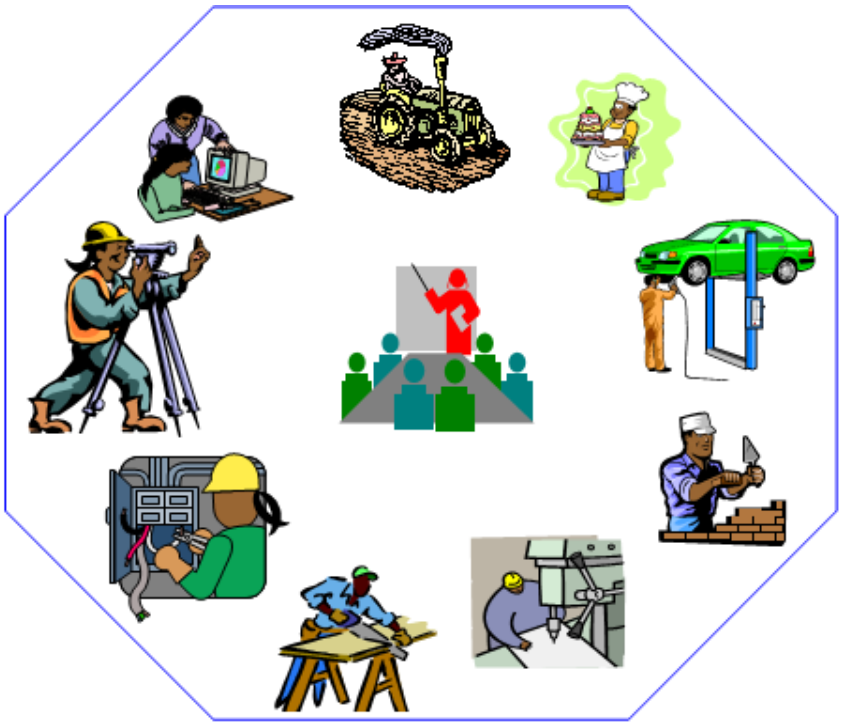
Mineral Resources Infrastructure Work

Level I

Based on Version 2

December, 2018 OS and April 2021, V1 Curriculum



Module Title: - Working Safely and Following OHS Policies and Procedures

LG Code: MIN MRI1 M01 LO (1-5) LG(1-5)

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April,2021
Adama,Ethiopia

Table of content

LG #1	LO #1- LO #1 Access and apply site safety procedure

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Accessing, Interpreting and applying compliance documentation
- Isolating, Immobilizing and tagging potential energy sources
- Locating destinations using maps, site plans, transport rules and signage
- Identifying and reporting breaches in site safety

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Access, Interprete and apply compliance documentation
- Isolate, Immobilize and tag potential energy sources
- Locate destination using maps, site plans, transport rules and signag
- Identify and report incident

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4. Accomplish the “Self-checks” which are placed following all information sheets.
5. If your performance is satisfactory proceed to the next learning guide,

Information Sheet 1- Accessing, interpreting and applying compliance documentation

1.1. Introduction

The purpose of the Health and Safety policies and procedures is to guide and direct all employees to work safely and prevent injury, to themselves and others.

All employees are encouraged to participate in developing, implementing, and enforcing Health and Safety policies and procedures. All employees must take all reasonable steps to prevent accidents and never sacrifice safety for expedience.

1.2 Compliance Documentation

Documentation is essential to all aspects of every worksite. From environmental plans through to mining plans, documentation exist that will outline what to do, when to do it and the manner in which the task is to be done.

Compliance documentation is the name given to the documents that require you to undertake tasks in a particular way or to meet a given standard. Staff should be notified of changes to compliance documentation during meetings, staff newsletters or other established forms of communication used on the site. Organizational health safety /OHS/WHS Guidelines must be followed at all times to ensure the safety of all personnel and workers.

Figure 1: documantation

A. Types of Compliance Documentation

- Compliance documentation relevant to working safely and following WHS policies and procedures includes:

✓ Legislative Requirements.
✓ WHS Requirements / Regulations outline responsibilities of employers / such as providing first aid facilities and trained personnel / workers.
✓ Equal Employment Opportunity and Disability Discrimination Legislation.
✓ Employment and Workplace Relations Legislation.
✓ Regulations and Guidelines from authorized organizations or external personnel/workers
✓ Ethiopian Standards
✓ Codes of Practice.
✓ Duty of Care.
✓ Organizational Policies and Procedures.

✓ Management Plans.

- ✓ Sick Leave Requirements.

Safe working policies and procedures, including:

- ✓ Emergency and Evacuation Procedures
- ✓ Tagging and Lockout Procedures
- ✓ Toxic Substances Procedures
- ✓ Gas Monitoring Procedures
- ✓ Manufacturer's Guidelines and Specifications
- ✓ Safe Work Method Statements (SWMS) and Job Safety Analysis (JSA)
- ✓ Safety Data Sheets (SDS)
- ✓ Other SiteSpecific Safety Instructions

B.Harmonization of Work Health & Safety Legislation

In response to industry calls for greater national consistency, the Commonwealth, states and territories have agreed to implement nationally harmonised Work Health & Safety (WHS) legislation to commence on 1 January 2012. While not all states and territories have actually implemented the model WHS legislation as of the start of 2012, it is important to be aware of these changes, as all states and territories will eventually implement them. Harmonisation aims to develop consistent, reasonable and effective safety standards and protections for all Australian workers through uniform WHS laws, regulations and codes of practice.

Key Elements of the Work Health & Safety Legislation

The following key elements of the WHS legislation will impact the way you do your job, and the responsibilities of your workplace:

- There is a primary duty of care requiring persons conducting a business or undertaking to ensure, so far as is reasonably practicable, the health and safety of workers and other who may be affected by the carrying out of work, including providing first aid facilities and first aid trained workers.

- A requirement that officers of corporations and unincorporated bodies exercise due diligence to ensure compliance
- Workers must exercise reasonable care that their acts or omissions do not adversely affect the health and safety of persons at a workplace

The legislation also outlines requirements for:

- The reporting requirements for notifiable incidents;
- Licences, permits and registrations (e.g. for persons engaged in high risk work or users of certain plant or substances);
- Provision for worker consultation, participation and representation at the workplace;
- Provision for the resolution of health and safety issues; and
- Protection against discrimination.

c.Safety Data Sheets (SDS)

A Safety Data Sheet (SDS) or Materials Safety Data Sheet (MSDS) is a document containing important information about a hazardous material (which may be a hazardous substance and/or dangerous goods). Before handling or using any hazardous substance, you must always read the SDS first. It includes safe handling practices, how to dispose of hazardous substances (e.g. in designated containers) and other safety requirements. There will be a register of SDS at every work site.

It should be used as an information tool to ensure that everyone is involved in managing exposure to hazardous substances exposure.

Suppliers, employers and self-employed persons have specific labelling obligations for all hazardous substances containers in the workplace. Generally, once a task or hazard is identified, a safe operating procedure (SOP) will be developed to enable you to safely complete the work.

Fig 3. Handling of Dangerous materials

1.3 Interpreting and Applying Compliance Documentation

Interpretation of compliance documentation will allow you to make the right decisions for each situation or task. Interpretation understands what is required of you and how you are expected to perform the tasks. When interpreting documents, it is vital that you understand the difference between words such as ‘should’, ‘consider’ and ‘must’.

In order to understand and interpret compliance documentation you may need to use a range of mediums, including reading the documentation, using computers, following charts and diagrams and speaking with experienced supervisors or personnel/workers.

Applying the information in these documents is simply following the directions in the documents.

Make sure you have access to all relevant compliance documentation within your workplace. Be careful to interpret them correctly, understand their implications and apply them to workplace operation effectively. All WHS documentation should be up-to-date with current standards and practices. If you are in any doubt as to what you should do after reading the documentation, it is essential you speak with your supervisor or other designated person, for further instructions or clarification.

Self-check 1	Written test

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Score = _____

Rating: _____

Test I Short Answer Questions

1. *Define Compliance documentation?(3 points)*
2. *What is the function of Safety Data Sheets? (4 points)*
3. *Why we* Interpreted compliance documentation? *(3 points)*

Note: **Satisfactory rating – 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Information Sheet 2- Isolating, Immobilizing and Tagging Potential Energy Sources

2.1 Definition of Isolation and Hazard

Isolation - refers to the process of ensuring that there is no possibility of any energy source being present which could cause injury to personnel as they are carrying out tasks on or near plant and equipment. Isolation measures include locks, clasps, tags, closing and blanking devices, removal of mechanical linkages, blocks, slings, and removal from service. An appropriate measure that is high on the hierarchy of controls must be used where practicable to isolate the energy sources(s).

Hazard- can be defined as a source of potential harm or a situation with potential to cause harm. If you look at hazards as an energy source, then you will need to know how to identify and manage it

2.2 Common Types of Energy Sources/Hazards That You May Encounter at Mining Worksite

- ***Mechanical***

  -Vehicle/mobile equipment, vehicle fan belts

- ***Hydraulic***
  - Pressurized hydraulic systems,
- ***Pneumatic***
  - Pressurized air or gas systems
- ***Electrical***
  - Power supply to electrical equipment

- ***Thermal***
  - Hot mechanical components, hot liquids, fire,
- ***Chemical***
  - Liquids such as fuels, cleaning products, acid and caustics
- ***Radiation***
  - Ultra Violet (sun), welding arc flash, microwaves, lasers
- ***Acoustic/Vibration***
  - Plant and machinery noise

Energy becomes hazardous when it builds to a dangerous level or is released in a quantity that could injure a worker. Hazardous energy in the workplace can kill. To control hazardous energy, you must prevent it from being transmitted from its source to the equipment that it powers.

The following general procedures regarding isolation provide a basis to which you can add site specific information.

The basic steps of safe isolation are:

1.Identify- the equipment to be worked on and the isolation requirements.

a. Including all locations where the equipment can be started

b. Including any associated equipment

2.Isolate - Ensure that the intended isolation will not cause injury or damage and that all points are isolated. Be aware that the equipment may require the isolation of several energy sources.

3.Lock & Tag - Apply your personal isolation lock and personal danger tag to the isolation point/s.

4.Dissipate - Check and remove all stored energy

5.Verify – Test to ensure that the equipment is correctly isolated an cannot be re-energized

2.3 Common Tags often used on Site

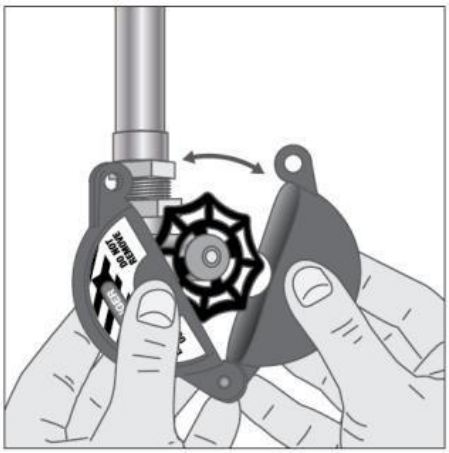
1. Out of Service Tags : are placed on the isolation point/s of defective equipment which, if operated, could cause injury, equipment damage or adversely affect some part of the operation.

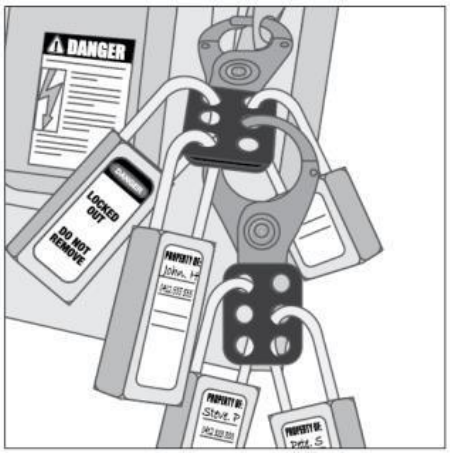
2.**Information Tags** – are used to pass on a message or instruction to personnel operating or working on a particular item of equipment or machinery.

3.Tagging out, also known as tag out (TO), when performed correctly, is a procedure for securing a warning sign to an energy-isolating device when a lockout device cannot be used.

4.Locking out, also known as lockout (LO), is a procedure for physically securing energy-isolating devices in an off, closed, or neutral position.

A lockout device, typically a lock with a unique key secures the energy-isolating device in a safe position.




DANGER
LOCKED OUT
DO NOT REMOVE


LOCK BOX
LOCK OUT
FOR SAFETY

Please see a sample of a checklist for isolating Plant

Steps to isolating plant		Yes ✓
1 Shut down the plant ▪ operator is aware ▪ plant is turned off.		☐
2 Isolate energy sources, such as: ▪ multiple control stations ▪ local isolators ▪ independent energy sources ▪ single/multiple point isolation.		☐
3 De-energise stored energy. ▪ Plant has been de-energised. This includes different forms of energy (consider plant not returned to its rest position gravity etc).		☐
4 Lockout isolation points – personal danger locks. ▪ Each worker has been allocated sufficient locks to lock out each isolation point. ▪ There is only one key per lock. ▪ Locks are attached to each isolation point for each worker performing work on the plant.		☐
5 Lockout isolation points – out of service locks. ▪ A supervisor or nominated person has been allocated with out of service locks. ▪ There is a system to fit locks to jobs that run over one shift or day.		☐
6 Tag out. ▪ Plant has been tagged with the appropriate tag. Note: tagging is not lockout.		☐
Date:	**Signed:**	
Next review date:	**Name and position:** *(Health and safety representative)*	

Self-Check – 2	Written test

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test I: Short Answer Questions

1. Define **isolation**? (2 point)
2. Define **Hazard**? (2 point)
3. Write the common tags used on work site.At least 3. 3 points
4. List at least four common Energy sources for Hazard? 3 points

Note: **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

Information Sheet 3- Locating Destinations using Maps, Site Plans, Transport Rules and Signage

Introduction

When moving around work site you need to be aware of the specific rules regarding plant and equipment, pedestrians, signage and devices and no go zones. Become familiar with the main locations, access routes and especially restricted zones, the Traffic Management Plan will identify these areas.

3.1. Signs of workplace

Common signage that you will come across in the workplace is based around safety and risk.Within the traffic control environment, you will encounter signage used in the implementation of traffic control guidance schemes to warn and guide road users. Other signage that will assist in general workplace communication may referee to general, mandatory, Hazchem, danger, warning, emergency and prohibitory signage. These sign are colour coded and many are stylised so they are recognisable.

- Check site plans for
  - First aid kits
  - Spill kits
  - Parking
  - Firefighting equipment
  - Emergency exits
  - Maintenance areas
  - Restricted areas

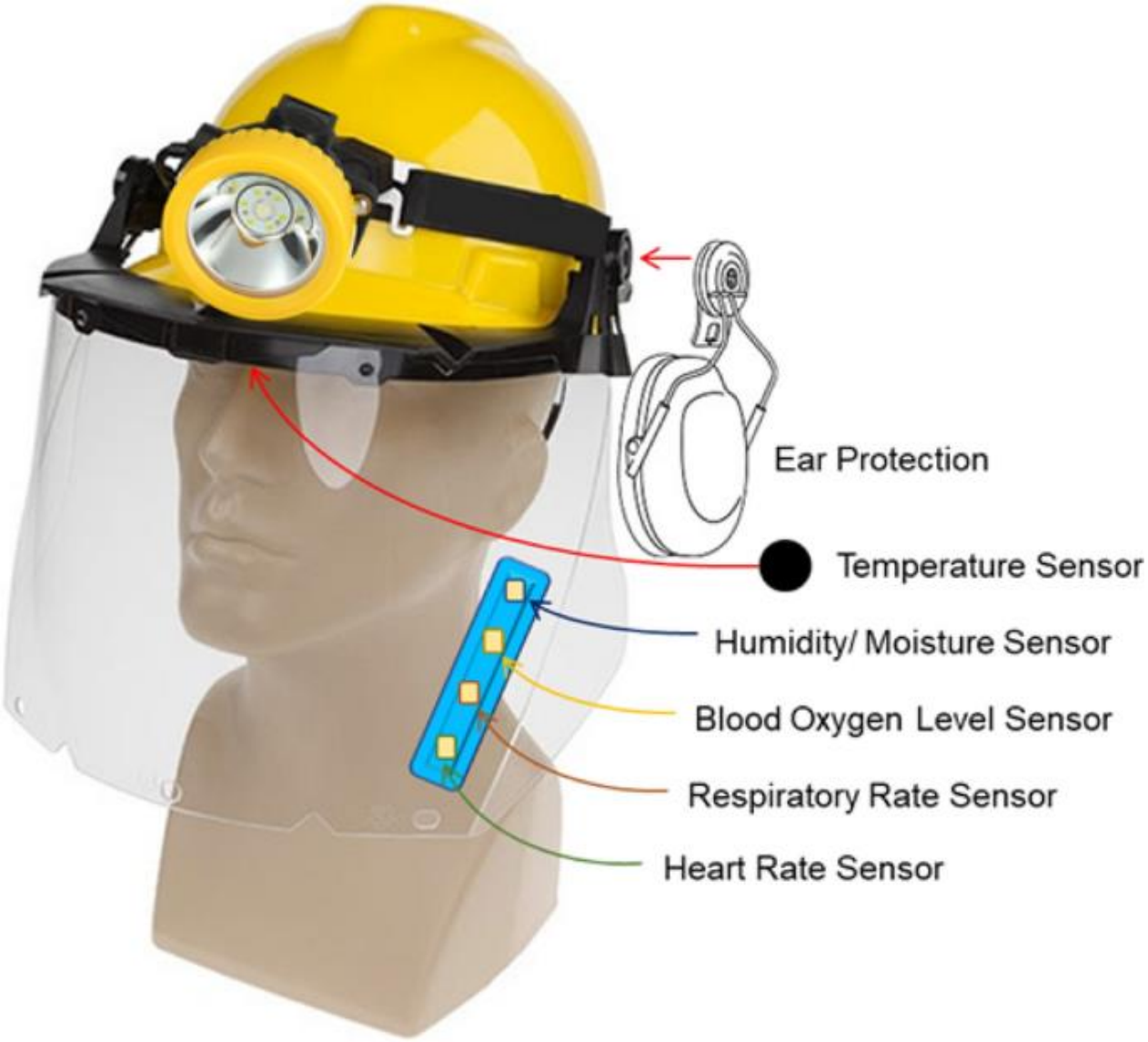


Fig Personal protection equipment not mendatory unless underground mining.

Fig Mendatory safety equipment

Fig prohibeted

Fig Danger

Fig fire Extingushier

Fig Exit direction

3.3 Site Information

As part of accessing and applying your site safety procedures, you will need to locate relevant destinations within the site. To do this you will need to gain access to site plans. Ask you supervisor or WHS safety officer for a copy.

Site plans will detail the locations of all buildings, facilities and structures within the site including travel ways and parking areas. You may also need to access and interpret the transport rules and signage for the site. Any signs and barricading that have been put in position should not be moved if it is in the way of any work you are doing.

Self-Check – 3	Written test

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write the common signage of work site?5 points
2. What contains Site Information?5 points

Score = _____

Rating: _____

Note: **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Information Sheet - 4	Identifying and Reporting Breaches in Site Safety

As stated previously, employers and workers have significant responsibilities when it comes to safety in the workplace. All workers have obligation to identify and report hazardous and dangerous issues and situation that may occur in the workplace.

- Ways of identifying potential issues
  - ✓ Conduct regular safety checks, this is a proactive approach
  - ✓ Know your immediate work environment, this way you will notice any out of the ordinary issues or concerns
  - ✓ Be familiar with workers and equipment, again this will assist in noting any issues
  - ✓ Check all activities against SWMS
- Some examples of breaches in safety may include;
  - ✓ Working at heights without safety controls
  - ✓ Inappropriate use of equipment
  - ✓ Unsafe movement around plant and equipment
  - ✓ Allowing unlicensed and non-qualified workers to use equipment or perform duti
  - ✓ Lack of proper guards and restrictors on equipment
  - ✓ Using mobile phones whilst carrying out duties
- You are required to know the reporting structure and escalation process for reporting safety breaches

  These steps may include
  - ✓ reporting the issue verbally to your supervisor or manager

- ✓ reporting the issue through the workplace's hazard reporting procedures
- ✓ raising the issue with the health and safety representative
- ✓ raising the issue with management

Reporting safety breaches will also contribute to the overall risk management of the workplace. These reports will be used to identify long term system issues and can lead to process improvement.

Do not assume that it is someone else's job to report issues, failure to report or act upon safety breaches may result in injury, damage or a workplace fatality.

Self-Check – 4	Written test

Directions: Say **TRUE** or **FALSE** for the following questions Use the Answer sheet provided in the next page:

1. All workers have obligation to identify and report hazardous and dangerous issues? 2point
2. Reporting safety breaches will not contribute to the overall risk management of the workplace.2 points
3. Failure to report or act upon safety breaches may result in injury, damage or a workplace fatality.2 points

Note: **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

LG #2	LO #2- Apply personal safety measures

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Using personal protective equipment
- Establishing and maintaining clean ,tidy and safe working area
- Maintaining primary and secondary ventilation
- Obtaining permits and clearances
- Applying safe manual and automated handling procedures
- Identifying and applying site procedures

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, **you will be able to**:

- Use personal protective equipment
- Establish and maintain clean ,tidy and safe working area
- Maintain primary and secondary ventilation
- Obtain permits and clearances
- Apply safe manual and automated handling procedures
- Identify and apply site procedures

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 2.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish from “Self-check 1 up to Self-check 6
5. Ask your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Information Sheet 2
7. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet Submit your accomplished Self-check. “Operation sheets” ,

8.If your performance is satisfactory proceed to the next learning guide,

9.If your performance is unsatisfactory, see your trainer for further instructions or go back to “Operation sheets”.

Information Sheet 1- Using personal protective equipment

1.1.Definition of protective equipment

Personal Protective Equipment is any clothing, equipment or substance designed to protect a person from risks of injury or illness

Examples of PPE

Eye - safety glasses, goggles

Face - face shields

Head - hard hats,hilmet

Feet - safety shoes

Hands and **arms -** gloves

Bodies – vests

Hearing - earplugs, earmuffs

Clothing, such as aprons, uniforms, vests, life jackets

There are no guarantees of personal safety in any environment. It is incumbent upon each individual to safeguard themselves against incidents, near misses and risks.

One of the best ways to maximise your safety and minimise risk is to follow some very simple safety rules;

- Follow directions and instructions
- Use equipment correctly
- Do not participate in 'horse play'
- Know your emergency procedures and equipment
- Stay alert
- Understand your responsibilities
- Conduct regular safety checks

- Keep yourself fit and healthy
- Look out for others
- Treat all high risk environments with respect
- Be familiar with the site and equipment
- Wear personal protective equipment and clothing

1.2.Use Personal ProtectiveEquipment

PPE or Personal Protective Equipment is any clothing, equipment or substance designed to protect a person from risks of injury or illness.

Figure:. Personal protective equipment

1.2.1 Common Protection Equipment

Earmuffs are used to protect the ears from too much noise in the workplace. The designed is to fully cover the ears.

Figure 1. Earmuffs

Earplugs are used to protect the ears from too much noise in the workplace. The designed is to fully cover the ears.

Figure 3. Earplugs

Eye and Face Protection

- **Face shield** is best for general protection of the face. Commonly worn under a welding helmet.

Figure 4. Face Shield

Safety Goggles are used to protect the eyes from dust and particles.

Figure 5. Safety goggles

Lung Protection

- **Respirators** filter dust and other particles from the air.

Figure 6. Respirators

Hand protection

- **Gloves** are the most common type of PPE used. It can protect the hands from heat, spatter, dirt or radiations.

Figure 7. Gloves

Foot protection

- **Safety shoes** are made of leather designed purposively to protect the toe from falling objects.

Figure 8. Safety Shoes

Body Protection

- **Leather apron** is made of chrome leather and provides a welder with complete protection from sparks and hot metal from his

chest to mid calf.

Figure 9. Leather Apron

High Visibility Clothing

Working in work site required to wear approved high visibility clothing (outer garments):

For day time work:

- Approved High Visibility vest.
- Approved High Visibility shirt.

For night time work

- High Visibility overalls with reflective tape

10.Safety Clothes

Fig safety cloth

Head Protection

Safety hats should be inspected prior to each use:

1. Inspect suspension systems that show evidence of materials cracking, tearing, fraying or other signs of deterioration.
2. Check any signs of cracks of perforations of brim or shell, deformation of shell, or evidence or exposure to excessive heat, chemicals or radiation

Figure 10. Helmet

1.3 Proper Training

To obtain the worker's complete compliance with the requirements to wear the PPE, the following factors must be considered:

1. the extent to which the personnel who must wear the equipment understand its necessity
2. the ease and comfort with which it can be worn with a minimum of interference with normal procedures
3. the available economic, social, and disciplinary sanctions which can be used to influence the attitudes of the workers

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is PPE? 5 points
2. Give examples for each type of PPE.(5 points)
    a. Ear Protection
    b. Eyes and Face Protection
    c. Lung Protection
    d. Foot & Hand Protection
    e. Body Protection

Information Sheet 2- Establishing and Maintaining Clean ,Tidy and Safe Working Area

2.1. Maintain a clean, tidy and safe working area

Tidy and safe work environments minimise risk and damage to equipment, worker, and road users and supports a professional approach to the overall business. It is everyone's responsibility to maintain a clean and tidy workplace; poor housekeeping can lead to the unnecessary creating of hazards.

- A common practice relating clean and tidy workplaces is adopting the **5S methodology**, by which workplaces are organised in an efficient and sustainable order.
- It is a systematized approach to organize work areas, keep rules and standards, and maintain discipline to do good job.

- The practice of 5S develops positive attitude among workers and cultivates an environment of efficiency, effectiveness and economy.
- It utilizes workplace organization and work simplification techniques to make work easier, faster, cheaper, safer and more effective.

Sort out unnecessary items and dispose them properly.

a. Make work easier by eliminating obstacles.
b. Provide no chance being disturbed by unnecessary items.
c. Eliminate the need to take care of the unnecessary items.
d. Prevents accumulation of unnecessary items.

Arrange necessary items in good order so that they can easily pick for use.

a) Classify necessary items into frequency of handling.
b) Locate jigs and tools that are used very often near to the point of use.
c) Locate the material at the defined position to ensure “First-in, First- out”, as well as to make the work easy.
d) Store and dies molds together with the specific tools necessary for this set-up.
e) Clearly label machinery, equipment parts, jigs, tools and their locations so that everything is understandable and visible to everyone at a glance.

Clean your workplace completely so that there are no dust on the floor, machinery and equipment.

a. make the workplace clean, safe and comfortable.

b.make it easy to produce quality products.

c. check whether the machinery and equipment are in good condition or not.

d. Assign responsible persons to each machine, equipment and area.

Self-Check – 2	**Written test**

Name…… ID…… Date…….

Direction: Read the instruction carefully. Match column A with column B. Write letters of the correct answer on the blanks provided before the number. Use separate answer sheet.

A	B
_____1. standardize	A.Clean your workplace completely so that there is no dust on the floor, machinery and equipment.
_____2. sort	B. Do things spontaneously without being told or ordered.
_____3.self-discipline	C. Sort out unnecessary items and dispose them properly.
_____4. systematize	D.Maintain high standard of workplace organization and housekeeping at all times.
_____5. sweep	E. Arrange necessary items in good order so that they can easily pick for use.
_____3.self-discipline	C. Sort out unnecessary items and dispose them properly.

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

Note: Satisfactory rating - 9 points Unsatisfactory - below 9 points

Information Sheet 3- Maintaining Primary and Secondary Ventilation

3.1 **Maintaining Primary and Secondary Ventilation**

It is essential when working in certain types of confined spaces that both primary and secondary ventilation methods are in place.

- **Primary ventilation** includes the fans and ventilation systems used
- **Secondary ventilation** includes back-up systems, natural fissures and entry points for ventilation

Working in confined or enclosed spaces can be extremely dangerous and can lead to serious injury, illness or death for individuals or whole groups of workers. Therefore, there is a need for a confined spaces entry permit.

A confined space can increase a worker's risk of being overcome by fumes, gases or lack of oxygen; damage to hearing through increased noise or vibration; extreme temperatures; and injury through falls and slips.

Confined spaces may include (and may not always be designated areas):

- Pipes and live or inactive sewer mains.
- Culverts and storm water systems.
- Shafts, duct and access chambers.
- Pits, trenches and gullies and degreaser.
- Environmental traps and tanks.
- Box girders and bridge voids.
- Storage tanks and boilers.
- ressure vessels, silos and other tank-like compartments.

Self-Check – 3	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What does mean primary ventilation?2 points
2. What does mean secondary ventilation? 2 points
3. Write some common Confined spaces in your work site? 2 points

Note: Satisfactory rating – 3 points Unsatisfactory - below 3 points

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

4.1 Work Require Permition

Permit systems are used extensively on work sites for specialised work, especially in traffic control at worksites. In addition to Traffic Control Guidance Schemes, Traffic management plans, other work may be carried out on the worksite that may need additional permits and clearance before work can be carried out. The responsible officer must complete a risk assessment and put all appropriate controls in place prior to issuing a permit.

Work that may require permits

- Access to restricted areas
- Welding and cutting
- Working at heights
- Digging and excavation work

A. Welding and cutting

A hot work permit is issued for work that will generate any source of ignition, such as flame, spark or temperature sufficient to ignite flammable material.

- Hot work can include tasks such as:
- Oxy cutting and welding.
- Brazing and soldering.
- Arc welding.
- Repairs and alterations done using heat-producing equipment such as blow lamps.

Grinding and high-speed friction cutting

Figure Cutting and Welding Area

B. Working at Heights

Working at heights includes any work where personnel/workers may fall and be injured (i.e. over 2 metres above the ground). Fall arrest equipment must be worn where there is the potential for you to fall more than 2 metres. This can include work done on:

- Buildings
- Bridges
- Roofs
- Scaffolds
- Ladders
- Elevated work platforms (EWP)
- Vehicles and other plant
- Unguarded platforms and walkways
- Order picking forklifts
- Forklift platforms

C. Excavation Work

Excavation involves the penetration of any ground surface either by hand (e.g. with a shovel or jack hammer) or with excavating machinery (e.g. an excavator or backhoe).

It is essential that all required permits and clearances are obtained before specialised work is carried out. This helps to ensure the safety of the worksite and personnel/workers and to ensure that all WHS policies and procedures are followed.

To apply for a permit, you will need to be totally clear about the nature of the work you wish to perform. You will also need to know the location of the work that is to be done.

- All types of work have specific reasons why a permit may need to be issued.
- There may be a number of different sites that must be covered by a permit

.

- Movement of personnel/workers, equipment and vehicles may require additional permits.

You will need to judge your job requirements against the permits you plan to apply for. A permit should include details of

- Location, description and duration of work to be done
- Hazards that may be encountered
- Isolation, lock out, tag out processes
- Atmospheric test and monitoring requirements and results
- Urgency of work;
- Hazard control measures (e.g. signs and barriers)
- PPE and clothing
- Other precautions (e.g. signs, barricades)
- Size of work crew; and
- Stand-by personnel/workers and emergency response and rescue arrangements.

4.2 Power Line Clearances

There are specific regulations governing the minimum safe distances that machinery can operate near power lines, as well as minimum safe distances for people, buildings and scaffolds.

If minimum safe clearances cannot be maintained, a network access permit or other relevant permit may be required – this may be obtained from the electricity network operator.

Self-Check – 4	Written test

Name…… ID…… Date…….

Test I: Short Answer Questions

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. List Works that may require permits (at least 4). 3 points
2. What is the function of Power Line Clearances? 3 points

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Score = _____

Rating: _____

Answer Sheet

Name: _____ Date: _____

Information Sheet 5- Applying Safe Manual and Automated Handling Procedures

5.1 Apply Safe Manual Handling Procedures

Manual handling is defined as any activity that involves lifting, lowering, pushing, pulling, carrying or moving a load manually or human effort

There is always a risk of personal injury (e.g. back injuries, muscle strain) when performing manual handling. Using correct manual handling techniques will help reduce the risks of injury. Correct manual handling techniques include:

- When lifting a load start with your legs bent and back straight. Use your leg muscles to raise and lower the load – NEVER use your back muscles.
- Keep your back straight when carrying a load. Keep the load close to your body.
- Move your feet when turning with a load – NEVER twist your body.

When conducting manual handling activities, it is important that team lifting is conducted when required. Accidents and injuries can happen as a result of attempting to lift objects that are too heavy or awkward for one person.

When conducting team lifting you should ensure that you apply teamwork strategies such as maintaining constant communication so that the weight is evenly distributed and movements are performed together. Wherever possible, you should use mechanical means to assist you whenever carrying out manual handling activities**.**

Figure 13. Team Lifting

5.1.2 Types of Injuries that Can Be Caused By Manual Handling

- muscle sprains and strains
- injuries to muscles, ligaments, intervertebral discs and other structures in the back
- injuries to soft tissues such as nerves, ligaments and tendons in the wrists, arms, shoulders, neck
- abdominal hernias
- chronic pain

5.2 Handling Aids

Handling aids can be used in the workplace to reduce the risk of manual handling injuries. Handling aids include devices such as trolleys and wheelbarrows or mechanical (automated) equipment such as forklifts, scissor lifts and hoists.

When using non-mechanical handling aids, it is a usually better to push a load than to pull it. The use of handling aids should conform to the national Hazardous Manual Tasks Model Code of Practice or state/territory equivalent.

All lifting, whether manual or automated should be conducted in accordance with your site's guidelines and procedures.

- Listening carefully to instructions and information.
- Clarifying directions when needed.
- Responding in a direct and clear manner.
- Maintaining visual contact with others where required

Apply Procedures for High-Risk Activities

High-risk work includes crane, hoist and forklift operation, scaffolding, dogging and rigging. Prior to conducting any high-risk activities it is essential that you identify the procedures to be followed on your site.

This will include obtaining the correct licence or certificate for the work you are to do. All site procedures must be followed so that the work is conducted safely and according to WHS procedures. Communication is vital when conducting any high-risk work. It is important to communicate clearly and directly with other personnel/workers involved in the task. This involves:

5.3 Managing Risks

You must manage risks to health and safety relating to a hazardous manual task.

You must:

- Identify hazards
- Eliminate the risk, wherever possible
- Minimize the risk by implementing control measures in accordance with the hierarchy of control
- Maintain the control measure so that it remains effective
- Review risk control measures

You must also consult with workers who are affected, or likely to be affected, by the manual task.

Designers, manufacturers, importers and suppliers of plant or structures must also eliminate or minimise the need for any hazardous manual task to be undertaken with the plant or structure or face one of these fines

Consider the following questions:

- Change the task; does the load or task need to be carried out?
- Change the object; can it be repacked, decanted or made smaller?
- Use mechanical aids; can the load be moved mechanically?
- Change the workspace; can we use ergonomic approaches, furniture
- Can you change the nature of work?
- Can assistance be obtained?
- Is the load too heavy to lift safely?

Characteristics of hazardous manual tasks may include:

Repetitive force - using force repeatedly over a period of time to move or support an object

Sustained force - occurs when force is applied continually over a period of time.

High force – may be exerted by the back, arm or leg muscles or by the hands and fingers. High force occurs in any tasks that:

- A worker describes as very demanding physically
- A worker needs help to do because of the effort it requires
- Require a stronger person or two persons to do the task.

Sudden force – jerky or unexpected movements while handling an item or load are particularly hazardous because the body must suddenly adapt to the changing force.

Self-Check – 5	Written test

Name…… ID…… Date……

Directions: Say **TRUE** or **FALSE** for the following questions Use the Answer sheet provided in the next page:

1. Manual handling is any activity that involves lifting, lowering, pushing, pulling, carrying or moving a using machine.2 points

2.When conducting manual handling activities, it is important that team lifting is conducted when required. 2 points

3.When lifting a load use your leg muscles to raise and lower the load your back muscles. 2 points

4.Identify hazards is one of managing the risk. 2 points

5.Sustained force occurs when force is applied continually over a period of time. 2 points

Note: Satisfactory rating - 6 points Unsatisfactory - below 6 points

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating:

Information Sheet 6- Identifying and applying site procedures

High risk activities are tasks that require a higher level of precautions to ensure the safety of those involved. High risk activities are usually defined by legislation governing the particular industry affected.

High Risk mining work may include (general)as per the WHS Act 2011 and its Regulation 20111:

- Involves a risk of a person falling more than 2 meters
- Is carried out on a telecommunication tower
- Involves demolition of an element of a structure that is load-bearing or otherwise related to the physical integrity of the structure
- Involves, or is likely to involve, the disturbance of asbestos
- Involves structural alterations or repairs that require temporary support to prevent collapse
- Is carried out in or near a confined space
- Is carried out in or near a shaft or trench with an excavated depth greater than 1.5 metres, or a tunnel
- Involves the use of explosives
- Is carried out on or near pressurized gas distribution mains or piping
- Is carried out on or near chemical, fuel or refrigerant lines
- Is carried out on or near energized electrical installations or services

- Is carried out in an area that may have a contaminated or flammable atmosphere
- Involves tilt-up or precast concrete
- Is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians
- Is carried out at a workplace in which there is any movement of powered mobile plant
- Is carried out in an area in which there are artificial extremes of temperature
- Is carried out in or near water or other liquid that involves a risk of drowning, or

High risk work may require;

- Permits and licenses
- Specialized training and certification
- Specialize plant and equipment
- Specialized facilities
- Designated time frames and environmental controls
- PPE
- Supervision
- Emergency plans
- Exclusion zones
- Traffic management
- Essential services

Self-Check – 6	Written test

Name…… ID…… Date…….

Directions: Say **TRUE** or **FALSE** for the following questions Use the Answer sheet provided in the next page:

1. High risk activities are tasks that require a higher level of precautions to ensure the safety. 2 points
2. High risk activities are usually defined by legislation governing the particular industry affected. 2 points
3. High risk work may require specialized training and certification. 2 points

Note: Satisfactory rating - 5 points Unsatisfactory - below 5 points

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

Operation Sheet 1	Isolating, Immobilizing and Tagging Potential Energy Sources

The basic steps of safe isolation are:

1. **Identify- a)** the equipment to be worked on and the isolation requirements.
    c. Including all locations where the equipment can be started
    d. Including any associated equipment
2. **Isolate** - Ensure that the intended isolation will not cause injury or damage and that all points are isolated. Be aware that the equipment may require the isolation of several energy sources.
3. **Lock &Tag** - Apply your personal isolation lock and personal danger tag to the isolation point/s.
4. **Dissipate** - Check and remove all stored energy
5. **Verify** – Test to ensure that the equipment is correctly isolated and cannot be re-energized

LAP Test 1	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 3- 4 hour.

Task1. Demonstrate the steps of safe isolation of hazard in your work site

Operation Sheet 2	**Applying Safe Manual and Automated Handling Procedures**

S.M.A.R.T. LIFTING TECHNIQUE

1. **S**IZE UP THE LOAD
   - Assess the size, weight, and shape. Remove obstacles from the load (such as loose wrapping materials).
   - Assess whether the load actually needs to be moved
   - Where is the load going to be placed? Remove obstacles from your path.
   - Determine whether mechanical or assistance from a co-worker is required
2. **M**OVE THE LOAD AS CLOSE TO YOUR BODY AS POSSIBLE
   - Stay close throughout the lift
   - The whole hand should be used to ensure a firm grip
3. **A**LWAYS BEND YOUR KNEES
   - Maintain balance
   - Keep feet apart and in a comfortable position
   - Minimize bending at the waist
   - Bend your knees to a semi squat

4. **R**AISE THE LOAD WITH YOUR LEGS
   - Lift smoothly, without jerking
   - Maintain the normal curve of your spine throughout the lift
   - Tighten the abdominal muscles and exhale while lifting
5. **T**URN YOUR FEET IN THE DIRECTION THAT YOU WANT TO MOVE THE LOAD
   - Avoid unnecessary bending, twisting, and reaching

- Change direction by turning your feet and not your back
- To set down a load, squat down and keep your head up. Let your legs do the work

LAP Test 2	Practical Demonstration

Name: _____

_____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following task.

Task # 2. Demonstrate the **S.M.A.R.T** LIFTING **TECHNIQUE in your work site?**

LG #3	LO #3- Apply operational safety measures
Instruction sheet	
This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics: • Giving response for recognized alarms • Identifying and clarifying own responsibility • Uses of emergency equipments • Responding and reporting emergency situations • Applying basic firefighting techniques • Identifying emergency escape route(s) and procedures This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, **upon completion of this learning guide, you will be able to**: • Give response for recognized alarms • Identify and clarify own responsibility • Use of emergency equipments • Respond and reporting emergency situations • Apply basic firefighting techniques • Identify emergency escape route(s) and procedures	
Learning Instructions:	

1.Read the specific objectives of this Learning Guide.

2.Follow the instructions described in number 2.

3,Read the information written in the “Information Sheets ”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.

4.Accomplish from “Self-check 1 up to Self-check 6

5.Ask your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check).

6.do operation sheet and submit to your teacher.

7.Submit your accomplished Self-check. This will form part of your training portfolio.

8.if you pass operation sheet proced to learning guide.

Information Sheet 1- Giving Response for Recognized Alarms

Recognize and Respond to Alarms

Safety alarms are used in workplaces to give an audible or visual warning about a problem or condition. They can range from warning personnel/workers or visitors that a piece of plant or equipment is not functioning as it should, through to an emergency situation occurring.

The main objective of alarms is to prevent or minimise physical and economic loss.

Figure 1. Alarm

Your worksite will use specific alarms for buildings, plant or equipment. You must ensure that you are able to identify the alarms used on your site so that the appropriate response can be initiated.

In the event of an emergency on a work site generally some form of visual or audible alarm will activate.

The types of alarms may include:

- Alarm bell
- Electronic tone (warbling, whoop-whoop etc. often used for fire)
- Sirens
- Tones transmitted over site radio/communication systems
- Flashing lights

1.2 Purpose of common Site and Workplace Alarms

- Reversing vehicle alarm is used to warn site users that a vehicle is reversing and the driver may have restricted vision
- Flashing or rotating light on an item of plant is used to warn site users that the plant is operating and the operator may be concentrating on the job in hand and may not be aware of persons in the vicinity
- Smoke detector is used for the early detection of fire through identifying smoke in the area
- Evacuation air horn alarm is a distinctive sound used to cut through ambient noise and warn site users to assemble at the evacuation point

1.3 Alarm Response

Your response to an alarm will depend on the type of alarm and the degree of concern that it demonstrates. Often worksites will use digital or computer operated alarms. For this reason, it is important that you are familiar with the technology used, and are able to operate the systems.

Major alarms on a worksite can tend to elicit a panic or “fight or flight” response from people. It is important that you remain calm, work participative with other personnel/workers and use your problem solving skills in order to work out what the alarm indicates, and how best to respond to it.

Figure 2. Alarm Respon

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

3. What is the function of Safety alarms in your worksite?3 points
4. List three types of alarms?3 points

Note: **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers

Information Sheet 2- Identifying and Clarifying Own Responsibility

Introduction

All workers will have differing responsibilities relating to reposing to an emergency, these details would have been covered during a workplace induction, and/or through toolbox talks and regular training.

You have a responsibility for ensuring your own safety in the event of an emergency. In the context of traffic control and traffic management, a worker may be responsible for moving traffic through and around safely during an emergency.

- Traffic may need to be stopped completely
- Diverted or restricted from the area for lengths of time
- The worksite may need to be shut down completely

2.1 worksite job titles and suggested responsibilities

A. Duties of Employers

- Adopt administrative policies on safety in accordance with the provisions of the standards.
- Report to the Regional Director or his/her duly authorized representative the policies adopted and the safety organization established.
- Submit a report to the Regional Director or his/her duly authorized representative once every three months on the safety performance, safety committee meetings and its recommendations and measures taken to implement the recommendation.
- Act on recommended safety measures and provide access to appropriate authorities

B. Duties of Employees

- Follow safety policies
- Report unsafe conditions and practices to the supervisor

- Serve as member of the Health and Safety Committee, when called upon to do so.
- Cooperate with the Health and Safety Committee
- Assist government agencies in the conduct of safety and health inspection

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Enumerate three (3) Duties of Employers under OSHS.
2. Enumerate three (3) Duties of Employees under OSHS

Note: **Satisfactory rating – Above 5 points** **Unsatisfactory - below 5 points**

Name: _____ Date: _____

Score = _____

Rating: _____

Short Answer Questions

Information Sheet 3- Uses of Emergency Equipmen

The potential for a fire to occur in high risk environment is very likely, as there may be present a range of plant equipment, combustible waste and hazardous chemical and materials. Before fighting a fire it is crucial to understand more about fires, how they start, how they can be controlled and what to do after the fact.

There are three basic components that are required for a fire to ignite, burn and continue to burn. These are **oxygen**, **heat** and **fuel** and are described in the fire triangle. The fuel can be any material that can be burnt, oxygen (O2) is an essential part of the chemical reaction needed to create fire, and heat is needed for ignition.

The **fire triangle** or combustion **triangle** is a simple model for understanding the necessary ingredients for most fires.

The **triangle** illustrates the three elements a **fire** needs to ignite: heat, fuel, and an oxidizing agent (usually oxygen).

FUEL - any combustible material - solid, liquid or gas.

OXYGEN - Sufficient oxygen must be present in the atmosphere surrounding the fuel for fire to burn.

HEAT - Sufficient heat energy must be applied to raise the fuel to its ignition temperature

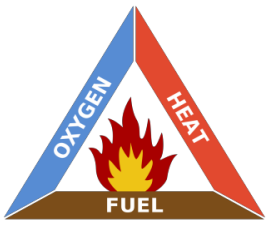


Figure 3.Fire Triangle

3.2 Classes of Fire

The following table sets out the classes of fire. Note that they are classified according to the fuel the fire needs to exist.

Class A – Paper, textiles, wood, most plastics and rubber

Class B – Flammable liquids

Class C – Combustible gases

Class E – Electrically energised equipment

Class F – Cooking oils or fats

3.3 Fire Extinguishers

There are a number of different types of portable fire extinguishers, each can be identified by the colour coding and labelling. Check that the extinguisher you intend

to use is suitable for the type of fire encountered e.g. a water extinguisher must never be used on any fire involving electrical equipment. With proper use, a portable fire extinguisher will be able to reduce or eliminate the degree of injury, damage and cost to business in the event of a small fire.

Warning: Never use an extinguisher on a fire type not included on the label.

Examples

Fire alarm systems

- Fire blankets
- Evacuation plans
- Evacuation alarms
- Good housekeeping
- practices Fire extinguishers
- Having an extinguisher appropriate to the fire risk
- Trained firefighting personnel (know how to use a fire extinguisher)
- Water sprinkler systems

3.4 Fighting a Fire

Before you consider fighting a fire you must make sure that all people in the area are alerted and are evacuating. You must ask yourself if you should fight the fire at all.

General Fire Fighting Procedure

If you ever discover a fire follow these steps:

- Remain calm.
- Sound the fire alarm and/or alert all the occupants to evacuate.
- Alert the fire brigade by dialling 000 (or your supervisor – depending on what procedures are currently in place).
- Leave the area
- Assemble with other staff at the evacuation assembly point.
- Upon their arrival, inform the fire fighters of the situation

In addition if you are going to fight the fire;

- Attack the fire with the firefighting equipment that is available and suitable –
- Send another person to raise the alarm.
- Arrange for power or fuel supplies feeding the area to be turned off.
- Approach the fire from a safe direction
- Do not turn your back on the fire.

Extinguisher tips

Portable Fire Extinguishers and Fire Blankets selection and location will provide comprehensive information.

- Ensure everyone knows the location of all extinguishers and how to use them.
- Only ever operate an extinguisher if safe to do so. If in doubt, get out.
- Remove the safety pin by pulling it sharply (this also breaks the plastic seal).
- Test to ensure that the extinguisher is operable immediately after removing from the mounting bracket.
- Always try to work in pairs for safety.
- Carry or drag extinguisher to the scene of the fire
- Keep the area where extinguishers are kept free form obstruction

3.4.1 Fire Prevention

Implement a program that includes preparation, prevention, and recognition of fire hazards.

1. Make sure you practice proper handling of combustible and flammable material.
2. Maintain safe housekeeping practices that reduce the risk of fire danger.
3. Always keep adequate fire suppression equipment in your work area to extinguish fire before it goes out of control.

The following are general safety measures in establishing and maintaining fire protection in the workplace:

- Never pile or lay material in a way that it covers or blocks access to firefighting equipment.

- Make sure to use only approved containers for the separation and disposal of combustible refuse.

Self-Check -3	Written Test

- Never store flammable materials within 10 feet of a building or other structure.
- Stack and pile all materials in orderly and stable piles.
- Never let unnecessary combustible materials get accumulated in any part of your work area.
- Make a periodic clean-up of entire work site and keep grass and weeds under control.

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page

1. Write the three elements of Fire?2 points
2. List the CLASSES of fire? 2 points
3. What is fire extinguisher? 2 points

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Information Sheet - 4	Responding and Reporting Emergency Situation

4.1 Emergency Situations

Emergency situations encountered in a workplace may include:

- Fire
- Emergency evacuation
- Incident or injury
- Electrical shock
- Falls
- Cyclones and otheextreme weather
- Entrapment
- Inrush
- Fumes
- Explosion
- Emergencies resulting from working in remote locations

4.2 Identify your Responsibility in Emergency Situations

Every worksite will have specific procedures to be followed in response to emergency situations. These procedures will differ based on the type of emergency, its severity and the impact it will have on personnel/workers.

Depending on your role in the worksite, your responsibility in regard to emergency procedures will vary. At any time when working at a site you must identify your

responsibility, and ensure that you understand your role in the event of an emergency situation developing.

If you are unsure of your responsibility on your worksite, seek clarification from supervisor or other Work Health & Safety (WHS) personnel/workers

4.3 Respond to and Report Emergency Situations

It is essential to have adequate emergency response procedures in place in the event of an emergency. Your response to an emergency will depend upon your role and responsibility within the workplace.

The alarm should be raised at once if there is an emergency, and supervisors or other personnel/workers must be informed. If all procedures, equipment and personnel/workers are prepared, an emergency response can be conducted without delay.

It is important that all workers stay calm and focused in a crisis. The quicker and more effectively all personnel/workers can react in an emergency the better the outcome.

Figure 5. Responding to Ambulance

It may be necessary for a trained person to apply first aid in emergency situations. All worksites should have adequate first-aid procedures and equipment.

Most workplaces will have designated first aid and emergency officers. You may need to contact emergency services such as the police, fire brigade or ambulance service in an emergency situationMake sure you give all important information such as the nature of the emergency, contact details, location and actions already taken.

Self-Check -4	**Written Test**

Directions: Say **TRUE** or **FALSE** for the following questions Use the Answer sheet provided in the next page:

1.Explosion is not one of emergency situations encountered in a worksite. (2 points)

2.Every worksite will have specific procedures to be followed in response to emergency situations. (2 points)

3.Depending on your role in the worksite, your responsibility in regard to emergency procedures will vary. (2 points)

4.It is necessary for a trained person to apply first aid in emergency situations. (2 points)

5.All important information such as the nature of the emergency, contact details, location and actions should be reported on time.(2 points)

Note: **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Information Sheet-5	**Identifying Emergency Escape Route(S) And Procedures**

Introduction

The organization must ensure that an emergency plan is prepared for the workplace, including for workers who may work at multiple workplaces. An emergency plan is a written set of instructions that outlines what workers and others at the workplace should do in an emergency. An emergency plan must provide for the following:

- Emergency procedures, including: an effective response to an emergency

- Evacuation procedures
- Notifying emergency service organizations at the earliest opportunity
- Medical treatment and assistance, and
- Effective communication between the person authorized to coordinate the emergency response and all people at the workplace
- Testing of the emergency procedures—including the frequency of testing, and
- information, training and instruction to relevant workers in relation to implementing the emergency procedures

Examples of inclusions in an emergency plan

An emergency plan may include practical information for workers such as:

- Emergency contact details for key personnel who have specific roles or responsibilities under the emergency plan, for example fire wardens, floor wardens and first aid officers
- Contact details for local emergency services, for example police, fire brigade and poison information centre
- A description of the mechanisms for alerting people at the workplace to an emergency or possible emergency, for example siren or bell alarm
- Evacuation procedures including arrangements for assisting any hearing, vision or mobility- impaired people
- A map of the workplace illustrating the location of fire protection equipment, emergency exits, assembly points
- Triggers and processes for advising neighbouring businesses about emergencies, and
- The post-incident follow-up process, for example notifying the regulator, organising trauma counselling or medical treatment.
- Procedures for testing the emergency plan including the frequency of testing must be included.

Evacuation Paths

You must ensure that you have a clear and direct escape or evacuation path that you can use in the event that your health or safety is threatened in your designated position, such as if a vehicle loses control and will hit you.

This path should lead you clear of the path of traffic and away from any hazards associated with the work area. Your evacuation path should only be used in these circumstances; otherwise, you should stay in your position, unless directed to move by the site supervisor.

Muster Points

You should familiarise yourself with the location of your nominated muster point on site and ensure that you make your way there during an emergency. Once at the muster point you should remain there until you have been notified that the emergency is over.

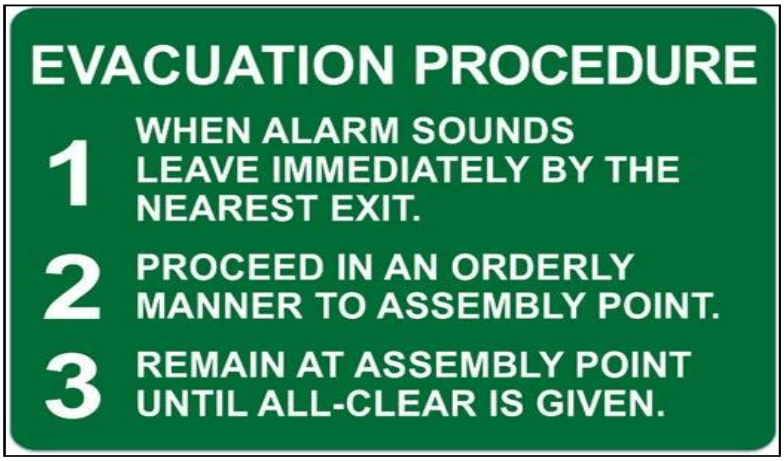
5.1.Identify Emergency Escape Route procedure

It is important to have an adequate emergency procedure in case of:

- Fires
- Chemical spills
- Release of toxic or flammable gases
- Severe injury to personnel/workers
- Collapse of structures
- Other dangerous or emergency situations such as bomb threats.

Emergency procedures should identify any emergency escape routes within the worksite. All worksites should have both a primary and secondary escape route. The secondary route will be necessary in the event that the primary one is rendered unsafe.

- Emergency procedures should also detail the procedures to be followed in an emergency, and when using emergency escape routes.



An example of an evacuation procedure may be:

1. Prepare to evacuate when the alarm is raised or when directed by a warden.
2. Leave your worksite in a safe condition.
3. Close the doors if there is a fire – DO NOT lock them.
4. Help anyone in immediate danger.
5. Follow all directions from wardens and emergency services personnel.
6. Leave the work area via the nearest safe route.
7. Move calmly to the nearest assembly point.
8. Wait for the all clear before returning to the work area.

All personnel/workers on a worksite should be able to locate emergency escape routes, and the procedures to be followed in the event of an emergency. These should be easily located and visible on the site.

Figure Emergency Directio

Self-Check -5	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page: 2 point for each

1. An emergency plan provid_____
   ,_____,_____,_____ ETC
2. What is evacuation path?
3. What is evacuation procedure?

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Operation sheet 1	Applying Fire Fighting Techniques

Steps for Using Fire Extinguishers

There are four basic steps for using modern portable fire extinguishers. The acronym **PASS** is used to describe these four basic steps.

1. **Pull (Pin)**

Pull pin at the top of the extinguisher, breaking the seal. When in place, the pin keeps the handle from being pressed and accidentally operating the extinguisher. Immediately test the extinguisher. (Aiming away from the operator) This is to ensure the extinguisher works and also shows the operator how far the stream travels

2. **Aim**

Approach the fire standing at a safe distance. Aim the nozzle or outlet towards the base of the fire.

3. **Squeeze**

Squeeze the handles together to discharge the extinguishing agent inside. To stop discharge, release the handles.

4. **Sweep**

Sweep the nozzle from side to side as you approach the fire, directing the extinguishing agent at the base of the flames. After an A Class fire is extinguished, probe for smouldering hot spots that could reignite the fuel

LAP Test	**Practical Demonstration**

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 3- 4 hour.

Task # 1. Apply Fire Fighting Techniques for fire extinguisher in your work site?

LG #4	LO #4- Maintain personal wellbeing for job
Instruction sheet	
This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics: • Identifying risks to personal wellbeing • Identifying, acting and reporting endangering situations • Accessing and explaining site requirements for fitness for duty • Adhering Site Policies This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, **upon completion of this learning guide, you will be able to**: • Identify risks to personal wellbeing • Identify, act and report endangering situations • Access and explain site requirements for fitness for duty • Adhere Site Policie	
Learning Instructions:	

1.Read the specific objectives of this Learning Guide.
2.Follow the instructions described in number 2.
3.Read the information written in the “Information Sheets ”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4.Accomplish from “Self-check 1 up to Self-check 4
5.Ask your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check).
6.If you earned a satisfactory evaluation proceed to “ the next Information Sheet ”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Information Sheet

Information Sheet-1	**Identifying risks to personal wellbeing Recognizing and preventative strategies**

1.1 The risks that may affect your wellbeing at work

Some of the risks that may affect your wellbeing at work may include

- Stress
- Poor Environment (conditions)
- Work place bullying and harassment
- Over worked
- Poorly maintained Equipment
- Lack of Training
- Poor fatigue management
- Non-adherence to safety
- Horseplay
- Effects of heat stress and hypothermia
- Sprains and strains

- ✓ It is easy to identify these risks; the difficulty is managing these risks and put preventative measure in place

1.2 Preventative Measures or Strategies

- Discussing your problems with others.
- Finding ways of stress release.
- Seeing a general practitioner or other medical professional.
- Gaining further training if required.
- Any other strategy relevant to the condition

Information kits, well-being information kits provide details on nutrition, exercise, stress management as well as balancing home and social life

- Safe work systems, these are inherent to ensure that staff feel safe and secure and reduces anxiety
- Ergonomics, attempt to have good workplace design
- Job design, have a look at the overall job and the tasks required, is there a better and more efficient way.
- Prevention of workplace bullying and harassment
- Prevention of sickness and disease, ensure that you encourage sick staff to stay at home rather than spread illness through the workplace
- Improved communication, informed staff are less like to stress or become anxious

Some of the workplace simple strategies that can be used to manage fatigue and well-being, Job rotation, healthy sleep patterns, warm clothing, comfortable footwear, food and water, comfortable PPE

1.3 Fatigue management

Fatigue is more than feeling tired and drowsy. In a work context, fatigue is a state of mental and/or physical exhaustion that reduces a person's ability to perform work safely and effectively. It can occur because of prolonged or intense mental or physical activity, sleep loss and/or disruption of the internal body clock.

A. Signs of Fatigue include:

- Tiredness even after sleep
- Reduced hand-eye coordination or slow reflexes
- Short term memory problems and an inability to concentrate
- Blurred vision or impaired visual perception
- A need for extended sleep during days off work

It is important that you manage fatigue effectively. On a construction site, you may be out in the elements for long periods, in differing conditions.

B. Strategies to Manage Fatigue:

You will be required to be on your feet standing for long periods so:

- Carry water and food
- Wear comfortable footwear and appropriate clothing
- Always take breaks and adhere to task rotation

When working shifts, all workers should be aware of the problems associated with fatigue that may occur where there are periods of consecutive night shifts or during a series of long shifts.

Self-Check -1	**Written Test**

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

5. List risks that may affect your wellbeing at worksite? 3points
6. What are Preventative Measures or Strategies of risks? 3 points
7. What are the signs of Fatigue.2 points
8. Write the Strategies to Manage Fatigue? 2 points

Note: **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Name: _____ Date: _____

Information Sheet -2	**Identifying, Acting and Reporting Endangering Situations**

2.1 Identify and Act on Dangerous Situations

It is important that you are alert to situations that may endanger yourself or other personnel/workers. Identifying a potential situation prior to an incident occurring is more effective than having to respond to a situation.

In a mining environment there are numerous activities occurring at the same time. Some of these activities you will be part of, some of these you will control and some you will not see at all. As you become familiar with the different types of traffic control worksites, you will be exposed to various, risks and safety issues.

2.1.1 Common worksite hazards

Some of the most common situations you may come across in traffic control include:

- Exposure to heat
- Vehicle accidents (road users) Workers around plant and
- equipment Exposure to chemicals
- Exposure to excessive noise
- Dust exposure
- Plant and equipment
- Working at night
- Road alignment
- Pedestrians
- Power lines
- Trip hazards
- Large vehicles
- Inclement weather
- Poor visibility
- Dropping of items from height
- Animals

What can youare the following:

- If there is a danger, make sure that you are free from danger
- Raise the alarm immediately to warn others, but noise and distance may

be an issue

- You need to be able to act and report these issues within the area you are working and managing
- You can use you communication devices to seek the assistance of others
- Enlist other around you to act appropriately
- Upon any issue you will need to report it, and follow all policy and procedure and the chain of command
- Section(Learning outcome 5) will assist in reporting and what you can do

Self Check 2	Written Test

Directions: Say **TRUE** or **FALSE** for the following questions Use the Answer sheet provided in the next page: 2 point each

3. Identifying a potential situation prior to an incident occurring is more effective than having to respond to a situation.
4. Working at night is not one of causes of hazard in work site.
5. During reporting follow all policy and procedure and the chain of command.

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Information Sheet - 3	Accessing and explaining site requirements for fitness for duty

Introduction

Working in mining is high risk work, so worksite worker needs to fully in control of their actions and their judgement or ability to concentrate should not be impaired in any way.

Fitness-for-duty means that an individual is in a physical, mental, and emotional state which enables the employee to perform the essential tasks of his or her work assignment in a manner which does NOT threaten the safety or health of oneself, co-workers, property, or the public at large.

Generally, you need to present yourself fit for duty in terms of:

- Alcohol
- Drugs
- Prescribed Medication
- Fatigue
- Physical or Psychological impairment

If you feel that you are not fit for duty for any reason at the start of or during your shift, you must talk to your supervisor about it immediately.

This is a shared responsibility between workers and management.

I'M SAFE Checklist

- **I** llness - do I have any symptoms?
- **M** edication – have I been taking prescription or over the counter drugs
- **S**tress - Am I under psychological pressure from the job? Worried about financial matters, health problems, of family issues?
- **A** lcohol – Have I been drinking within 8 hours?
- **F** atigue – Am I tired and not adequately rested
- **E** motion – Am I emotional update
- **F** itness for duty may also refer to returning to work

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

5 point each

4. What does mean Fitness-for-duty?
5. Write the **I'M SAFE Checklist.**

Note: **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Information Sheet-4	Adhering site policies

4.1 Comply with all work health and safety polices

There will be a number of general healths and safety polices in procedures that you will be required to follow and fulfil noted earlier that include:

- Personal Protective Equipment (PPE)
- Hazard identification and risk assessment
- Personal health and hygiene
- Working with hazardous substances
- Working with plant and mobile equipment
- Environmental protection
- Fire prevention and fire fighting
- Site communications
- Training
- Emergency response
- Tagging and isolation
- Defect reporting system
- Standard Operating Procedures
- Work instructions

It is important that you are adequately fit for duty when performing work activities. Your site will have specific requirements for fitness for duty. You must ensure that you know your site's requirements, and if you are unfamiliar, know how to access these requirements.

Your site may have requirements for fitness for duty relating to:

- Smoking restrictions
- Alcohol impairment.
- Improper use of drugs
- Fatigue management

- Physiological and psychological stress
- Medication
- Illness

In addition to these specific polices, it is important to understand your responsibilities regarding smoking, alcohol and drug use.

4.2.Adhere to Drug and Alcohol Policies

All worksites have drug and alcohol policies that state the standards regarding the use of prescription medicines, drugs and alcohol while on the worksite. All policies should be followed at all times. It is dangerous to be under the influence of drugs or alcohol while in the workplace; and you should cease work immediately.

Ignoring these policies places you and other personnel/workers at greater risk of hazards and accidents occurring, especially when operating machinery or equipment. Some worksites will have a designated area for smokers. They may also have particular times when smoking is allowed. never smoke near flammable materials, and follow all other procedures.

Figure 1. Drug and alcohol

Self-Check -4	**Written Test**

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

5 point each

1. Write four work health and safety polices in your work area?
2. What the in flounce of drug and alcohol in work site

Note: **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

LG #5	LO #5- Identify and Report Incidents

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Understand site incident and injury statistics
- Conduct contributory and participatory Incident investigations
- Apply protection under the relevant legislation
- Report and record Incidents and injuries

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, **upon completion of this learning guide, you will be able to**:

- Identify risks to personal wellbeing
- Recognize preventative strategies
- Identify, act and report endangering situations
- Access and explain site requirements for fitness for duty
- Adhere Site Policie

Learning Instructions:

1.Read the specific objectives of this Learning Guide.

2.Follow the instructions described in number 2.

3.Read the information written in the “Information Sheets ”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.

4.Accomplish from “Self-check 1 up to Self-check 4

5.Ask your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check).

6.If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Information Sheet 2

7.Submit your accomplished Self-check. This will form part of your training portfolio

Information Sheet-1	**Understanding site incident and injury statistics**

Introduction

High risk work environments will never be injury or incident free.

Employers must keep a register of injuries or illnesses sustained by workers regardless of whether there has been a claim.

- The register of injuries must include
- Name of the injured worker
- The worker's address
- The worker's age at the time of injury
- The worker's occupation at the time of injury
- The industry in which the worker was engaged at the time of injury
- The time and date of injury
- The nature of the injury
- The cause of the injury

1.1. Recognise and communicate incident and injury statistics

- Gathering and publishing workplace incident and injury statistics is an important part of improving workplace health and safety because it informs workers and site users of specific and general site dangers, it assists in developing strategies to recognise, eliminate and control those dangers. It helps maintain a transparent and open approach to site safety and encourages a consultative and co- operative approach to a culture of continuous improvement in site safety
- Recording and communicating injuries and near misses at work assists, employers, industry bodies and safety actioners in many ways:
    - Assists with prevention
    - Provides incident and behaviour patterns
    - Contributes to risk management processes
    - Contributes to improved practices
    - Aids in insurance claims and premiums
    - Assists with investigations
    - Analysis can be made to prevent future incidents

- What incidents and Injuries and incidents need to be reported?
    - Deaths and life threatening injuries
    - Physical injuries (accidental and deliberate)
    - Psychological injuries (abuse/bullying/harassment)
    - Near misses
- Incidents may include
    - Breaches of safety and security
    - Road users breaking the road rules
    - Misuse of plant and equipment
    - Fire and emergencyissues
    - Damage and destruction of plan and equipment
    - Collapse of buildings
    - Explosions
    - Chemical spills

Self-Check -1	**Written Test**

Directions: Say **TRUE** or **FALSE** for the following questions Use the Answer sheet provided in the next page:

1.High risk work environments will never be injury or incident free. (2 point)

2. Gathering and publishing workplace incident and injury statistics is an important part ofimproving workplace health and safety. (2 point)

3.Fire and emergencyissues are not included in incident.(2 point)

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Name: _____ Date: _____

Information Sheet -2	**Conducting Contributory and Participatory Incident Investigations**

2.1 Contribute to and participate in incident investigations

The general duty of care for employers under the WHS legislation requires employers to maintain safe and healthy workplaces and systems of work. Investigating accidents and incidents to prevent recurrence helps to achieve safer workplaces.

The main objective of an investigation is prevention. A good investigation aims to establish a series of events that should have taken place and compares it to what actually happened to identify areas that need changing.

Generally you will need to

- Cooperate with all reasonable requests
- Recount information as accurately and honestly as possible

Although you may also be involved in the following, investigation procedures need to be systematic. For any investigation you should:

- act as soon as possible after the incident;
- visit the scene before physical evidence is disturbed;
- not prejudge the situation;
- not remove anything from the scene;
- enquire if anyone else has moved anything; and
- Take photographs and/or sketches to assist in reconstructing the incident.

After the initial investigation is complete the team should:

- Identify, label and keep all evidence. For example, tools, defective equipment, fragments, chemical samples etc.;
- Interview witnesses separately;
- Check to see if there have been any 'near misses' in similar circumstances;
- Note down all sources of information;
- Keep records to show that the investigation was conducted in a fair and impartial manner;
- Review all potentially useful information, including design specifications, operating logs, purchasing records, previous reports, procedures, equipment manuals, job safety analysis reports, records of training and instruction of the people involved and experiences of people in similar workplaces/industries; and
- Reconstruct the incident (while ensuring that another incident does not occur) to assist in verifying facts, identifying what went wrong and what can be done to prevent it happening again

This list of questions may assist the investigation to establish the facts.

WHO

- Was injured?
- Saw the accident/incident?
- Was working with the injured person/s?
- Had instructed and/or assigned the job?

- Else was involved?
- Has information on circumstances/events prior to the accident/incident?

WHAT

- Is the injury?
- Is the damage or loss?
- Was the injured person/s doing?
- Is the work process?
- Had the injured person/s been instructed to do?
- Tools were being used?
- Machinery/plant/equipment was in use?
- Previous similar accidents or incidents have occurred?
- Action had been taken to prevent recurrence?
- Did the injured person/s and any witnesses see?
- Safety rules were violated?
- Safe systems or work, permits to work, isolation procedures were in place?
- Training had been given?
- Were the contributing causes of the accident/incident?
- Communication system was in use?

WHEN

- Did the accident/incident occur?
- Did the damage become evident?
- Did the injured person/s start the job?
- Was an explanation of the hazards given?
- Did the supervisor last see the injured person/s?
- Was something seen to be wrong?

WHY

- Did the injury occur?

- Did communication fail?
- Was training not given?
- Were there unsafe conditions?
- Was the hazard not evaluated?
- Was the system of work inadequate or inappropriate?
- Was personal protective equipment not provided?
- Was protective equipment not used?
- Was there no safe system of work, permit to work or isolation procedure operating?
- Were specific safety instructions not given?
- Was the supervisor not consulted when things started to go wrong?
- Was the supervisor not there at the time?

WHERE

- Did the accident/incident occur?
- Did the damage occur?
- Was the supervisor at the time?
- Were the witnesses at the time?

HOW

- Did the injury occur?
- Could the accident/incident have been avoided?
- Could the injury have been avoided?
- Could the supervisor have prevented the accident/incident?
- Could better design of plant or systems of work help?

Self Check # 2	**Written Test**

Directions: Say **TRUE** or **FALSE** for the following questions Use the Answer sheet provided in the next page: 2 point each

1. The main objective of an investigation is prevention

2.The general duty of care for employers under the WHS legislation requires employers to maintain safe and healthy workplaces and systems of work

3.After the initial investigation is complete the team should note down all sources of information

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Information Sheet - 3	**Appling protection under the relevant legislation**

3.1 Definition of Legislation

The preparing and enacting of laws by local, state, or national legislatures. In other contexts it is sometimes used to apply to municipal ordinances and to the rules and regulations of administrative agencies passed in the exercise of delegated legislative functions.

3.2 Work Health & Safety Legislation

In response to industry calls for greater national consistency, the Commonwealth, states and territories have agreed to implement nationally harmonised Work Health & Safety (WHS) legislation to commence on 1 January 2012. While not all states and territories have actually implemented the model WHS legislation as of the start of 2012, it is important to be aware of these changes, as all states and territories will eventually implement them. Harmonisation aims to develop consistent, reasonable and effective safety standards and protections for all workers through uniform WHS laws, regulations and codes of practice.

3.2 Key Elements of the Work Health & Safety Legislation

The following key elements of the WHS legislation will impact the way you do your job, and the responsibilities of your workplace:

1. There is a primary duty of care requiring **persons conducting a business or undertaking (PCBU)** to ensure, so far as is **reasonably practicable**, the health and safety of **workers** and other who may be affected by the carrying out of work, including providing first aid facilities and first aid trained workers.
2. A requirement that **officers** of corporations and unincorporated bodies exercise **due diligence** to ensure compliance
3. **Workers** must exercise reasonable care that their acts or omissions do not adversely affect the health and safety of persons at a workplace.

The legislation also outlines requirements for:

- The reporting requirements for notifiable incidents;Licences, permits and registrations (e.g. for persons engaged in high risk work or users of certain plant or substances);
- Provision for worker consultation, participation and representation at the workplace;
- Provision for the resolution of health and safety issues; and
- Protection against discrimination.

Many specific details relating to WHS will be negotiated within the workplace in accordance with the legislation.It is important that you speak with your Health and Safety Representative, ***/*** committee or supervisor for more information on how these elements will affect your day-to-day operations, or if you have any concerns relating to health and safety.

Self-Check -3	**Written Test**

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1.Define legislation? 5 point

2.List the Key Elements of the Work Health & Safety Legislation? 5 point

Note: **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

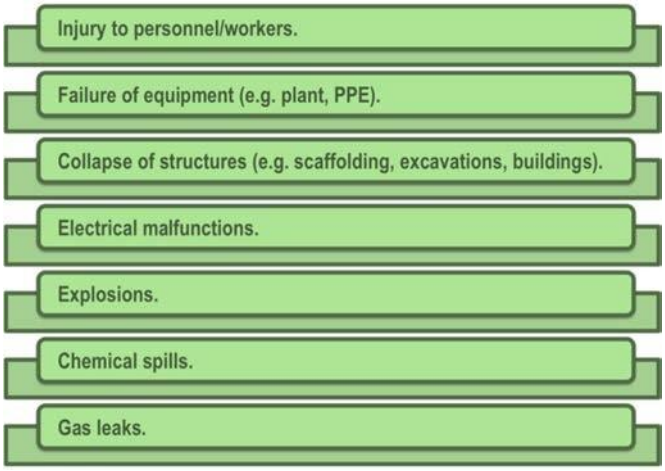
Information Sheet-4	Reporting and Recording Incidents and Injuries

4.1 Incidents at worksites

An incident includes accidents involving injury to people, damage to property or equipment and near misses that could cause an accident in the future. As part of the documentation process your site will keep records of all incidents and injuries that have occurred. These records will form the statistics for your site. It is essential for you to access and understand the incident and injury statistics of your site. Having an understanding of these statistics allows you to be able to analyse the information, and plan methods to prevent or correct hazards.

4.2 Report and Record Incidents and Injuries

There are many incidents that can occur in a workplace depending on the operations being conducted. These may include:



All incidents and injuries (including near misses) should be reported and recorded according to the correct procedures and site policies. This may include verbally reporting incidents and injuries to supervisors or WHS officers, filling in reporting documents such as accident forms, incident reports, and WHS investigation reports.

Incident reports may contain the following information:

- Time, date
- location of incident;
- Type of incident

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What information contains Incident report?
2. What is the common incident in work site?

Note: **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Reference Materials

.file:///C:/Users/ABC/Desktop/Document/OHS%20Document/Best%20RIIWHS201D-Manual-V3-Work-Safely%20Best.pdf

.file:///C:/Users/ABC/Desktop/Document/OHS%20Document/health_and_safety_manual_sample.pdf

.file:///C:/Users/ABC/Desktop/Document/OHS%20Document/OHS%2022%20Information%20sheet.pdf

.RIIWHS201D Work safely and follow WHS policiesand procedure\Users\David\Dropbox\Commonsense Safety Training Pty Ltd\Learners Guides & assessments\Learner guide manuals\Word docs\RIIWHS201D Manual V3 Work Safely.docx

file:///C:/Users/ABC/Desktop/Document/OHS%20Document/Ohs%20Manual.pdf

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