

# Level 1/2 award in constructing and the build environment

# Unit 1 Safety and security in construction



Candidate Number:.....

## Aim and purpose

Construction activities take place in many different contexts. Through this unit, learners will gain the knowledge and understanding to be able to plan how to minimise risk to their own and others health and safety in different contexts

## Unit introduction

Is working in construction dangerous? Can some of the equipment and tools I use cause harm? Some of the equipment I used is expensive. How do I keep it secure? How do I make sure I am safe when working with electrical and mechanical equipment? Are there guidelines I can follow to make sure I am safe when I am carrying out tasks? Who can I rely on to keep me safe? What do I do with waste materials? Do I just put it in a skip or take it to a tip? Do I need to think about who is allowed to see designs and specifications I am given to work from? These are all important questions for anyone involved in construction.. In this unit, you will learn how to look for and identify hazards to safety and security. You will learn how to measure the risk of these hazards so that you can plan ways in which you can limit the risk and work safely and securely, whatever your role or location.

## Learning Outcomes

By the end of this unit you will have learnt the following:

- LO1.** Know health and safety legal requirements for working in the construction industry
- LO2.** Understand risks to health and safety in different situations
- LO3.** Understand how to minimise risks to health and safety
- LO4.** Know how risks to security are minimised in construction

# Health and Safety responsibilities and legislation



Under law employees and employers have responsibilities to ensure that the workplace is a healthy and safe place to work for all. Read the following statements and see if you can identify whether they are the **employers** or **employees** responsibility

\_\_\_\_\_ must give information about the risks in the workplace and how you are protected, they must also instruct and train you on how to deal with the risks.

\_\_\_\_\_ must follow the training they have received when using any work items your \_\_\_\_\_ has given you.

Co-operate with your \_\_\_\_\_ on health and safety.

\_\_\_\_\_ must take care of their own and other people's health and safety.

\_\_\_\_\_ must decide what could harm you in your job and the precautions to stop it. This is part of risk assessment.

\_\_\_\_\_ must free of charge, provide you with any equipment and protective clothing you need, and ensure it is properly looked after.

\_\_\_\_\_ Must provide toilets, washing facilities and drinking water.

\_\_\_\_\_ must have insurance that covers you in case you get hurt at work or ill through work this must be displayed in the workplace

\_\_\_\_\_ must tell someone (your \_\_\_\_\_, supervisor, or health and safety representative) if you think the work or inadequate precautions are putting anyone's health and safety at serious risk.

\_\_\_\_\_ provide adequate first-aid facilities.

LO1 AC1.1

# Legislation



This sign is found in many workplaces. Explain below your understanding of HASWA and why it is important?

---



---



---



---

## Reporting of injuries, Diseases and Dangerous Occurances Regulations 1995 (RIDDOR)



Below is a list of incidents that have happened on a builders site in the past 12 months. Tick which ones you think are part of RIDDOR and need to be reported

Unsecured scaffolding has fallen onto a workman, causing his death	
A joiner has given himself a splinter when carrying wood across the building site.	
A worker was running down the stairs to catch the bus when he fell and broke his leg.	
Strong chemicals were stored in a coca cola bottle and were accidently consumed by a workman	
One of the builders forgot to put on their helmet and were hit by a brick on the head.	

Where **MUST** records of accidents be recorded in the workplace?

Why do you think **near misses** need to be reported?




---



---



---

LO1 AC1.1



# COSHH



Control Of \_\_\_\_\_ Hazardous to \_\_\_\_\_  
Regulations 2002

Use the website below to research COSHH and answer the questions below

<http://www.hse.gov.uk/coshh/basics.htm>

1. What is a ' \_\_\_\_\_ hazardous to \_\_\_\_\_? List in the box below

COSHH is the law that requires employers to control substances that are hazardous to health. List Four things that employers must do to prevent or reduce employees exposure to hazardous substances.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

Personal Protective Equipment (PPE) to reduce or prevent COSHH risks

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

LO1 AC1.1

# COSHH Symbols

*Safety sign*

*Re-draw the sign*

*Symbol Meaning*





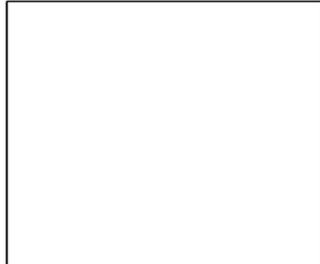











LO1 AC1.1

# Provision and Use of Work Equipment Regulations 1998

Why is PUWER important in the workplace?

---

---

---

---

Name: \_\_\_\_\_



Name: \_\_\_\_\_



Name: \_\_\_\_\_



Why is it used?

Why is it used?

Why is it used?

Name: \_\_\_\_\_



Name: \_\_\_\_\_



Name: \_\_\_\_\_



Why is it used?

Why is it used?

Why is it used?

# Personal Protective Equipment

Work Regulations 1992

The **Personal Protective Equipment at Work Regulations 1992** are a set of regulations created under the Health and Safety at Work etc. Act 1974. The regulations place a duty on every employer to ensure that suitable personal protective equipment is provided to employees who may be exposed to a risk to their health or safety while at work

The diagram shows a human silhouette with arrows pointing to the following areas, each with an associated text box:

- Head: A text box with four horizontal lines.
- Face: A text box with four horizontal lines.
- Neck: A text box with four horizontal lines.
- Shoulders: A text box with four horizontal lines.
- Chest: A text box with four horizontal lines.
- Arms: A text box with four horizontal lines.
- Hands: A text box with four horizontal lines.
- Legs: A text box with four horizontal lines.
- Feet: A text box with four horizontal lines.

Label each piece of PPE and write a description of why they are required. Use your knowledge to draw the PPE equipment onto the person

# Manual Handling Operations



Why is dealing with manual handling important?

1



## PLAN

Think and Plan

2



Place the feet apart keeping the leading leg as forward as possible. Keep the head straight and get a good grip and make sure the load is secure

3



## LIFT

4



## MOVE

Move your feet and don't twist when moving. Keep the heaviest part close to the \_\_\_\_\_

5



Put the load in the desired place and make sure it is secure.

## CHECKS TO PERFORM

- DANGERS** - Are there any sharp corners, nails etc?
- BALANCE** - \_\_\_\_\_
- \_\_\_\_\_ - Is your route clear with no obstructions?
- REST** - \_\_\_\_\_
- \_\_\_\_\_ - Do you know where you are going to?
- PROTECTION** - Are you wearing appropriate PPE.?

## ASSESSING & UNDERSTANDING

- Recognise potential hazards
- Understand unfamiliar handling operations
- Know how to use handling aids
- Use personal protective equipment
- Appreciate environmental factors contribute to safety
- Be a good housekeeper
- Realise your own capacity



Clip on when working at height

# Working at Heights



Working at height remains one of the biggest causes of fatalities and major injuries. Common cases include falls from ladders and through fragile surfaces. 'Work at height' means work in any place where, if there were no precautions in place, a person could fall a distance liable to cause personal injury (for example a fall through a fragile roof).

Use the website to list the do's and don'ts of working at height

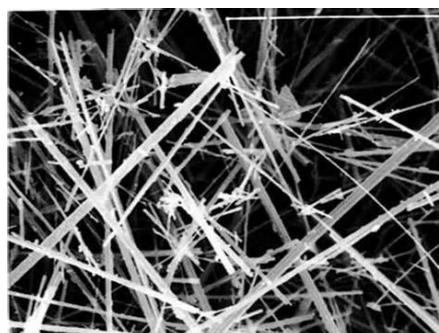
<http://www.hse.gov.uk/toolbox/height.htm>

DO'S	DON'TS

## ASBESTOS

Asbestos is a natural fibrous rock, it was widely used in construction until 1999. It was used as thermal insulation in a wide range of products. Asbestos is seriously harmful to health and is known to cause many types of lung disease

What control methods are used to reduce the risk of asbestos exposure?

LO1 AC1.2

# SAFETY SIGNS

There are four types of safety sign, each type is represented by a colour. Put the correct colour in each box depending on the sign type



Prohibition



Warning



Mandatory



Emergency escape or first aid

A sign prohibiting behaviour likely to increase or cause danger



A sign describing specific behaviour



Smoking and naked flames forbidden




Safety boots must be worn




No access for pedestrians




Flammable material or high temperature\*



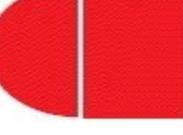

Safety helmet must be worn




First-aid poster


Knowing which fire extinguisher to use is a key aspect of workplace safety. Use the internet to finish the table



 <b>KNOW YOUR FIRE EXTINGUISHER CODE</b>							
<b>CO<sub>2</sub></b> BLACK							
<b>DRY POWDER</b> BLUE							
<b>AFFF FOAM</b> YELLOW							
<b>WATER</b> RED							
<b>VAPOURISING LIQUIDS</b> GREEN							

# The ROLE of the HSE

The HSE has released a press statement regarding the serious incident on the smiler ride in Alton Towers. On this page you will learn about the role of the HSE when legislation is breached.

## HSE media statement: HSE to prosecute Alton Towers' owners after 'Smiler' incident

Date:

25 February 2016

The Health and Safety Executive (HSE) has today informed Merlin Attractions Operations Ltd that it will be prosecuted over an incident in which five people were seriously injured on a rollercoaster ride at Alton Towers in Staffordshire.

Two female passengers on the 'Smiler' ride suffered leg amputations and three others were also seriously injured when their carriage collided with a stationary carriage on the same track. The incident happened on 2 June 2015.

Merlin Attractions Operation Ltd based in Poole, Dorset, will appear at North Staffordshire Justice Centre, Newcastle-under-Lyme on 22 April 2016 to face a charge under the Health and Safety at Work Act etc. 1974.



## What is the purpose of the HSE?

- 

---

- 

---

- 

---

- 

---

- 

---

- 

---

- 

---




## What powers does the HSE have when legislation is breached?

- 

---

- 

---

- 

---

- 

---

## How does the HSE provide support and advice to employers & employees?

- 

---

- 

---

- 

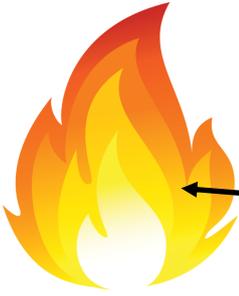
---

- 

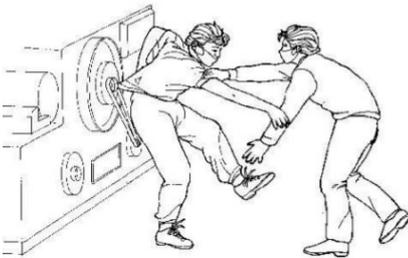
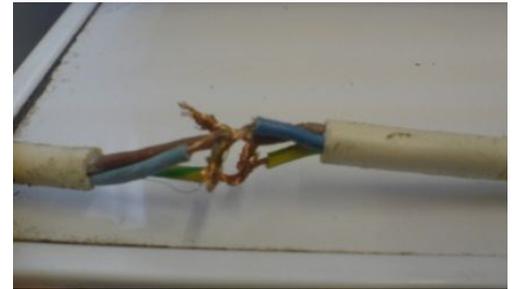
---




# Identifying hazards to Health & Safety on site



- FIRE
- UNGUARDED MACHINERY
- FALLING OBJECTS
- WORKING AT HEIGHT
- UNSAFE WORKING PLATFORM
- OVERLOADED VEHICLES
- UNSAFE EXGAVATION
- UNSAFE LIFTING
- UNSAFE MOBILE VEHICLES
- UNSAFE ELECTRICAL EQUIPMENT



There are many hazards to be found on a construction site. It is important you can identify these hazards. Match the hazard with the picture

LO2 AC2.1

# Identifying hazards to Health & Safety off site

Depending on what are of construction you work in, you will not always be working on site. Much construction work is undertaken in a workshop or office. You must still be able to work safely in this environment and it is important you can identify the hazards

Hazard type: WET FLOOR

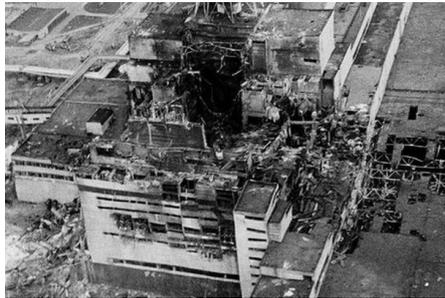


EXAMPLES OF HAZARD

- Leaking machine liquids
- Floor has been cleaned
- Plumbing issues



# The Effects of Hazards



In the early hours of 26 April 1986, one of four nuclear reactors at the Chernobyl power station exploded. Moscow was slow to admit what had happened, even after increased radiation was detected in other countries. The lack of information led to exaggerated claims of the number killed by the blast in the immediate area. Contamination is still a problem, however, and disputes continue about how many will eventually die as a result of the world's worst nuclear accident.

Every hazard has potential effects. The Chernobyl accident is a prime example of how the hazards caused by radiation has many different types of effect.

Case study. Research the Chernobyl disaster and analyse the effects it has had. You will use this research to write a HSE style report on the incident.

Type of Effect	Outcomes of effect
Physical	
Psychological	
Financial	
Environmental	

Who is affected?	How are they affected?
SELF	
Others working in the area	
Local Community	
Environment	
Employer	

Task : You are working for the HSE, they have asked you to write a detailed report on the Chernobyl accident. You Must report the types of hazards, and the effects it has had on the following:

- Physical
- Psychological
- Financial
- Environment
- People working in the area
- The local community
- The environment
- The employer





As part of managing the health and safety of your business you must control the risks in your workplace. To do this you need to think about what might cause harm to people and decide whether you are taking reasonable steps to prevent that harm. This is known as risk assessment and it is something you are required by law to carry out

What are the hazards?	Who might be harmed and how?	What are you already doing?	Do you need to do anything else to control this risk?	Action by who?	Action by when?	Done
<u>Slips and trips</u>	Staff and visitors may be injured if they trip over objects or slip on spillages.	General good housekeeping is carried out. All areas well lit, including stairs. No trailing leads or cables. Staff keep work areas clear, eg no boxes left in walkways, deliveries stored immediately.	Better housekeeping in staff kitchen needed, eg on spills. Arrange for loose carpet tile on second floor to be repaired/replaced.	All staff, supervisor to monitor Manager	From now on	xx/xx/xx  xx/xx/xx

# Explaining & Justifying the risk of harm

In order to be safe in the workplace, you must be able to explain and justify the risk of harm in different situation. Below is two situations where harm is a possibility, you must explain what the risks are and how serious the risk is .

## Situation 1

" ABC scaffolding has been contracted to erect scaffolding for a three storey office development. When they get to the top floor, they realise that they haven't got enough railings to make sure the side is safe. They also haven't got enough flooring for the scaffolding. The scaffolding employees decide to lay half the floor which makes the platform narrower than it is supposed to be by law. They decide to put plastic sheeting up in place of the railings because they have many jobs to complete today"

What are the potential risks in scenario 1

Risk Severity	TICK AS APPROPRIATE
LOW	
MEDIUM	
HIGH	

Action needed to reduce the risk

## Situation 2

"One of the contractors needs to dig a trench for the foundations of the office block. There is a sign that warns of a gas main below. The worker hasn't got time to check and carries on because he thinks the line is deep enough that it wont affect him . The worker is also a heavy smoker and smokes continuously throughout his working day.

What are the potential risks in scenario 2

Risk Severity	TICK AS APPROPRIATE
LOW	
MEDIUM	
HIGH	

Action needed to reduce the risk

LO3 AC3.1

# Control Methods In Health & Safety

Write a definition for each one of the following headings

PPE.

---

---

---

---



## Safe Systems of Work



---

---

---

---

## Method Statements

---

---

---

---



## Competent Persons



---

---

---

---

# Security measures in construction

Why does a construction site need to be secured?


## Possible security measures













Explain what security control methods you could use to protect the following:





