	l know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	l am confiden t in my ability to do this.
promotion of the environment in Rwanda					
Describe the categories of waste					
Describe the best practices according to the case					
Describe the basics of geography climate components					
Describe the climate factors					
Describe the basics of hydro-geography					
Describe the concept of Climate Change Causes					
Describe the concept of climate change effects					
Suggest measures for mitigation and adaptation					

Key Competencies:

Knowledge	Skills		Attitudes
1. Describe Rwanda's	1.	Identify Rwanda's	 Be critical while
environmental features		environmental	identifying
		features	business
			opportunities
2. Describe Rwanda's	2.	Identify Rwanda's	 Being analytical
Environmental problems		environmental	in identification
		problems	of business
			opportunities
3. Describe the Fundamental	3.	Assess business	 Being analytical
principles of protection,		idea to come up	while perform
conservation and		with business	the study
promotion of the		opportunity	
environment in Rwanda			
4. Define a business	4.	Follow steps in	
opportunity		identifying	
		business	
		opportunity	
5. Differentiate a business	5.	Describe the	
opportunity from a		causes of Climate	
business idea		Change	
6. Describe factors to	6.	Describe the	
consider whether there is		effects of climate	
a business opportunity		change	
7. Describe the components	7.	Develop measures	
of geography climate		for mitigation and	
		adaptation	
8. Describe the Climate			
factors			
9. Describe the Basics of			
hydro-geography			

Discovery activity



Study the Figure 18: Identification of environmental laws, standards and regulations in Rwanda above and answer the questions below:

- 1) What do you see in the figure?
- 2) What do you think makes up the environment of Rwanda?
- 3) What problems do you think are effecting Rwanda's environment?
- 4) Which agency in Rwanda is responsible for environment aspects?
- 5) What do you think will be covered under this topic?

Topic 7.1: Identification of environmental laws, standards and

regulations in Rwanda



Figure 11: Identification of environmental laws, standards and regulations in Rwanda³⁸

 Visit your computer lab and use the following link to make a research on Rwanda's environmental features.

(https://rema.gov.rw/fileadmin/templates/Documents/rema_doc/Policies/Rwanda%20E nvironmental%20Policy_English.pdf). Your research should include the following:

- a) Natural environment
- b) Geophysical features
- c) Natural resources and biodiversity
- d) Human environment

³⁸ <u>https://www.rema.gov.rw/fileadmin/user_upload/Rwanda_SOER_Final-05February2022-LR.pdf</u>

Key Facts 31: Identification of environmental laws, standards and regulations in Rwanda Millennium Development Goal 7: Ensure environmental sustainability

- The natural resources base and ecosystems must be managed sustainably to meet people's food requirements and other environmental, social and economic needs.
- Climate change, increased water scarcity and conflicts over access to resources all pose challenges to environmental sustainability and food security.

Rwanda's environmental features

A. Natural environment

Environment is a set of physical, chemical and biological elements as well as socioeconomic, cultural, aesthetic and intellectual factors likely to have a direct or indirect, immediate or long term impact on the development of environment, human beings and human activities.

a) Geophysical features

- Rwanda's physical environment can be explained partly by its geographical location in the east of Central Africa between 1°04 and 2°51 latitude south, and between 28°45 and 31°15 longitude east.
- Stretching over a surface area of 26,338 km2 which constitutes the bedrock of the local environment, the principal geographical elements are particularly
 - ✓ the relief,
 - ✓ the soils,
 - ✓ the climate,
 - ✓ the vegetation and
 - ✓ the hydrographic network.

b) Natural resources and biodiversity

- Rwanda's natural resources include:
 - ✓ Soil and subsoil
 - ✓ Wetlands (marshes, lakes and rivers and water courses)
 - ✓ Forests and protected areas
- Biodiversity in Rwanda is rich and varied and includes:
 - ✓ a variety of plant

- ✓ animal species
- c) Human environment includes:
- Socio-demographic data. Today, Rwanda has a population of 10,515,973 inhabitants on a surface area of 26,338 km2, representing a physical density of 399.27 inhab/km2 (Fourth Rwanda Population and Housing Census (RPHC4) conducted on 15 August 2012)
- Economic aspects. From the economic point of view,
 - ✓ Rwanda is one of the poorest countries in the world.
 - ✓ Its economy is basically agricultural.
 - ✓ More than 90% of the population depend on peasant subsistence agriculture which contributes 40% of GDP estimated at 210 US\$ in 2000 and 90% of export earnings.

Task 78:

 Visit your computer lab and use the following link to make a research on Environmental problems and Fundamental principles of protection, conservation and promotion of the environment in Rwanda.

(https://rema.gov.rw/fileadmin/templates/Documents/rema_doc/Policies/Rwanda%20E nvironmental%20Policy_English.pdf). Your research should include the following Environmental problems :

- a) Degradation of natural resources and biodiversity
- b) Energy crisis
- c) Various types of pollutions
- d) Disasters.
- e) Poor recognition of the environmental dimension by socio-economic sectors
- f) Fundamental principles of protection, conservation and promotion of the environment in Rwanda.

Key Facts 32: Identification of environmental laws, standards and regulations in Rwanda

A. Environmental problems

Rwanda's environmental problems are associated mainly with bad management of natural resources such as land, forests and water

- a) Degradation of natural resources and biodiversity. This includes:
- Population and resources imbalance. The major environmental problem in Rwanda is the imbalance between the population and natural resources (land, water, flora, fauna and other non-renewable resources) which have been degrading over decades. This degradation is reflected through:
 - ✓ massive deforestation,
 - ✓ the reduction of biodiversity,
 - ✓ the cultivation of marginal areas,
 - \checkmark the erosion and
 - ✓ unplanned cultivation of marshes.
- Land degradation. The degradation of land in Rwanda is happening at a worrying speed. The current situation is alarming. There are several causes for this. There are natural and/or structural causes first, and there are also man-made causes.
 - Causes of a Pedological nature (soils are fragile and therefore vulnerable and very sensitive to erosion)
 - Causes of a geomorphological nature (an uneven relief with a physiographical configuration formed of steep slopes exposed to erosion.)
 - ✓ Causes of a climatic nature (High rainfalls expose steep-sloped soils to water erosion, and low rainfalls expose lowlands to high insolation)
 - ✓ Population pressure due to agricultural land needs
 - ✓ Scattered settlements and excessive land parceling
 - ✓ Bad farming practices and overgrazing
 - ✓ Anarchical exploitation of mines and quarries
 - ✓ Deforestation and abandonment of the system of erosion control
- b) Energy crisis
- Wood is the most used source of energy in Rwanda. This is detrimental to environment since the excessive use of wood and charcoal causes and/or

accelerates deforestation and lays the soils bare, thus making them exposed to erosion.

- The energy balance shows a high deficit all the more since petroleum products are imported and electricity is not available in the whole country and new and renewable energy is still out of the reach of the majority of the population.
- c) Various types of pollutions
- Pollution comes from domestic and industrial solid waste, agro pastoral activities, uncoordinated mining and quarrying, as well as invading plants such the water hyacinth and water lettuce.
- Waste water and solid waste particularly from septic tanks, latrines, animal waste and refuse infest water, air and soil.
- Though not many, Rwanda's industries are almost all built in or near wetlands and throw all their effluents and by-products in water without any prior treatment. Industries also emit fumes in the atmosphere and pollute air.
- Agro pastoral activities involve the use of fertilizers and the application of pesticides and herbicides which are often toxic to water, air and soil.
- With regard to water hyacinth, water lettuce and other bad aquatic grasses, they have invaded a big part of Rwanda's aquatic ecosystems and are responsible for the degradation of water quality.
- Finally, the preparation of ore using much water constitutes also a major pollutant of running water in Rwanda.
- Mining and quarrying activities produce massive wastes which are thrown into nature in the form of enormous heaps of soil and rocks.
- These are transported by rain water erosion to the valleys where water courses are filled and covered by sterile mineral masses which are harmful to vegetation.
- **d) Disasters.** A disaster is defined as a total upheaval of society, causing human life, material, economic and environmental losses, and which is beyond the capacity of the affected society to face it with its own resources. There are two types of disasters which affect environment:
- Natural disasters. These which are due to climatic or seismic-volcanic disturbances, such as:

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✓ drought, torrential rains,

- ✓ floods,
- ✓ landslides,
- ✓ earthquakes,
- ✓ volcanic eruptions.
- Man-made disasters. These are a result of human activities and are:
 - ✓ mainly bush fires,
 - ✓ conflicts and wars,
 - ✓ deforestation and others.
- e) Poor recognition of the environmental dimension by socio-economic sectors. This covers sectors like:
- Transport and communication. Land transportation in Rwanda uses automobile vehicles on roads and auto trails. The presence of transportation routes makes this sector an environmental factor, particularly with regard to road construction, petroleum products used in transportation, maintenance and repairs and emission of gases with greenhouse effects. The most distinguishing negative effects of major roads on environment often concern their border areas, namely:
 - ✓ earth banks, which are sometimes very high, are often subject to strong erosion, falling rocks and landslides.
 - areas down the roads full of unstable and very erodable excavated material to the extent of becoming a permanent threat for houses, crops and vegetation found down below.
 - ✓ water ducts built under the roads which flow into the landscape of great water bodies laden with mineral matters (mud, sand and pebbles).
 - ✓ big quarries used in the construction of roads which have been abandoned without structures nor reforestation.
 - ✓ when these roads are unsurfaced, they are always covered with clouds of dust during dry seasons which cover the surrounding areas.
 - ✓ the exhausts of vehicles are also a source of environment pollution, more so since the fuels used contain harmful substances such as lead and sulphur.
- **Trade, Industry and Tourism.** Trade, industrial and tourist activities are closely linked with environment. When they are not well carried out, they are likely to

affect negatively the quality of environment. In Rwanda, there are environmental concerns linked to trade, industry and tourism.

- Trade. Lack of environment friendly trade policies, laws and strategy as well as the non-existence of appropriate depots for the storage of trade goods and items, pharmaceutical products and other chemical by-products which are potentially toxic are prejudicial to environment safeguard.
- Industry. Although industrialization in Rwanda is recent and undeveloped, it embraces several sub-sectors, of which the major ones are:
 - 4 agro industry;
 - 🖶 textiles;
 - 🔶 wood;
 - chemical industries;
 - construction industries;
 - 📥 mining;
 - 🖶 metallurgical industries;
 - 🖶 engineering;
 - printing and paper industries.
- Tourism. The relationship between tourism and environment are many and complex. In a country without sea tourism, "discovery tourism" or "vision tourism" relies mainly on the quality of the environment and, particularly, on the originality of the natural resources. The kind of tourism which would be built on a short-term vision, aimed solely at maximizing financial revenue, could have harmful effects on environment.

• Education, Information and Research

Environmental education. The shortcomings noticed in this field are found at all the levels of education and relate to the poor integration of environmental education in their curricula at primary, secondary and higher education levels, and to lack of specialized teachers in environmental education.

- Information. Information plays an important role in creating awareness and raising the consciousness of the population to the problems of environment and in the change of habits vis-à-vis environment
- Research. Today, research in the field of environment is carried out mainly in the following three public institutions:
 - 🖊 Institut des Sciences Agronomiques du Rwanda (ISAR)
 - Institut de Recherche Scientifique et Technologique (IRST)
 - National University of Rwanda

• Health and human settlement related problems

- Human settlement. Rural areas are dominated by scattered human settlements. Inappropriate spaces are used for agriculture, trees are planted in lowlands and other agricultural areas, watersheds and fragile wetlands are used in disorganized manner due to lack of a Land Development Master Plan and explicit land policy and law governing the land tenure system and human settlements. As a result of this management, there is soil degradation, reduction of water resources, devastating floods, etc.
- Health. The analysis of the health sector shows a health level that is still low in the country, whether in terms of infant diseases control, reproductive health, malnutrition, access to medical care and malaria. In rural areas, in towns and in settlements, one still finds rubbish in the streets and in the homes. Wastewater is often poured in the yard. This situation shows that in terms of attitude and hygienic and sanitation practices, the population is not sufficiently informed or sensitized.
- Economic planning. Rwanda's economy has since long depended on agriculture and animal breeding the production of which is directly linked to the fluctuations of climatic conditions. This economic situation does not cater adequately for the protection of environment because the majority of the population is more concerned with survival without thinking about the future.
- B. Fundamental principles of protection, conservation and promotion of the environment in Rwanda.

In order to find solutions to the above mentioned problems and ensure the protection and sustainable management of the environment, ten principles should be kept in mind:

- Every individual has the right to live in a healthy and balanced environment and has the obligation of safeguarding environmental health;
- Economic growth in Rwanda should be based on a more rational utilization of resources and take into account the environmental dimension;
- Active and effective participation of the entire population in the protection and management of environment;
- Special attention should be paid to educational and awareness creation programmes in environment at all levels with a greater involvement of women and the youth;
- Introduction of the principle of prevention;
- Introduction of the principle of polluter-pays;
- Environmental impact should be analyzed during consideration of developmental projects;
- The principle of equality among generations and fair share in the utilization of resources should be respected;
- Establishment of a favorable social and economic environment for the utilization of natural resources;
- Recognition of sub-regional, regional and global environmental interdependence.



¥= ▼= Task 79:

- 1. Referring to Rwanda's environmental features; describe its:
 - a. Natural environment
 - b. Geophysical features
 - c. Natural resources and biodiversity
 - d. Human environment includes
- 2. Referring to your community and Rwanda in general; describe the Environmental problems in terms of:
 - a. Degradation of natural resources and biodiversity

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- b. Energy crisis
- c. Various types of pollutions
- d. Poor recognition of the environmental dimension by socio-economic sectors
- 3. Describe the fundamental principles of protection, conservation and promotion of the environment in Rwanda.





- You have been invited as student with knowledge on Rwanda's environmental laws, standards and regulations to give a talk to a group environment advocates in your village. Make a report of what your talked covered. In your report include:
 - a) Rwanda's environmental features
 - b) Environmental problems
- c) Fundamental principles of protection, conservation and promotion of the environment in Rwanda

Topic 7.2 Applying the best practices to keep the environment

clean



Figure 12: Applying the best practices to keep the environment clean³⁹



_____ Task 81: Figure analysis

- 1. Study the Figure 8: Identification of Business Opportunity and answer the following questions:
 - 1) What do you see in the figure?
 - 2) What practice is shown? Do you think it is a practice?
 - 3) What do you think should be done to avoid the practice above?
 - 4) What topics do you think will be covered under this topic?

³⁹<u>https://organicabiotech.com/an-overview-of-non-biodegradable-waste-management-and-solutions/</u>

2. Study the illustration below and answer the questions that follow



- a) What does waste?
- b) Name and briefly explain the types of wastes
- c) Identify and categorize waste in the illustration according to the types above in (2)
- d) Describe any best practices regarding waste management in your community according

to:

- i. Waste collection
- ii. Reuse of waste
- iii. Waste disposal
- iv. Biodegradable waste
- v. Non-biodegradable waste

Key Facts 33: Applying the best practices to keep the environment clean

Waste is an unavoidable by-product of most human activity.

- a) Types of Wastes
- Municipal Solid Waste. Municipal solid waste (MSW) is generated from households, offices, hotels, shops, schools and other institutions. The major components are food waste, paper, plastic, rags, metal and glass, although demolition and construction debris is often included in collected waste, as are small quantities of hazardous waste, such as electric light bulbs, batteries, automotive parts and discarded medicines and chemicals.
- Industrial Solid Waste. Industrial solid waste encompasses a wide range of materials of varying environmental toxicity. Typically this range would include paper, packaging materials, waste from food processing, oils, solvents, resins, paints and sludge, glass, ceramics, stones, metals, plastics, rubber, leather, wood, cloth, straw, abrasives, etc.
- Agricultural Waste and Residues. Expanding agricultural production has naturally resulted in increased quantities of livestock waste, agricultural crop residues and agro-industrial by-products.
- Hazardous Waste. With rapid development in agriculture, industry, commerce, hospital and health-care facilities, Rwanda is consuming significant quantities of toxic chemicals and producing a large amount of hazardous waste.
- b) Best practices according to the case
- Waste collection
- ✓ Presently waste collection in Rwanda is largely outsourced.
- ✓ After the establishment of RURA, waste collection was outsourced to private companies due to perceived efficiencies in their ability to undertake collection and disposal activities.
- Reuse of waste
- ✓ Overall, waste recycling rates are low in Rwanda.
- ✓ A few companies exist to handle recycling, the majority of which center around paper and plastics.
- Almost all material that is recycled is collected separately from households; almost no recyclable material is obtained from the landfill.

- ✓ A number of waste collection firms mentioned composting and briquette production as a viable means of waste beneficiation.
- The government has, over the past two years, prioritized two special forms of waste remediation – e-waste recycling and hazardous waste treatment – and has enacted regulations regarding these initiatives
- Waste disposal
- Rwanda's waste has historically and currently been dealt with through the disposal of waste in a single landfill
- ✓ Waste disposal in Rwanda can be characterized as an open-air dumping
- ✓ Environmental degradation at the dumpsites has largely been caused by the fact that most sites were never designed as sanitary landfills
- ✓ Currently, the management of the landfill faces major financial shortfalls, both in terms of revenue recovery and the cost of managing the site.
- Biodegradable waste
- Composting biodegradable waste. Biodegradable waste such as food, garden waste, paper and cardboard, you can be sent for recycling into compost.
- ✓ Anaerobic digestion of waste. Anaerobic digestion can be used to treat food and similar wet organic wastes.
- Spreading waste on land. You may also be able to reuse your waste, such as paper or sewage sludge, by spreading it on land
- Non-biodegradable waste
- Recycling is one of the best and popular methods employed for non-biodegradable waste management.
- ✓ Incineration involves waste decomposition using temperatures above 5000 Degree
 Celsius and can help minimize the trash volume.
- Individual management of waste is the first step to successful non-biodegradable waste management. Segregation of biodegradable and non-biodegradable waste in separate bins and following recycling practices.



Task 82: Figure analysis

Study the figure below and answer questions that follow



- 1. Identify and categorize waste in the illustration according to the types above in (2)
- 2. Describe any best practices regarding waste management in your community that the waste identified above can be managed according to:
 - a. Waste collection
 - b. Reuse of waste
 - c. Waste disposal
 - d. Biodegradable waste
 - e. Non-biodegradable waste





- You have been invited as student with knowledge on applying the best practices to keep the environment clean to give a talk to a group environment advocates in your village. Make a report of what your talked covered. In your report include:
 - a) The categorize of waste
 - b) How to best keep the environment according to:
 - i. Waste collection
 - ii. Reuse of waste
 - iii. Waste disposal
 - iv. Biodegradable waste
 - v. Non-biodegradable waste

Topic 7.3 Description of climate change adaptation and mitigation

measures.



Figure 20: Mitigation and Adaptation of Climate Change⁴⁰



- 1. Why do you think people are being encouraged to plant more trees?
- 2. What do you think the term climate change means?
- 3. Name the components of climate
- 4. What are the basics of hydro geography?
- 5. What are the causes of climate change?
- 6. What are the effects of climate change?
- 7. What are the Measures for mitigation and adaptation of climate change

⁴⁰ <u>https://www.resilienteaglecounty.com/together</u>

Key Facts 34: Description of climate change adaptation and mitigation measures

a) Climate change

- **Climate change** refers to long-term shifts in temperatures and weather patterns. These shifts may be natural, such as through variations in the solar cycle
- Climate components are describing in integrated manner the current weather and weather condition. Climate components are dynamic and change permanently; continuous measurement is necessary for defining and forecasting weather. Basic climate components include:
 - ✓ Radiation
 - ✓ Air pressure
 - ✓ Humidity
 - ✓ Temperature
 - ✓ Wind speed and direction
 - ✓ Evapo-transpiration
 - ✓ Precipitation
 - ✓ Condensation
 - ✓ Cloud cover
- Climate factors are terrestrial factors influencing the weather and weather condition. Climate components and climate factors are composing the climate in its variations. Climate factors are stable and/or only slightly changing factors, except the vegetation cover (land use):
 - ✓ Geographic latitude
 - ✓ Altitude
 - Land and water pattern
 - ✓ Relief
 - ✓ Vegetation cover (land use)
 - ✓ Exposition
- Basics of hydro geography. This describes all water flows on and beneath the earth.
 The hydro-geography deals specifically with:
 - ✓ the water balance
 - \checkmark the spatial and temporal changes of water storage and
 - ✓ the flow behavior with regard to the quantitative aspects, as well as the

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- ✓ water quality in terms of qualitative aspects.
- b) Causes of climate change
- Generating power. Generating electricity and heat by burning fossil fuels, which produces carbon dioxide and nitrous oxide – powerful greenhouse gases that blanket the Earth and trap the sun's heat.
- Manufacturing goods. Manufacturing and industry produce emissions, mostly from burning fossil fuels to produce energy for making things like cement, iron, steel, electronics, plastics, clothes, and other goods.
- Cutting down forests. Cutting down forests to create farms or pastures, or for other reasons, causes emissions, since trees, when they are cut, release the carbon they have been storing.
- Using transportation. Most cars, trucks, ships, and planes run on fossil fuels. That makes transportation a major contributor of greenhouse gases, especially carbondioxide emissions.
- Producing food. Producing food causes emissions of carbon dioxide, methane, and other greenhouse gases in various ways, including through deforestation and clearing of land for agriculture and grazing, digestion by cows and sheep, the production and use of fertilizers and manure for growing crops, and the use of energy to run farm equipment or fishing boats, usually with fossil fuels.
- Powering buildings. Globally, residential and commercial buildings consume over half of all electricity. As they continue to draw on coal, oil, and natural gas for heating and cooling, they emit significant quantities of greenhouse gas emissions.
- Consuming too much. Your home and use of power, how you move around, what you eat and how much you throw away all contribute to greenhouse gas emissions.
- c) Effects of climate change
- Hotter temperatures. As greenhouse gas concentrations rise, so does the global surface temperature. Higher temperatures increase heat-related illnesses and make working outdoors more difficult.
- More severe storms. Destructive storms have become more intense and more frequent in many regions. As temperatures rise, more moisture evaporates, which exacerbates extreme rainfall and flooding, causing more destructive storms.

- Increased drought. Climate change is changing water availability, making it scarcer in more regions. Global warming exacerbates water shortages in already waterstressed regions and is leading to an increased risk of agricultural droughts affecting crops, and ecological droughts increasing the vulnerability of ecosystems.
- A warming, rising ocean. The ocean soaks up most of the heat from global warming. Melting ice sheets also cause sea levels to rise, threatening coastal and island communities.
- Loss of species. Climate change poses risks to the survival of species on land and in the ocean. Forest fires, extreme weather, and invasive pests and diseases are among many threats related to climate change.
- Not enough food. Changes in the climate and increases in extreme weather events are among the reasons behind a global rise in hunger and poor nutrition. Fisheries, crops, and livestock may be destroyed or become less productive.
- More health risks. Climate change is the single biggest health threat facing humanity. Climate impacts are already harming health, through air pollution, disease, extreme weather events, and forced displacement, pressures on mental health, and increased hunger and poor nutrition in places where people cannot grow or find sufficient food.
- Poverty and displacement. Climate change increases the factors that put and keep people in poverty. Floods may sweep away urban slums, destroying homes and livelihoods. Heat can make it difficult to work in outdoor jobs. Water scarcity may affect crops.

d) Measures for mitigation and adaptation

Anthropogenic climate change is caused by greenhouse gas (GHG) emissions and by land use changes, which greatly alter the atmosphere and consequently also alter the climate patterns; it is urgent to fight these changes.

- Mitigation consists of reducing the emissions of GHG to the atmosphere. Mitigation addresses the causes of climate change (accumulation of greenhouse gases in the atmosphere)
- Climate change adaptation emerged as a way to deal with the effects of unavoidable extreme climate events and their environmental, social and economic impacts. Adaptation addresses the impacts of climate changes)



Activity 2: Guided Practice



- Visit your library or computer laboratory and use the links below to make a research about climate change adaptation and mitigation measures.
- https://www.geo.fu-berlin.de/en/v/iwm-network/learning_content/environmentalbackground/basics_climategeography/climate-components/index.html
- https://www.un.org/en/climatechange/science/causes-effects-climate-change
- https://www.algarveadapta.pt/en/adaptation-or-mitigation/
- https://www.mrgscience.com/ess-topic-73-climate-change-ndash-mitigation-andadaptation.html

⁴¹ <u>https://www.algarveadapta.pt/en/adaptation-or-mitigation/</u>

Your research should include:

- a) the components of climate
- b) factors are considered while studying climate
- c) the basics of hydro geography
- d) the causes of climate change
- e) the effects of climate change
- f) the Measures for mitigation and adaptation of climate change





- You have been invited as student with knowledge on climate change adaptation and mitigation measures to give a talk to a group environment advocates in your village. Make a report of what your talked covered. In your report include:
 - a) the components of climate
 - b) factors are considered while studying climate
 - c) the basics of hydro geography
 - d) the causes of climate change
 - e) the effects of climate change
 - f) the Measures for mitigation and adaptation of climate change



- 1. Mention the environmental problems in Rwanda
- 2. Name and briefly explain the types of wastes
- 3. Differentiate mitigation from adaptation measures
- 4. Name the components of climate
- 5. What are the causes of climate change?

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- Rwanda's environmental features include:
- ✓ Natural environment
- ✓ Geophysical features
- ✓ Natural resources and biodiversity
- ✓ Human environment
- Environmental problems in Rwanda include:
- Degradation of natural resources and biodiversity
- ✓ Energy crisis
- ✓ Various types of pollutions disasters
- ✓ Poor consideration of environmental dimension by socio-economic sectors
- Examples of climate change adaptations:
- ✓ Flood defenses
- ✓ Vaccination programs
- ✓ Manage water supplies
- ✓ Planting of crops in previously unsuitable climates
- ✓ Planning legislation
- ✓ Manage weather


 Ask learners to re-take the self-assessment at the beginning of the unit. They should then fill in the table in the Trainee's Manual to identify their areas of strength, areas for improvement and actions to take to improve.

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	l know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	l am confiden t in my ability to do this.
Describe Rwanda's environmental features					
Describe Rwanda's Environmental problems					
Describe the Fundamental principles of protection, conservation and promotion of the environment in Rwanda					
waste					
Describe the best practices according to the case					
Describe the basics of geography climate components					
Describe the climate factors					
Describe the basics of hydro-geography					

My experience Knowledge, skills and attitudes	I don't have any experience doing this.	l know a little about this.	I have some experien ce doing this.	I have a lot of experienc e with this.	l am confiden t in my ability to do this.
Describe the concept of Climate Change Causes					
Describe the concept of climate change effects					
Suggest measures for mitigation and adaptation					

2. Discuss trainees' results with them. Identify any areas that are giving many trainees difficulties and plan to give additional support as needed (ex. use class time before you begin the next learning outcome to go through commonly identified difficult concepts).

Areas of strength	Areas for improvement	Actions to be taken to improve
1.	1.	1.
2.	2.	2.
3.	3.	3.

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