TVET CERTIFICATE IV

IMPLEMENTING S.H.E. POLICIES AND PROCEDURES

CCMHE401

Implement S.H.E. policies and procedures

Competence

Credits: 3

Learning hours: 30

Sector: All

Sub-sector: All

Module Note Issue date: June, 2020

Purpose statement

This module describes the outcomes required to implement safety, health and environmental (SHE) policies and procedures on a site adhering to defined policies and procedures to ensure own safety and that of others, together with protection of the environment. This includes implementation of recognized environmental care principles.

Table of Contents

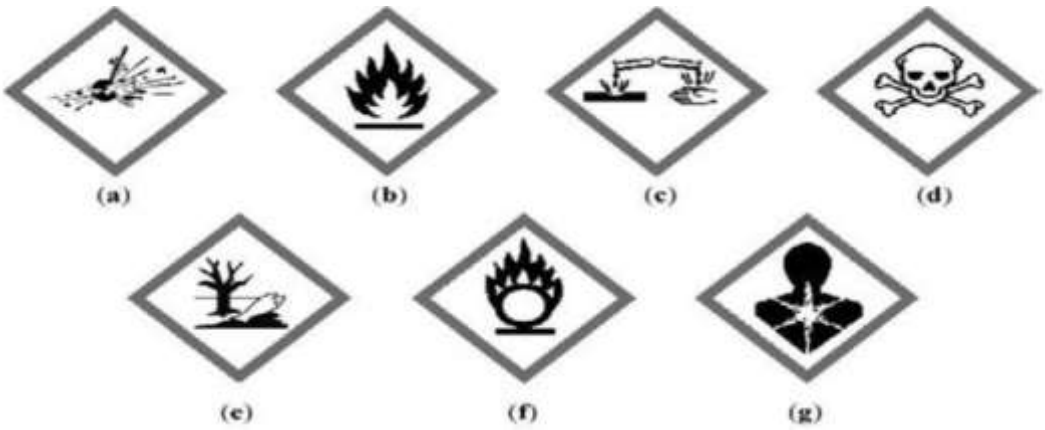
Total Number of Pages: 36

Learning Unit 1: Identify hazardous areas to be improved

1.1 Introduction

Hazard: is everything that can hurt you or someone else at the workplace. In technical field, we meet with hazardous area during his/ her daily activities, some signs are used to shows that you have to pay attention in the area you are working

Warning signs and colors
All instructions and safety information provided and only use and dispose of substances in the recommended manner. You should know the warning symbols and pay particular attention to any container bearing any of the symbols shown in Fig. bellow:



(a) Danger (explosive.)
(b) Danger (extremely flammable)
(c) Warning (corrosive.)
(d) Danger (fatal if swallowed.)
(e) Warning (very toxic to aquatic life)
(f) Danger – may cause or intensify fire; oxidizer. (g) Danger – may cause allergy or asthma symptoms or breathing difficulties if inhaled.

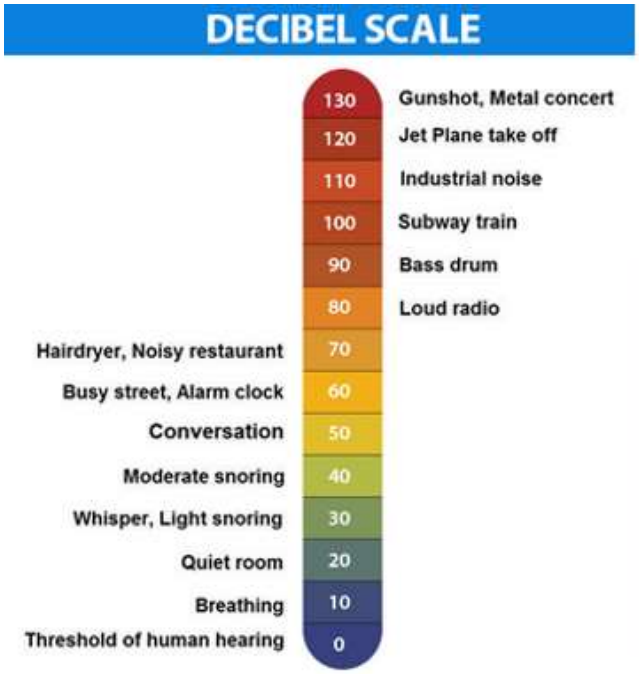
LO 1.1: Select tools and materials

1.1 Types of tools, materials and equipment used to identify hazard

Topic 1: selection of tools and materials used to identify hazards

1. **Dust sampler:** A particulate matter sampler is an instrument for measuring the properties (such as mass concentration or chemical composition) of particulates in the ambient air (a mixture of the gases), caused by smoke, dust, gases, fumes, aerosols and odorous substances.

2. **Noise meter:** A sound (noise) level meter is used for acoustic measurements. It is commonly a hand-held instrument with a microphone. The best type of microphone for sound level meters is the condenser microphone, which combines precision with stability and reliability.



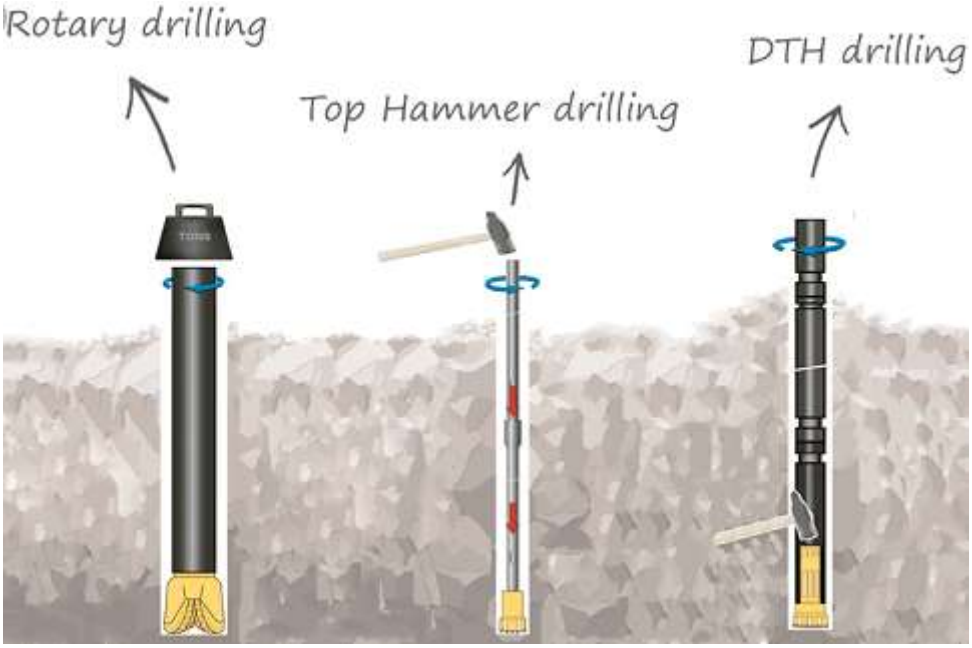
3. **Hammer:** a tool with a heavy metal head mounted at right angles at the end of a handle, used for jobs such as breaking things and driving in nails.

4. **Brushes:** an implement with a handle and a block of bristles, hair, or wire, used especially for cleaning, applying a liquid or powder to a surface.

5. **Crowbar:** an iron bar with a flattened end, used as a lever/hammer.

6. **Ladder:** a piece of equipment consisting of a series of bars or steps between two upright lengths of wood, metal, used for climbing up or down something.

7. **Rock drill:** a machine (as a hammer drill or piston drill) for making holes in rock. DTH drill (A down-the-hole drill).



DTH drill is basically a mini jackhammer screwed on the bottom of a drill string. The fast hammer action breaks hard rock into small flakes and dust and is blown clear by the air exhaust from the DTH hammer.

8. **Tape measure:** a length of tape or thin flexible metal, marked at graded intervals for measuring.

9. **Infrared thermometer:** An infrared thermometer is a thermometer which infers temperature from a portion of the thermal radiation sometimes called black-body radiation emitted by the object being measured.

10. **Timber:** wood prepared for use in building and carpentry

11. **Nails:** a small metal spike with a broadened flat head, driven into wood to join things together or to serve as a hook.

12. **Cement:** a powdery substance made by calcining lime and clay, mixed with water to form mortar or mixed with sand, gravel, and water to make concrete.

13. **Wire mesh:** Any of the open spaces in a net or network; an interstice. b. often meshes the cords, threads, or wires surrounding these spaces. or an openwork fabric or structure; a net or network: a screen made of wire mesh.

14. **Marking paints:** Thermoplastic road marking paint, also called hot melt marking paint, is a kind of powder paint. When applied as road surface markings, a hot melt kettle is used to heat it to 200 °C (392 °F) to melt the powder, after which it is sprayed on the road surface. The coating then becomes a hard, polymer line after cooling.

15. **Level meter:** tool used to indicate how parallel (level) or perpendicular (plumb) a surface is relative to the earth.

16. **Pick:** A pickaxe, pick-axe, or pick is a generally T-shaped hand tool used for prying. ... Developed as agricultural tools in prehistoric times, picks have evolved into other tools such as the plough and the mattock. They also have been used general construction and mining, and adapted to warfare.

17. **Shovel:** a tool resembling a spade with a broad blade and typically upturned sides, used for moving coal, earth, snow, or other material.

18. **Saw:** a hand tool for cutting wood or other hard materials, typically with a long, thin serrated blade and operated using a backwards and forwards movement.

19. **PPEs** (nose masks**,** hearing Protection, goggles, helmets, overalls, protective footwear, gloves)

Topic 2: identification of personal protective equipments

Personal protective equipment and clothing can include:

1. overalls and protective aprons
2. protective headgear - safety helmets, wide brimmed hats to protect against the sun
3. safety boots or shoes
4. safety glasses or goggles
5. gloves
6. respirators and masks
7. earmuffs and earpieces

Why is PPE important?

Making the workplace safe includes providing instructions, procedures, training and supervision to encourage people to work safely and responsibly.

Even where engineering controls and safe systems of work have been applied, some hazards might remain. These include injuries to:

1. the lungs, eg from breathing in contaminated air
2. the head and feet, eg from falling materials

3. the eyes, eg from flying particles or splashes of corrosive liquids
4. the skin, eg from contact with corrosive materials
5. the body, eg from extremes of heat or cold

Selection and use

You should ask yourself the following questions:

1. Who is exposed and to what?
2. How long are they exposed for?
3. How much are they exposed to?

When selecting and using PPE:

1. Choose products which are CE (Conformité Européenne" (French for "European Conformity") CE marking is a certification mark that indicates conformity with health, safety, and environmental protection standards for products sold within the European Economic area
2. Choose equipment that suits the user – consider the size, fit and weight of the PPE. If the users help choose it, they will be more likely to use it
3. If more than one item of PPE is worn at the same time, make sure they can be used together, eg wearing safety glasses may disturb the seal of a respirator, causing air leaks
4. Instruct and train people how to use it, eg train people to remove gloves without contaminating their skin. Tell them why it is needed, when to use it and what its limitations are

Maintenance

PPE must be properly looked after and stored when not in use, eg in a dry, clean cupboard. If it is reusable it must be cleaned and kept in good condition.

Think about:

1. using the right replacement parts which match the original, eg respirator filters
2. keeping replacement PPE available
3. Who is responsible for maintenance and how it is to be done?
4. having a supply of appropriate disposable suits which are useful for dirty jobs where laundry costs are high, eg for visitors who need protective clothing

Monitor and review

1. Check regularly that PPE is used. If it isn't, find out why not
2. Safety signs can be a useful reminder that PPE should be worn
3. Take note of any changes in equipment, materials and methods – you may need to update what you provide

LO 1.2: Inspect and identify physical feature of dangerous area

1.2.1. Tools and equipment checklist

Topic 1: Inspection and maintenance of personal protective equipments

The inspection of physical feature of dangerous area is a must in order to work safely, that is why a worker, company or organization have to make sure if there is:

1. **Adequate supply of tools and equipment for inspection:** The purpose of an inspection is to identify whether work equipment can be operated, adjusted and maintained safely with any deterioration detected and remedied before it results in a health and safety risk.

What you must do:

You should inspect work equipment if your risk assessment identifies any significant risk (for example, of major injury) to operators and others from the equipment's installation or use. The result of the inspection should be recorded and this record should be kept at least until the next inspection of that equipment.

What you should know

Power regulation 6 specifies the circumstances where inspection is required to ensure healthy and safe conditions are maintained:

1. where the safety of work equipment depends on the installation conditions, it should be inspected after installation and before first use, and after reassembly at any new site / location
2. at suitable intervals, where work equipment is exposed to conditions causing deterioration liable to result in dangerous situations
3. each time exceptional circumstances (e.g. major modifications, known or suspected serious damage, substantial change in the nature of use) are liable to have jeopardized (put someone or something into a situation in which there is a danger of loss, harm, or failure) the safety of the work equipment

When should work equipment that needs inspection be re-inspected?

Work equipment which is exposed to conditions causing deterioration that could result in a dangerous situation should be inspected at suitable intervals, and after every event liable to jeopardize its safety. The frequency of inspection may vary, depending on environmental conditions (e.g. equipment subject to harsh outdoor conditions is likely to need more frequent inspections than if used in an indoor environment).

1.2.2. Work place examination for unsafe area

Topic 1: Examination of workplace

- Environment condition: before working in any area, you have to check well the environmental condition of place and object. Such as:

1. Water: a colorless, transparent, odorless liquid that forms the seas, lakes, rivers, and rain and is the basis of the fluids of living organisms.
2. Cracks:
3. Air: the invisible gaseous substance surrounding the earth, a mixture mainly of oxygen and nitrogen.
4. Dust:

Listed below are just a few of the main hazards that are encountered on a typical construction site:

1. Working at heights
2. Moving objects
3. Slips, trips, fall…
4. Noise
5. Hand arm vibration syndrome
6. Material and Manual handling
7. Collapse
8. Asbestos
9. Slippery floors

In order to control workplace hazards and eliminate or reduce the risk, you should take the following steps:

1. Identify the hazard by carrying out a workplace risk assessment;
2. determine how employees might be at risk;
3. evaluate the risks;
4. Record and review hazards at least annually, or earlier if something changes.

L.O.1.3. Mark and report on the hazardous areas

Topic 1: marking and reporting hazardous area

To mark hazardous area is important before a hazard being appeared to prevent anybody entering in hazardous place. Acute hazards should always be reported immediately to a supervisor, delegated Workplace Health and Safety officer or representative. Hazards that are less acute may simply require completion of a Hazard Report form and forwarding it to the appropriate person.

Learning Unit 2: APPLY SHE PRACTICES

LO 2.1: Identify and follow applicable Occupational Health Safety and environmental (OHSE) requirements

2.1.1. OHSE requirement:

TOPIC 1: Identification of OSHE requirements

1. Personal protective equipment and clothing: Personal protective equipment (PPE) is protective clothing, helmets, goggles, or other garments or equipment designed to protect the wearer's body from injury or infection. The hazards addressed by protective equipment include physical, electrical, heat, chemicals, biohazards, and airborne particulate matter.

2. Safety equipment: Safety Equipment, as implied by its name, includes the gadgets that are used (worn, used, suspended etc.) for the protection of life and to avoid injuries or casualties.

3. First aid equipment: To save precious seconds in an injury emergency, adequate first aid supplies and trained workers must be readily available on construction site, each employer (whether a contractor, sub-contractor, or a self-employed person) is required to have people trained in first aid.

4. A first-aid kit is a bag or case containing basic medical supplies that are designed to be used on someone who is injured or who suddenly becomes ill.

Topic 2: record keeping

Record keeping may not be foremost in the mind of an employer or worker during an emergency situation, but it is important. Section 9.10 of the OHS General Regulations states that injuries must be recorded by the first aid provider as soon after the treatment as possible.

Here are the details to be recorded:

1. Date and time the injury/illness occurred and to whom it was reported
2. Name of injured worker
3. Name of first aid provider
4. Description of injury and the incident
5. The cause of the injury/illness
6. A brief description of the first aid given

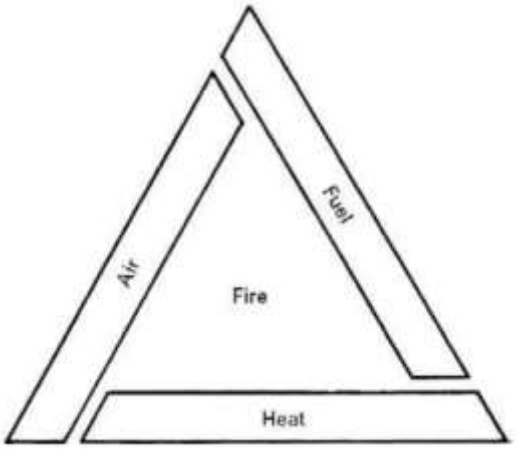
Topic 3: Identification of fire and firefighting equipments

- Firefighting equipment: Firefighting equipment is equipment designed to extinguish fires or protect the user from fire. It may be used by trained fire fighters, untrained users at the scene of a fire, or built into a building's infrastructure (such as a sprinkler system).

- What is fire?

Essentially fire is a very rapid oxidation. Rusting iron and rotting wood are common examples of slow oxidation. Fire, or combustion, is rapid oxidation as the burning substances combines with oxygen at a very high rate. Energy is given off in the form of heat and light. Because this energy production is so rapid, we can feel the heat and see the light as flames.

Many materials burn rapidly and the fumes and smoke produced, particularly from synthetic material, including plastics, may be deadly. As previously stated, a fire requires fuel, oxygen (air) and heat. This is shown by the 'fire triangle"



There are a number of reasons for fires starting:

1. Malicious ignition: i.e. deliberate fire rising;
2. Misuse or faulty electrical equipment; e.g. incorrect plugs and wiring, damaged cables, overloaded sockets and cables, sparking and equipment such as soldering irons left on and unattended;
3. Cigarettes and matches: smoking in unauthorized areas, throwing away lighted cigarettes or matches;
4. Mechanical heat and sparks: e.g. faulty motors, overheated bearings, sparks produced by grinding and cutting operations;
5. heating plant: flammable liquids/substances in contact with hot surfaces;
6. Rubbish burning: casual burning of waste and rubbish.

Table showing the types of fire and its extinguishing mode

						
Which extinguisher to use	**Freely burning materials**	**Flammable liquids**	**Flammable gases**	**Flammable metals**	**Electrical hazards**	**Cooking oil and fats**
Water	✓					
Water with additives	✓					
Spray foam	✓	✓				
Dry powder	✓	✓	✓		✓	
Dry powder special metals				✓		

2.1.2. Environmental requirements:

Topic 4: identification of environmental requirements

1. Legislation: laws, considered collectively.
2. Organizational policies and procedures: Policies and procedures are designed to influence and determine all major decisions and actions, and all activities take place within the boundaries set by them. Procedures are the specific methods employed to express policies in action in day-to-day operations of the organization.
3. Workplace practices: Safe work practices are generally written methods outlining how to perform a task with minimum risk to people, equipment, materials, environment, and processes. Safe job procedures are a series of specific steps that guide a worker through a task from start to finish in a chronological order.

2.1.3. Legislative requirements:

Topic 5: identification legislative requirements

1. Award and enterprise agreements: An Enterprise Agreement sets out the minimum terms of employment between one or more employers and their employees or a group of their employees. The agreement may either sit in isolation of any other Award or it may incorporate certain terms from the relevant parent Award.
2. Industrial relations: the relations between management and workers in industry.

3. Confidentiality and privacy: Privacy refers to the right of an individual to keep his or her health information private. Confidentiality refers to the duty of anyone entrusted with health information to keep that information private.
4. OHS (occupation health and safety).
5. The environment: the surroundings or conditions in which a person, animal, or plant lives or operates.
6. Equal opportunity: the right to be treated without discrimination, especially on the grounds of one's sex, race, or age.
7. Anti-discrimination: opposed to the unjust and prejudicial treatment of different categories of people.
8. Relevant industry codes of practice: A code of practice is a set of written rules which explains how people working in a particular profession should behave. The auctioneers are violating a code of practice by dealing in stolen goods.

2.1.4 Organizational requirements:

Topic 6: identification of Organizational requirements

1. Legal: relating to the law, permitted by law.
2. organizational and site guidelines:
3. policies and procedures relating to own role and responsibility
4. Quality assurance: Quality assurance is a way of preventing mistakes and defects in manufactured products and avoiding problems when delivering products or services to customers; which ISO 9000 defines as "part of quality management focused on providing confidence that quality requirements will be fulfilled".
5. procedural manuals
6. quality and continuous improvement processes and standards
7. OHS, emergency and evacuation procedures
8. Ethical values: Ethical values are those values that people use to determine what is right and wrong in different, random situations. Different people have different ethical values. ... These are examples of ethical values. There are others, such as love, forgiveness, joy, etc. It is something you should determine for yourself.
9. recording and reporting requirements:
10. equipment uses, maintenance and storage requirements
11. environmental management requirements (waste disposal, recycling and re-use guidelines)

LO 2.2. Instruct workers to follow safety best practices and enforce health and safety regulations.

2.2.1. SHE standards and regulations to be followed

Topic 1: following she standards and regulations

- Use of PPEs: PPE is equipment that will protect the user against health or safety risks at work. It can include items such as safety helmets, gloves, eye protection, high-visibility clothing, safety footwear and safety harnesses.

- Use of inspection checklist: An inspection checklist, when used properly, is an assurance that a particular piece of equipment has been inspected. As each item on the checklist is ticked off, the person doing the inspection is verifying that each component of the equipment is in correct working order.
- Appropriate tools, materials and equipment to be used: To use appropriate tools, materials and equipment is an essential key

Sample Checklist for Manufacturing Facilities

The examples outlined below do not list all the possible items for manufacturing facilities. The best checklist for your workplace is one that has been developed for your specific needs. Whatever the format of the checklist, provide space for the inspectors' signatures and the date.

Inspectors:		Date:	
	(O)Satisfactory (X) Requires Action		
	Location	Condition	Comments
Training			
Is training provided for each person newly assigned to a job?			
Does initial training include a thorough review of hazards and incidents associated with the job?			
Is adequate instruction in the use of personal protective equipment provided?			
Is training for the use of emergency equipment provided?			
Are workers knowledgeable in the "Right to Refuse" procedures?			
Environment			
Are resources available to deal with very hot or very cold conditions (drinking water, lined gloves, insulated boots)?			
Is the rain/cold weather gear that is provided comfortable, and light enough so as not to constitute a hazard?			
Are work surfaces and grip surfaces safe when wet?			
Do workers know the symptoms of heat cramps/heatstroke, or frost bite/hypothermia?			
Work Process			
Are repetitive motion tasks properly paced and kept to a minimum?			
Are the safety data sheets accessible to all employees?			
Are hazards signalled by signs and tags?			

L.O.2.3. Establish and maintain communication with others in line with SHE requirements

2.3.1. Communication:

Topic 1: communication at the workplace

Verbal and non-verbal language: Verbal communication is the use of auditory language to exchange information with other people, Non-verbal communication is the process of conveying a message without the use of words either written or spoken.

1. Constructive feedback: Constructive feedback is information-specific, issue-focused, and based on observations. It comes in two varieties: Praise and criticism are both personal judgments about a performance effort or outcome, with praise being a favorable judgment and criticism, an unfavorable judgment.
2. Active listening: Active listening is technique that is used in counselling, training, and solving disputes or conflicts. It requires that the listener fully concentrate, understand, respond and then remember what is being said. This is opposed to other listening techniques like reflective listening and empathic listening.

3. questioning to clarify and confirm understanding:

In communication, clarification involves offering back to the speaker the essential meaning, as understood by the listener, of what they have just said. Thereby checking that the listener's understanding is correct and resolving any areas of confusion or misunderstanding.

Clarification is important in many situations especially when what is being communicated is difficult in some way. Communication can be 'difficult' for many reasons, perhaps sensitive emotions are being discussed - or you are listening to some complex information or following instructions

Clarification is the skill we use to ensure that we have understood the message of the speaker in an interpersonal exchange. When using clarification follow these guidelines to help aid communication and understanding.

1. Admit if you are unsure about what the speaker means.
2. Ask for repetition.
3. State what the speaker has said as you understand it, and check whether this is what they really said.
4. Ask for specific examples.
5. Use open, non-directive questions - if appropriate.
6. Ask if you have got it right and be prepared to be corrected.

L.O.2.4. Perform tasks in a safe manner and in line with SHE best practices

2.4.1. Environmental policy which ensures:

Topic 1: performance of tasks according to Environmental policy

- ❖ Compliance, improvement (where required to reflect environmental policy) and prevention.
- ❖ Continuous cycle of planning, implementing, monitoring, reviewing and improving environmental practices and systems

Learning Unit 3: ASSESS AND CONTROL RISKS

LO 3.1: Analyse work practices and identify areas for improvement in relation to SHE issues and hazards

3.1.1. Questioning techniques: The 8 essential questioning techniques you need to know

Topic 1: Identification of areas of improvement in relation to SHE issues and hazards

1. Closed questions (aka the 'Polar' question) Closed, or 'polar' questions generally invite a one-word answer, such as 'yes' or 'no'. ...
2. Open questions. ...
3. Probing questions. ...

These questions are useful for gaining clarification and encouraging others to tell you more information about a subject. Probing questions are usually a series of questions that dig deeper and provide a fuller picture. For example: ‘when do you need the finished project, and is it ok if I email it to you?’

1. Leading questions. ...
2. Loaded questions. ...

Loaded questions are seemingly straightforward, closed questions — with a twist: they contain an assumption about the respondent. They’re famously used by lawyers and journalists to trick their interviewee into admitting a fundamental truth they would otherwise be unwilling to disclose.

1. Funnel questions. ...
2. Recall and process questions. ...
3. Rhetorical questions

3.1.2. Complaints or difficult customer service situations:

Topic 2: dealing with customer complaints

This section will deal with difficult and angry customers and the best way to manage complaints. We’ll show you specific techniques that often work in soothing awkward and tense situations.

- **How to deal with difficult customers?**

Difficult or troublesome customers are just another part of doing business. Businesses who understand how to handle difficult customers can reap huge rewards; like increased customer retention and high customer satisfaction.

Below are some tips on how to best deal with customer difficult

1. Listen to what they are saying

Difficult customers are asking to be heard. They need to know that you are listening to their concerns or problems, and they want you to do something constructive to solve their problems. That's why it's important that you actually do listen to what is making this customer so unhappy. Allow them to speak and get their gripe out in the open; then relay the problem back to them, just to clarify.

2. Show you care

Difficult customers need to be heard; and they also need to know you care. By this we mean you must show empathy; be concerned with the fact that they're upset (and the reason for it), and do whatever is in your power to resolve their situation.

3. **Offer a solution**

Dissatisfied or angry customers want solutions; and you probably don't want to devote too much time resolving a problem, so find a quick way to offer solutions. Resolving an issue quickly shows that you're the person who's capable of resolving the issues. More than anything, an angry customer wants to know that you're going to make this pain (anger, frustration) go away. By focusing on a solution and how you intend to make it happen, the customer will automatically begin to refocus their negative feelings onto more positive ones.

4**. Always exceed expectations**

When you think about it, customer expectations form the basis for customer satisfaction. In order to keep your customers happy, you must consistently exceed their expectations. They want to be pleasantly surprised. This is a great way to resolve issues with difficult customers: by exceeding their expectations they've virtually got nothing left to complain about. So, go above and beyond what the customer expects, and make sure they're

well taken care of. Exceed their expectations by taking the extra time to listen to, understand, and resolve their complaints. If you have to stop everything else, you're doing to make this happen, then do it.

1. How to deal with customer complaints

Everyone in business at some time or other has had to deal with a disgruntled or angry customer.

Your challenge is to carefully handle the situation in a manner that leaves the customer thinking your company is simply the best. Do it really well and this customer could end up becoming your most passionate advocate for your brand.

Realistically, most customers can't be bothered complaining. They leave your store and move on to your competitors.

Below are some tips on how to best deal with customer complaints

2. Listen to what your customer is trying to tell you

Let them finish their story. And above all – don't become defensive. Prove that you were listening by repeating back to them what you heard.

3. Ask your questions in a concerned and caring manner

Allow your customer the time to provide as much information as possible, and this way you'll more easily be able to understand their perspective. It's certainly easier to ask questions than it is to jump to conclusions.

4. Put yourself in their shoes

You're the business owner (or staff member of the business) and your goal should be to resolve any problems – not argue with your customers. The customer must know that you're on their side and that you understand their frustration.

5. Apologize but don't blame anyone

If your customer understands you are indeed sorry for the inconvenience, that's usually enough to calm things down. So, you don't need to lay blame on another department or another person. You just calmly say 'I'm so sorry this happened' or 'I'm sorry about that'. 'What can we do that would be an acceptable solution to you?'

The customer may not know what their options are so have ready a couple of solutions that may resolve the problem. This way you're working together to find the most positive solution.

6. Resolve the problem quickly

And if you can't, then find the person who can. Research suggests that complaining customers prefer the staff member they're speaking with to resolve their problem – quickly. Once you start moving complaints up the chain of command, they become more complicated, more expensive to handle, and just add further frustration to the customer. As we mentioned previously, most customer complaints are very simple to resolve, so resolve them there and then.

LO 3.2 Detect, assess and report SHE issues and Hazards in the work area to appropriate personnel

Topic 1: Detecting and reporting SHE issues and hazards

Risk management is an activity which integrates recognition of risk, risk assessment, developing strategies to manage it, and mitigation of risk using managerial resources. Some traditional risk managements are focused on risks stemming from physical or legal causes (e.g. natural disasters or fires, accidents, death). Financial risk management, on the other hand, focuses on risks that can be managed using traded financial instruments. Objective of risk management is to reduce different risks related to a pre-selected domain to an acceptable. It may refer to numerous types of threats caused by environment, technology, humans, organizations and politics.

Risk is unavoidable and present in every human situation. It is present in daily lives, public and private sector organizations.

RISK MANAGEMENT STEPS AND TOOLS
The risk management steps are:

1. Establishing goals and context (i.e. the risk environment),
2. Identifying risks,
3. Analysing the identified risks,
4. Assessing or evaluating the risks,
5. Treating or managing the risks,
6. Monitoring and reviewing the risks and the risk environment regularly, and

7. Continuously communicating, consulting with stakeholders and reporting.

1. Establish goals and context

The purpose of this stage of planning enables to understand the environment in which the respective organization operates, that means to thoroughly understand the external environment and the internal culture of the organization.

2. Identify the risks

Using the information gained from the context, particularly as categorized by the SWOT and PEST frameworks, the next step is to identify the risks that are likely to affect the achievement of the goals of the organization, activity or initiative. SWOT (Strength, Weaknesses, Opportunities and Threats) and PEST (Political, Economic, Societal and Technological)

3. Analyse the risk

Risk analysis involves the consideration of the source of risk, the consequence and likelihood to estimate the inherent or unprotected risk without controls in place.

4. Evaluate the risk

Once the risks have been analysed they can be compared against the previously documented and approved tolerable risk criteria.

5. Treat the risk

An unacceptable risk requires treatment.

6. Monitoring the risk

It is important to understand that the concept of risk is dynamic and needs periodic and formal review. The currency of identified risks needs to be regularly monitored. New risks and their impact on the organization may to be taken into account.

7. Communication and reporting

Clear communication is essential for the risk management process, i.e. clear communication of the objectives, the risk management process and its elements, as well as the findings and required actions as a result of the output.

Risk management is an integral element of organization´s management. However, for its successful adoption it is important that in its initial stages, the reporting on risk management is visible through the framework.

LO 3.4 Control hazard to make them less dangerous by looking at the most effective options.

Topic 1: Application of hazard control method

A. HAZARD CONTROL METHODS: PREVENTION, HANDLE, ISOLATION, REMOVE OR USE OF PPE

Some hazards and their controls will be specifically outlined in legislation. In all cases, the employer has a duty of due diligence and is responsible for 'taking all reasonable precautions, under the particular circumstances, to prevent injuries or accidents in the workplace'. In situations where there is not a clear way to control a hazard, or if legislation does not impose a limit or guideline, you should seek guidance from occupational health professionals such as an occupational hygienist or safety professional about what is the "best practice" or "standard practice" when working in that situation.

Remember!

A legal limit or guideline (such as an exposure limit) should never be viewed as a line between "safe" and "unsafe". The best approach is to always keep exposures or the risk of a hazard as low as possible.

The main ways to control a hazard include:

1. Elimination (including substitution): remove the hazard from the workplace, or substitute (replace) hazardous materials or machines with less hazardous ones.

2. Engineering Controls: includes designs or modifications to plants, equipment, ventilation systems, and processes that reduce the source of exposure.

3. Administrative Controls: controls that alter the way the work is done, including timing of work, policies and other rules, and work practices such as standards and operating procedures (including training, housekeeping, and equipment maintenance, and personal hygiene practices).

4. Personal Protective Equipment: equipment worn by individuals to reduce exposure such as contact with chemicals or exposure to noise.

These methods are also known as the "hierarchy of control". Some sources may use a variation of this hierarchy. For example, the CSA Standard 1002-12: Occupational health and safety – Hazard identification and elimination and risk assessment and control includes a level called "systems that increase awareness of potential hazards". This systems level is placed in between engineering controls and administrative controls. However, regardless of the number of levels included, the hierarchy should be considered in the order presented (it is always best to try to eliminate the hazard first, etc.).

Controls are usually placed:

1) At the source (where the hazard "comes from").
2) Along the path (where the hazard "travels").
3) At the worker.

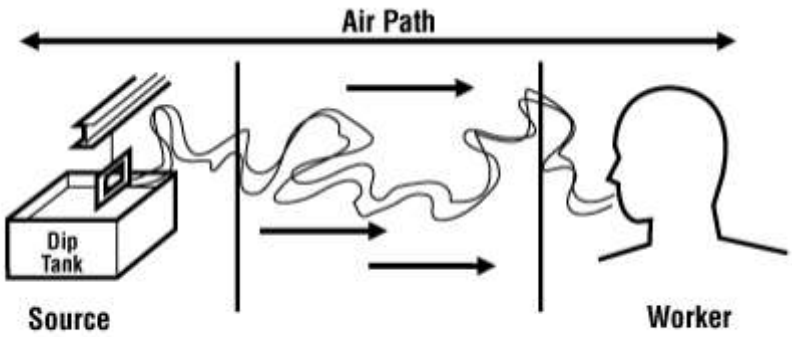


Figure 2

Control at the source and control along the path are sometimes also known as engineering controls (see below for more details)

Elimination

Physically removed the hazard is the most effective hazard control. For example, if employees must work high above the ground, the hazard can be eliminated by moving the piece they are working on to ground level to eliminate the need to work at heights.

Substitution

This pesticide contains DDT, an effective substitution would be to replace it with a green pesticide. Substitution, the second most effective hazard control, involves replacing something that produces a hazard (similar to elimination) with something that does not produce a hazard for example; replacing lead-based paint with titanium white. To be an effective control, the new product must not produce another hazard.

Because airborne dust can be hazardous, if a product can be purchased with a larger particle size, the smaller product may effectively be substituted with the larger product.

Engineering controls

The third most effective means of controlling hazards is engineered controls. These do not eliminate hazards, but rather isolate people from hazards. Capital costs of engineered controls tend to be higher than less effective controls in the hierarchy, however they may reduce future costs. For example, a crew might build a work platform rather than purchase, replace, and maintain fall arrest equipment. "Enclosure and isolation" create a physical barrier between personnel and hazards, such as using remotely controlled equipment. Fume hoods can remove airborne contaminants as a means of engineered control.

Administrative controls

This sign warns people that there are explosives in Walker Lake; however, it cannot prevent people from swimming in it. Administrative controls are changes to the way people work. Examples of administrative controls include procedure changes, employee training, and installation of signs and warning labels (such as those in the Workplace Hazardous Materials Information System). Administrative controls do not remove hazards, but limit or prevent people's exposure to the hazards, such as completing road construction at night when fewer people are driving.

Personal protective equipment

Personal protective equipment (PPE) includes gloves, Nomex/Uniform, respirators, hard hats, safety glasses, high-visibility clothing, and safety footwear. PPE is the least effective means of controlling hazards because of the high potential for damage to render PPE ineffective. Additionally, some PPE, such as respirators, increase physiological effort to complete a task and, therefore, may require medical examinations to ensure workers can use the PPE without risking their health.

B. HAZARD REPORTING PROCEDURES

Hazards in the workplace may be reported in a number of ways:

1) a verbal report to a supervisor
2) completing a Hazard Report form
3) Raising the issue at a staff meeting.

Acute hazards should always be reported immediately to a supervisor, delegated Workplace Health and Safety officer or representative.
Hazards that are less acute may simply require completion of a Hazard Report form and forwarding it to the appropriate person.
Your organization will also have specific procedures for emergency situations. These are usually specified in an emergency procedure manual, as well as being covered in your workplace induction.

The Hazard Report form

Hazard report forms are a common way of reporting hazards. The completed forms help ensure that appropriate action is taken and that an appropriate record is kept. It will describe:

1. The nature and location of the hazard
2. Who it was reported to?
3. What action was taken?
4. Whether it is fixed.

Your workplace Hazard Report form may be similar to this example.

Sample Hazard Report Form
1. Brief description of Hazard/Health and Safety issue: (Include details, if any, of immediate action taken to ensure the safety of persons who may be affected.)
2. Where is the hazard located in the workplace?
3. Time/date hazard identified
Date: ___/___/___ Time: am/pm
4. Recommended action to fix hazard/issue
5. Reported to Workplace Health and Safety Representative (WHSR)
6. Has the hazard/issue been addressed? YES/NO
7. Do you consider the issue/hazard fixed? YES/NO
Signature:
Date: ___/___/___

C. JOB PROCEDURES AND SAFE WORK INSTRUCTIONS AND ALLOCATION OF RESPONSIBILITIES

Companies should establish Safe Work Practices/Safe Job Procedures for addressing significant hazards or for dealing with circumstances that may present other significant risks/liabilities for the company. They should reflect your company's approach to controlling hazards.

Some regulations require employers to have written procedures/instructions for specific activities/conditions. The number of practices/procedures and the degree of detail will depend on the range of work activities your company performs. It is important that management and supervision are involved in

the development of safe work practices and that they provide adequate training for workers likely to follow these practices.

Definition: Safe job procedures are a series of specific steps that guide a worker through a task from start to finish in a chronological order. Safe job procedures are designed to reduce the risk by minimizing potential exposure.

D. EMERGENCY PROCEDURES

Workplaces need a plan for emergencies that can have a wider impact. Special procedures are needed for emergencies such as serious injuries, explosion, flood, poisoning, electrocution, fire, release of radioactivity and chemical spills.

Quick and effective action may help to ease the situation and reduce the consequences. However, in emergencies people are more likely to respond reliably if they:

1) are well trained and competent
2) Take part in regular and realistic practice
3) have clearly agreed, recorded and rehearsed plans, actions and responsibilities

Write an emergency plan if a major incident at your workplace could involve risks to the public, rescuing employees or coordinating emergency services.

Where you share your workplace with another employer you should consider whether your emergency plans and procedures should be coordinated.

Points to include in emergency procedures:

1. Consider what might happen and how the alarm will be raised. Don't forget night and shift working, weekends and times when the premises are closed, e.g. holidays
2. Plan what to do, including how to call the emergency services. Help them by clearly marking your premises from the road. Consider drawing up a simple plan showing the location of hazardous items.
3. If you have 25 tons or more of dangerous substances, you must notify the fire and rescue service and put up warning signs.
4. Decide where to go to reach a place of safety or to get rescue equipment. You must provide suitable forms of emergency lighting.
5. You must make sure there are enough emergency exits for everyone to escape quickly, and keep emergency doors and escape routes unobstructed and clearly marked
6. Nominate competent people to take control (a competent person is someone with the necessary skills, knowledge and experience to manage health and safety
7. Decide which other key people you need, such as a nominated incident controller, someone who is able to provide technical and other site-specific information if necessary, or first-aiders
8. Plan essential actions such as emergency plant shutdown, isolation or making processes safe. Clearly identify important items like shut-off valves and electrical isolators etc.

9. You must train everyone in emergency procedures. Don't forget the needs of people with disabilities and vulnerable workers.
10. Work should not resume after an emergency if a serious danger remains. If you have any doubts ask for assistance from the emergency services.

E. ACCIDENT AND NEAR MISS REPORTING AND RECORDING PROCEDURES

1) Staff will be instructed to promptly report to their line manager / the person on call:
a) Work-related accidents, incidents or near misses that cause harm or could have caused harm.
b) Work-related sickness.

2) Staffs also need to report any incident where they feel there is potential for threatening, abusive or confrontational behavior and / or inability to properly follow the risk controls outlined in the care plan. These situations may be associated with the work environment, work equipment, a service user, family member, friend or another third party. This may not involve potential for physical injury, but nevertheless may affect the health or wellbeing of the member of staff, the service user or their family.

F. **CONSULTATION ON OCCUPATIONAL HEALTH AND SAFETY ISSUES.**

Workplace health and safety benefits significantly from effective consultation. Employees are often best placed to identify health and safety hazards and issues in the workplace. Consultation and communication can also help build commitment to health and safety.

1) Consultation on OHS issues shall be meaningful and effective and employee contributions valued and taken into account;
2) Consultation will not delay the implementation of a policy or procedure to address an immediate or serious health and safety risk in a timely manner;
3) Consultation will be undertaken in a manner consistent with positive supportive working relationships; and
4) The Principal has ultimate administrative and operational responsibility for all workplace decisions that affect health and safety provided that these decisions are made in accordance with the consultation principles outlined in this policy.

Learning Unit 4: Awareness of SHE in working place

LO 4.1: Implement environmental procedures

Topic 1: implementation of environmental procedures

1. **Environmental goals**:

- **Environmental sustainability:** is defined as responsible interaction with the environment to avoid depletion or degradation of natural resources and allow for long-term environmental quality. The practice of environmental sustainability helps to ensure that the needs of today's population are met without jeopardizing the ability of future generations to meet their needs.

  It consists of forest conservation and afforestation

- **Afforestation** is the process of planting trees, or sowing seeds, in a barren land devoid of any trees to create a forest. The term should not be confused with reforestation, which is the process of specifically planting native trees into a forest that has decreasing numbers of trees.

- **Forest conservation**: is the practice of planting and maintaining forested areas for the benefit and sustainability of future generations. Forest conservation involves the upkeep of the natural resources within a forest that are beneficial to both humans and the environment.

- **Energy promotion** (use of renewable energy and other resource such as; solar and wind energy)

Renewable energy is energy that is collected from renewable resources, which are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat.

- **Emissions control and where possible, reduction**

An emission is something that's been released or emitted into the world. Car exhaust is an l example of emission. Technically, an emission is anything that's been released out into the open.

- **Waste generation control and where possible, reduction**

Waste (or wastes) is unwanted or unusable materials. Waste is any substance which is discarded after primary use, or is worthless, defective and of no use.

- **Waste management, recycling, re-use and disposal.**

Waste management include the activities and actions required to manage waste from its inception to its final disposal. This includes the collection, transport, treatment and disposal of waste, together with monitoring and regulation of the waste management process.

LO 4.2: Provide training to workers on SHE and operational control

Topic 1: Training of **workers on SHE**

1. Training: is teaching, or developing in oneself or others, any skills and knowledge or fitness that relate to specific useful competencies. Training has specific goals of improving one's capability, capacity, productivity and performance.

2. In-house or external training programs: is a training program for learning opportunities developed by the organization in which they are used. Training may be required to be provided to employees as part of legislative requirements for industry performance and safety standards or continuing education requirements.

3. One-on-one supervision: One-to-one supervision is widely used and the supervisor is usually the supervisee's line manager. Sessions are formally pre-arranged and take place in a confidential setting and protected place. Most organizations using one-to-one supervision require it to be undertaken once every four to six weeks with each supervisee.

4. programs that maintain up-to-date knowledge of legislative changes at the local, State, Territory and Commonwealth levels

Operational controls:

1. Prevention of pollution

- Reducing the use of water and chemical inputs;
- Adoption of less environmentally harmful pesticides or cultivation of crop strains with natural resistance to pests; and.
- Protection of sensitive areas.

2. Control of air emissions
3. Solid and hazardous wastes
4. Contamination of land
5. Noise, Odor, Dust, Traffic
6. Water discharges
7. Raw material & resource use
8. Hazardous material storage and handling
9. Compliance with legislation and regulations
10. Electronic or mechanical technology to reduce emissions
11. Routine preventive maintenance programs to reduce wear and breakdown of equipment
12. Monitoring and observation of equipment performance

- **Types of Operational Controls**

1. Standard Operating Procedures
2. Signage
3. Log Books
4. Check Lists

L.O.4.3: Inspect the working area and remedial action to be taken to minimize or eliminate hazards.

Topic1: Inspection of the working area and remedial action to be taken to minimize or eliminate hazards.

Remedial actions to be inspected in the working area;

1) Workplace waste management systems

5 Types of Waste Disposal Methods

- **Recycling:** Recycling is one of the best methods of disposal simply because it goes a long way to preserve the environment. ...
- **Animal Feed:** Your pet can be quite an effective waste disposal entity. ...
- **Biological Reprocessing** :Organic waste materials such as food scarps and paper products can be reused after a process called biological reprocessing
- **Landfill.** A disposal site where solid waste, such as paper, glass, and metal, is buried between layers of dirt and other materials in such a way as to reduce contamination of the surrounding land.

2) emissions control of greenhouse gases

The following is a list of 10 steps you can take to reduce greenhouse gas emissions:

- **Reduce, Reuse, recycle**

Buying products with minimal packaging will help to reduce waste. By recycling half of your household waste, you can save 2,400 pounds of carbon dioxide annually.

- **Use Less Heat and Air Conditioning**

Adding insulation to your walls and installing weather stripping or caulking around doors and windows can lower your heating costs more than 25 percent, by reducing the amount of energy you need to heat and cool your home. Turn down the heat while you're sleeping at night or away during the day, and keep temperatures moderate at all times. Install a programmable thermostat because setting it just 2 degrees lower in winter and higher in summer could save about 2,000 pounds of carbon dioxide each year.

- **Replace Your Light Bulb**

Wherever practical, replace regular light bulbs with compact florescent light (CFL) bulbs. Replacing just one 60-watt incandescent light bulb with a CFL will save you $30 over the life of the bulb. CFLs also last 10 times longer than incandescent bulbs, use two-thirds less energy, and give off 70 percent less heat. If every Canadian family replaced one regular light bulb with a CFL, it would eliminate 90 billion pounds of greenhouse gases, the same as taking 7.5 million cars off the road.

- **Drive Less and Drive Smart**

Less driving means fewer emissions. Besides saving gasoline, walking and biking are great forms of exercise. Explore the York Region Transit system and check out options for carpooling to work or school. When you do drive, make sure your car is running efficiently. For example, keeping your tires properly inflated can improve your gas mileage by more than 3 percent. Every gallon of gas you save not only helps your budget; it also keeps 20 pounds of carbon dioxide out of the atmosphere

- **Buy Energy-Efficient Products**

Home appliances now come in a range of energy-efficient models, and compact florescent bulbs are designed to provide more natural-looking light while using far less energy than standard light bulbs.

- **Use Less Hot Water**

Set your water heater at 120 degrees to save energy, and wrap it in an insulating blanket if it is more than 15 years old. Buy low-flow showerheads to save hot water and about 350 pounds of carbon dioxide yearly. Wash your clothes in warm or cold water to reduce your use of hot water and the energy required to produce it. That change alone can save at least 500 pounds of carbon dioxide annually in most households.

- **Use the "Off" Switch**

Save electricity and reduce global warming by turning off lights when you leave a room, and using only as much light as you need. And remember to turn off your television, stereo and computer when you're not using them. It's also a good idea to turn off the water when you're not using it. While brushing your teeth, shampooing the dog or washing your car, turn off the water until you actually need it for rinsing.

- **Plant a Tree**

If you have the means to plant a tree, start digging. Trees absorb carbon dioxide and give off oxygen. A single tree will absorb approximately one ton of carbon dioxide during its lifetime.

- **Get a Report Card from Your Utility Company**

Many utility companies provide free home energy audits to help consumers identify areas in their homes that may not be energy efficient. In addition, many utility companies offer rebate programs to help pay for the cost of energy-efficient upgrades.

- **Encourage Others to Conserve**

Share information about recycling and energy conservation with your friends, neighbors and co-workers, and take opportunities to encourage public officials to establish programs and policies that are good for the environment.

3) use of non-renewable resources control
4) chemical use control
5) supply chain management

6. Environmental Impacts;

- **Soil degradation:** Soil degradation is the physical, chemical and biological decline in soil quality. It can be the loss of organic matter, decline in soil fertility, and structural condition, erosion, adverse changes in salinity, acidity or alkalinity, and the effects of toxic chemicals, pollutants or excessive flooding.

- **Erosion:** Erosion is the geological process in which earthen materials are worn away and transported by natural forces such as wind or water.

- **Leaching:** Leaching is the loss or extraction of certain materials from a carrier into a liquid (usually, but not always a solvent). and may refer to: Leaching (agriculture), the loss of water-soluble plant nutrients from the soil; or applying a small amount of excess irrigation to avoid soil salinity.

- **Climate change:** Climate change is the global phenomenon of climate transformation characterized by the changes in the usual climate of the planet (regarding temperature, precipitation, and wind) that are especially caused by human activities.

- **Air, soil, water pollution:** This includes chemical physical and biological processes affecting flora fauna water air and soil in relation to environmental pollution

- **Land sliding:** A landslide is defined as the movement of a mass of rock, debris, or earth down a slope.

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