**GRADE 7 PRE-TECHNICAL STUDIES**

**WEEK 1**

**SAFETY**

**Personal safety**

Observing personal safety is doing activities that will protect us from accidents or getting injured.

**Potential hazards relating to personal safety**

Unsafe conditions or objects that harm us or cause injuries to us are known as potential safety hazards

Examples of potential safety hazards in day to day life are

1. Fires and hot surfaces which can cause burns
2. Sharp tools like knives which can cause cuts
3. Spills on floors which can cause falls
4. Poorly disposed waste such as fruit peels which can cause falls
5. Heavy objects like rocks, stones which can roll over us or fall on us
6. Items or objects that are properly kept on high shelves which can fall on us
7. Poisonous chemicals that are not store properly can harm us if we touch or drink them.
8. Poorly arranged equipments such as desks that can cause falls
9. Exposed naked electric wires that can lead to shocks
10. Poorly ventilated rooms that can lead to suffocation

**Demonstrating safety while performing various tasks in the locality**

Examples of task that we can do in our locality include digging, splitting firewood, pruning plants, riding bicycles

Some of the safety measures to observe while forming the above different tasks include

1. Always clean spills on the floor immediately to avoid falls
2. Keep a safe distance from your friend when performing tasks such as digging
3. Ask for help when you want to get things that are out of your reach
4. Always be alert around fire. Avoid loose clothing when near fires
5. Use kitchen gloves or a piece of cloth to hold hot kitchen tools and equipment
6. Handle different tools or equipments with care
7. Wear appropriate protective clothing when performing different tasks

Eg wear gumboots while collecting and disposing waste

**Handling tools and equipments safely while performing tasks**

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| **Tool or equipment** | **Safe use of the tool or equipment** |
| Knife | Hold the handle firmly while using it  Keep sharp edges away from your hands  You can also use a chopping board when using it |
| Sewing needle | Wear a thimble  Hold the thread end of the needle firmly between your fingers and push the sharp end into fabric |
| Wheelbarrow | Hold the handles and push it forward carefully.  Ensure the wheel is moving freely |
| Pliers | Hold the two handles and press them together  Do not touch the cutting parts while in use |
| Rake | Hold the handle and pull it towards you carefully |
| Ladder | Place it against a firm object like a wall or tree trunk and climb on its steps carefully |

**General safety rules and regulations for various tasks**

* The various task we do at home or school can expose you and other people to safety hazards.
* You should follow general safety rules when performing these task to avoid injuries to self and others.
* The general safety rules include

1. Work in a place with proper ventilation
2. Ensure you are working in a place that has enough lighting
3. Avoid crowding in the working area
4. Ensure the working area is well arranged when working and after working
5. Use tools and equipments for their correct purpose
6. Ensure all the tools you are using are in good working conditions
7. Do not touch sharp edges of cutting tools or test their sharpness with your hand
8. Ensure that your hands are dry before touching electric plugs or electrical appliances that have been plugged in
9. Do not pull heavy materials or objects towards your body
10. If working with or near fire, always stay alert and use moderate flame
11. Store tools and equipments safely after use

**Careers related to safety**

A career is a profession which one trains for, acquires the skills and applies them for a long period

1. Crossing guards

These are people who help children or adults to cross busy roads

1. Safety engineers

These are people who monitor a working environment and inspects buildings and machines.

They later recommend the safety precautions to be observed in the working environment

1. Life guards

These are people who help children and adults to swim safely.

There also ensure that all people are following rules set by the swimming place.

Attends to those who face challenges while swimming

1. Risk manager

This person researches and makes a report on the safety of a particular work and the hazards that are expected.

1. Environment health and safety consultants

They perform some roles similar to those of safety engineers

They offer advice on how to minimise health and safety risks in the workplace

**Importance of safety in day to day life**

* It is important to observe safety when performing different tasks at home, in school or in the community
* You should always keep your working areas clean and orderly to avoid accidents, injuries and illness.
* When you are free from injuries you can work well, attend school as expected, reduce hospital bills and live healthy

**WEEK 2**

**INJURIES**

An injury is damage to your body.

**Types of injuries**

Examples of common injuries include

1. Scalds
2. Fractures
3. Sprains
4. Burns
5. Cuts
6. Pricks
7. Bruises

**Causes of injuries in the locality**

1. Cuts

Caused by sharp tools and equipments like knives

Can also be cause by sharp furniture corners or rough edges

1. Burns

Are caused by touching open flames, hot objects like sufurias

May also be caused by chemicals and electricity

1. Scalds

Are caused by touching hot liquids like boiling water, hot tea.

May also be caused by steam from boiling foods or water

1. Minor fractures

Occurs after falls or slips

May also occur when there is abnormal movement during activities or sudden change of speed during movement

**First aid procedures for cuts**

You will need clean water, a bandage, cotton wool and an antiseptic or salty water

1. Wash your hands
2. Apply gentle pressure around the cut with a clean piece of cloth or cotton wool until bleeding stops
3. Clean the cut with clean water. Do not use soap
4. Once the cut is clean and is not bleeding, apply some antiseptic
5. Cover the cut with a bandage or clean piece of cloth to keep away dirt

**First aid procedures for minor fractures**

You will need ice cubes, a bandage or a clean piece of cloth

1. Let the injured person rest and avoid moving the injure part completely
2. Place an ice pack on the injure part to prevent swelling
3. Wrap the affected part in a soft bandage to compress it
4. Raise the injure part higher than other body parts

**First aid procedures for burns**

You will need cold water and a clean piece of cloth

1. Move away from the source of burn
2. Remove clothing or jewellery around the burnt area
3. Cool the burn under cold running water for about 5 minutes. You can also deip the part in cold water
4. Cover the burnt area with a loosely clinging clean piece of cloth

**First aid procedures for scalds**

You will need cold water, a clean piece of cloth or bandage

1. Remove clothing or jewellery where the injury has occurred
2. Place the injured area under cold water for about 20 minutes
3. Do not pop the blister or blisters if they form
4. Cover the scalded area with a loosely clinging clean piece of cloth or gauze

**Safety measures that minimise injuries in the locality**

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| **Injury** | **Way of preventing it** |
| Cut | 1. Avoid holding sharp edges of cutting tool 2. Use a chopping board when using cutting tools such as knives 3. Pass cutting tools from one person to another using their handles 4. Keep sharp tools out of reach of children |
| Burns | 1. Do not touch hot surfaces with bare hands 2. Use moderate flame when cooking 3. Use kitchen gloves when holding hot kitchen equipments and surfaces 4. Switch off or put out equipments such as iron boxes after use |
| Scalds | 1. Avoid carrying hot liquids close to your body 2. When cooking food, take care not to get burnt with the hot steam. You should open the lids from cooking food carefully |
| Minor fractures | 1. Walk carefully especially when in places that have obstacles such as stones 2. Avoid walking on wet floors 3. Dispose waste such as banana peels properly to avoid falls 4. Wear fitting and comfortable shoes |

**Careers related to first aid and management of injuries**

* Fist aid is important because it helps to save lives and reduce pain.
* It also makes the affected people feel cared for.
* The following are common careers related to first aid and management of injuries

1. Emergency repose nurses
2. Paramedics
3. Ambulance drivers
4. Fire fighters
5. Flight attendants
6. Professional baby sitters
7. Lifeguards
8. Games instructors
9. Gym instructors

**Importance of observing safety**

1. Prevent unnecessary injuries or even death
2. Avoid lost time
3. Increase productivity

**WEEK 3**

**MATERIALS**

Any useful substance is called a material

**COMMON MATERIALS**

1. Timber
2. Sand
3. Stones

***Identifying common materials in the locality***

Different localities have different common materials

Examples of common materials are

1. metals
2. Soil
3. Reeds
4. Sisal fibres
5. Hides and skins
6. Trees
7. Diatomite
8. Soapstone
9. Soda ash
10. Fluorspar

**Categorising common materials in the locality as either metallic or non metallic**

Pupil’s activity

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| **Metallic** | **Non metallic** |
| 1. Iron | 1. Soil |
| 1. Copper | 1. Trees |
|  | 1. Reeds |
|  | 1. Stones |
|  | 1. Sand |
|  | 1. Sisal fibres |
|  | 1. rubber |

**Distinguishing between metallic and non metallic materials**

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| **Items made of metallic materials** | **Items made of non metallic materials** |
| Bottle tops | A grass broom |
| A piece of iron sheet | Floor tiles |
| Coins | An exercise tiles |
| A blade of a jembe | A school sweater |
| Pins | An eraser |
| A door hinge | A plastic plate |
| A piece of wire mesh | A drinking glass |
| A key | A cooking stick |

**Physical properties of materials found in the locality**

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| --- | --- | --- |
| **Physical property** | **Metal** | **Non metals** |
| Colour | Can be grey, silver, reddish brown or golden | Have a wide range of colours |
| Texture | May be rough or smooth | May be rough or smooth |
| Hardness | Most are strong and cannot break easily | Most are fragile and brittle |
| Shape | Can be formed into various shapes | Can be formed into various shapes |
| Fire resistance | Most are fire resistant and cannot burn easily | Most burn easily |

**Careers related to materials in the locality**

1. carpentry
2. carving
3. masonry
4. welding
5. pottery
6. weaving
7. blacksmith
8. farming
9. mining

**Importance of materials found in the locality**

1. create job/employment opportunities
2. improves the standard of people living in the locality