

# Standards Unit

## Improving teaching and learning in construction

Be a safe learner.  
Aspects of health and safety

Learner workbook

Produced by the Department for Education and Skills Standards Unit

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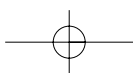
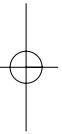
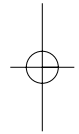
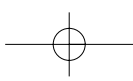
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The material in this workbook was developed and compiled by members of a DfES Standards Unit development team for construction. Members of the team were representative of teachers and trainers across construction.

Produced by the Standards Unit working with the Skill Boosters team at BDP Media Ltd.

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## Things you will learn

You will be learning about some aspects of health and safety in construction.

By the time you have worked your way through the activities you should be able to:

- understand that accidents are 'serious stuff';
- know how to prevent accidents at work;
- complete an HSE Accident Record Form;
- know what you have to do about first aid at work;
- do the right thing in reporting injuries, diseases and dangerous occurrences;
- appreciate the causes of fire;
- recognise the right kind of fire extinguishers for different types of fires;
- appreciate the dangers of electricity;
- be aware of the effects of excessive noise in the workplace;
- recognise the main types of safety signs used in the construction industry;
- appreciate how safety signs are used to help prevent accidents;
- know some common abbreviations, words and meanings;
- practise and demonstrate your Key Skills.



## Being safe at work

### What's the problem?

There are about 13,000 reported accidents each year in construction. About 140 are fatal. This is almost three deaths a week across the industry. The Health and Safety Executive (HSE) reports that between October 2002 and May 2004, nine apprentice workers (all under the age of 23), have been killed on work placements.

Accidents can also cause major injury. In many cases they cause absence from work of more than three days. This activity is to help you find out more about the causes of accidents and the impact they have on you and others.

### Activity: What do the figures tell us?

#### The objectives of this activity are:

- to find out what causes most accidents in the construction industry;
- to explain what it all means for you and others;
- to show your findings in a chart.

#### Resources

You will need:

- the table of figures on page 8;
- a ruler;
- some squared paper and coloured pens.

You may also need a protractor and a compass. Your teacher or trainer will tell you if you are to work on your own, in pairs or small groups.



## ACTIVITY

### Stage 1

Look at the table on the next page. Check you understand the figures in it. Use the percentages to make a chart or diagram to show how accidents are caused. Your teacher or trainer might ask your group to work on just one type of accident (fatalities, non-fatal major accidents or over three-day absence) and report back on this to the class.

If you are not sure how to produce a bar chart or pie chart, ask your teacher or trainer to show you how to do this.

There are different ways to illustrate the figures. For example, you might choose to make a bar chart or pie chart. If you are working in a group you will need to agree on the best way to do it. Remember to label your chart and give it a title. You must say where the figures came from.

### Stage 2

Discuss the main patterns you notice about the figures you've been working on. What causes most accidents? What might be the impact on you and others? Write your main points on a flip chart.

### Stage 3

Explain your findings to the whole group. You can use your chart as illustration.



**Accidents to employees reported in the construction industry**

Cause of accident	Fatal accidents	Non-fatal major accidents	Over three-day absence
People hurt by moving vehicles, flying objects, machinery, trapped by something collapsing or overturning	35%	23%	19%
People slipping, tripping, handling, lifting, carrying, striking against something	2%	40%	63%
Falls from a height	40%	30%	9%
Harmful substance	4%	1%	2%
Fire and explosion	5%	1%	1%
Electricity	11%	1%	1%
Other	3%	4%	5%

Source: Health and Safety Executive (HSE) 2002/03



## Preventing accidents

### What is an accident?

An accident is an unplanned and uncontrolled event. Accidents often cause injuries to people. They can cause damage to machinery and equipment. When they happen at work they can lead to loss of income for individuals or companies.

### Discussion activity: Accidents and you

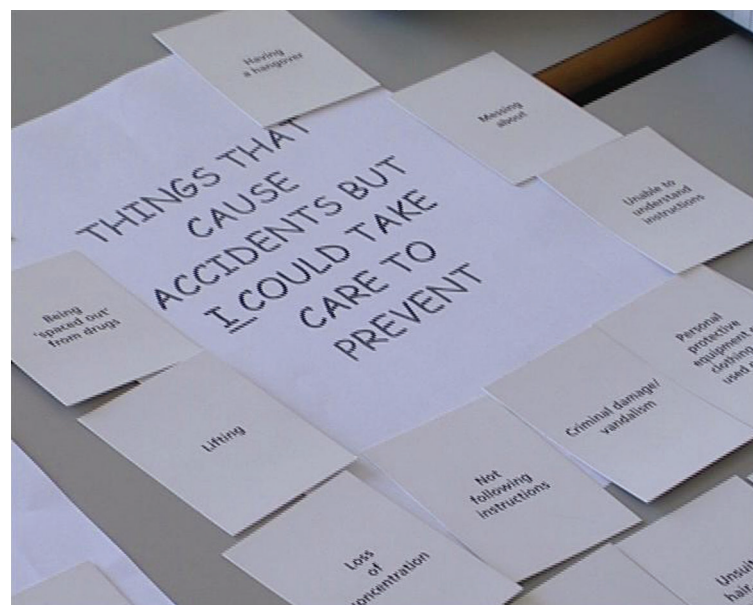
#### The objectives of this activity are:

- to explain a wide range of factors that can lead to accidents on construction sites;
- to decide the implications for construction workers and employers;
- to list ways in which accidents at work can be prevented.

#### Resources

You will need:

- a set of Preventing accidents cards.



## ACTIVITY

### Stage 1

In a group of three to four people, share out the cards and check that you all understand what the terms on the cards mean. If there are any terms you don't know, check with each other before asking your member of staff.

### Stage 2

Now sort out the cards so that you have three sets:

- things that cause accidents but I could take care to prevent;
- things that cause accidents but my employer can control;
- things that cause accidents and that are beyond my or my employer's control.

Lay the cards out under the three headings so that everyone can see them. You may not all agree on which set to put things in so you will need to discuss them and reach an agreement within the group.

### Stage 3

Think now about how accidents can be prevented. Your teacher or trainer will invite your group to look at just one of the three sets of cards. You will need to discuss what can be done to prevent accidents happening. Your group must agree the key points that you want to make. Each of you should be able to explain your reasoning to the whole class if your teacher or trainer asks you. One of you could be a 'checker' to make sure everyone is clear.

### The cards

Each card will have just one factor written on it and include all those on the following page. There are also some blank cards so that you can include any factors that we did not think of.

### Factors that can lead to accidents on construction sites

Poor housekeeping	Poor storage of materials
Electrical fault	Faulty equipment
Assault	Poor judgement, making mistakes
Not enough light	Not understanding instructions
Poor supervision	Not following instructions
Weather conditions	Guards not provided or not used
Loss of concentration	Poor training or instruction
Using faulty equipment	Failure to give warnings to others
Messing about	Using unsafe methods of handling or lifting
Having a hangover	Unsuitable hair, clothing or jewellery for the job
Too much noise	Being 'spaced out' from drugs
Poor light	Not enough training or instruction
Unsafe system of work	Medical or physical condition
Not enough supervision	Riding or standing in an unsafe position
Inadequate space	Unable to understand instructions
Personal protective equipment or clothing not used or worn	Criminal damage/vandalism

## First aid

### Why do we need to know about first aid?

People at work can suffer injuries or fall ill. It does not matter whether the injury or the illness is caused by the work they do or not. What is important is that they receive immediate attention and, in serious cases, an ambulance is called.

The Health and Safety (First Aid) Regulations 1981 require employers to provide adequate and appropriate equipment, facilities and personnel. This is so that employees can get first aid if they are injured or become ill at work.

What is adequate and appropriate will depend on the circumstances in your workplace.

The minimum first aid provision on any work site is:

- a suitably stocked first aid box;
- an appointed person to take charge of first aid arrangements.



It is also important to remember that accidents can happen at any time. First aid provision needs to be available at all times when people are at work.

Employers must tell employees about first aid arrangements at work. They usually do this by putting up notices telling staff who and where the first aiders or appointed persons are, and where the first aid box is.



## Appointed persons and first aiders

An employer has to make adequate arrangements to treat employees and others who are injured or become ill at work. Employers have to appoint one, or more than one, first aider, depending on the number of employees and the risk involved in the employer's work.

For low-risk employers and/or where there are few employees it is adequate to authorise someone (the 'appointed person') to take charge of a situation when someone has a serious illness or accident. Employers with a first aider or first aiders also tend to have these appointed persons to cover situations when first aiders are not present.

## First aid kits and materials

An employer has to provide first aid materials to deal with minor injuries or conditions such as cuts, fractures, burns, etc. A basic first aid kit should contain the following:

- 20 x individually wrapped sterile adhesive dressings (6);
- 2 x sterile eye pads;
- 6 x individually wrapped triangular bandages (2);
- 6 x safety pins (2);
- 6 x medium-sized wrapped sterile unmedicated wound dressings;
- 2 x large-sized wrapped sterile unmedicated wound dressings (1);
- 3 x extra large-sized, wrapped sterile, unmedicated wound dressings;
- 1 x guidance leaflet *First Aid at Work* (1).

(The numbers in brackets are for travelling first aid kits.)



## Being alert to accidents

### Activity: Video

#### The objectives of this activity are:

- to witness accidents at work through the use of video;
- to analyse the reasons that accidents occurred;
- to discuss the reasons and draw conclusions about the ways in which accidents can be prevented.

#### Resources

Your teacher or trainer will show a video. They will give you some questions to think about as you watch the video.

### ACTIVITY

#### Stage 1

Think carefully about the questions you have been given. These will help you think critically about what you see.

#### Stage 2

Watch closely and listen carefully. Try to analyse the reasons the accident happened. Make notes against the questions.

#### Stage 3

In a small group, share your ideas about why the accident happened. Discuss the things that could have been done to prevent it. Agree on the main actions that could have kept workers safe. You will be asked to tell the other groups what you decided.

#### Stage 4

You will need to keep notes of the key points arising from the questions you were set in Stage 1 and keep these in your portfolio.

# The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)

## Reporting injuries

If an employee or a member of the public has an accident in the workplace that causes death or major injury, it must be reported to the Health and Safety Executive (HSE). A major injury is specified as certain fractures, amputation, loss of sight of an eye or hospital treatment lasting more than 24 hours.

Fatal and serious accidents must be reported immediately to the HSE Incident Contact Centre.

Form F2508 must also be sent to the HSE for all accidents that cause an employee to be absent from their normal work for more than three days.

Many people might investigate such accidents. These people include:

- the employer (often the safety officer);
- the insurance company;
- a safety representative;
- an HSE Inspector;
- the training organisation/Learning and Skills Council (trainees only).

## Why report accidents?

Reporting accidents allows you to look closely at what causes accidents. This means that you can take action to prevent them in future.

## The Accident Book

All accidents, even minor ones, have to be entered into the Accident Book at work. The following must be recorded:

- the name of the injured person, home address and occupation;
- the signature of the person making the entry, home address, occupation and date;
- when and where the accident happened;
- a brief description of the accident, cause and what the injury is;
- whether it is reportable to the HSE.

There is no set place to keep an Accident Book. However, it needs to be easy to get at and often it is kept near the first aid point.

Employers must tell employees where the Accident Book is kept. Sometimes employers just tell employees when they first start where it is kept. Sometimes notices are displayed. The Company Safety Policy may also say where it is.

### Preventing accidents

You can help prevent accidents by following the procedures, rules, training and instruction provided, and by cooperating with your employer.

People can be killed, disabled or suffer injury and pain as a result of accidents. Accidents also cost money. Employers can be prosecuted; employees can be fined. Injured persons can sometimes sue the employer for negligence in the civil courts, and production time can be lost. Damage to property, equipment and machinery can be expensive to fix or replace.

### Dangerous occurrences

Dangerous events or occurrences must also be reported. These include:

- the collapse or overturning of any lift, hoist, crane or excavation;
- the collapse or part collapse of any scaffold more than 12 metres high that results in a substantial part of the scaffolding falling or overturning;
- the collapse or part collapse of any building, structure or work involving more than 10 tonnes of material.



## Reporting accidents

### Activity: Accident report

Accidents have to be reported in writing using a form. This is the job of the appointed person or first aider. The following activity will give you an opportunity to talk about accidents and to practise filling in a form.

#### The objectives of this activity are:

- to understand how to report an accident;
- to accurately complete an HSE Accident Record Form.

#### Resources

You will need:

- the copy of a newspaper article on page 18;
- the sample of an HSE Accident Record Form on page 19.

### ACTIVITY

#### Stage 1

On your own, read the newspaper article. If there is anything that is not clear to you, ask someone in your group, or your teacher or trainer.

#### Stage 2

In your group, talk about what happened. See if you can all agree on what the causes of the accident were. Agree some ways in which the accident could have been prevented.

#### Stage 3

Look at the accident form on page 19 and talk it through in pairs so that you understand the kind of information it asks you to record. You may find it helpful to highlight or underline the key points in the newspaper article.

#### Stage 4

On your own, complete an HSE Accident Record Form about Brian Leader, who died. Show your completed form to someone you have not worked with in the session and ask them to tell you what you have done well.

THURSDAY 2ND SEPTEMBER 2004

# Electrical jolt sends man on fatal five-storey fall

## Co-worker hit – shock blows him back onto building roof

Scaffolders were carrying out work on Wednesday 1st September when a cable they were using touched a high-voltage power line. This resulted in a loud bang and a flash of light.

The electrical shock blew one man onto the roof of the building, burned but alive. But his partner was blown the opposite way. He fell five storeys to his death from the building which is at 121 Parsonage Gardens, Piccadilly.

The dead man was identified at the scene as 30-year-old Brian Leader who lived at 39 Oldfield Road, Salford SA5 3DJ. He was an employee of Hope Scaffold and had been with the company for at least three years.

His co-worker was taken to St Mary's Hospital. No details about his condition have been released.

In his office on the fifth floor of his Derby Street building, investment adviser Ian Harrison was talking on the phone with a client. He was gazing out of the window.

"I know now it was an electrical short, but it sounded to me like an explosion," he said. "My eyes went

to a spot where I heard the noise and then I saw him. His arms went backwards and he flipped over from the ledge."

Harrison said the man, who was dressed in black rubber pants and a yellow safety vest, was bent backwards like a diver and somersaulted through the air.

Harrison phoned for an ambulance and the police right away. The ambulance arrived at 11.40.

"Within seconds, you know that no one falls from that height and lives. You then start thinking about other stuff, like whether he had a wife, family, kids."

The Supervisor for Hope Scaffold, Rob Wilson, who has worked with Leader on other jobs, said Leader and his wife had their first child, a girl, about a year ago.

"He was a really great guy, very friendly and always very conscious of safety," Wilson said. "He was never someone who took risks in his work."

"We regularly provide accident prevention training for our employees. In fact, Brian was at the last update only last week" said Wilson.

Hope Scaffold employs about 25 people and is based at 121 Adament Street, Manchester.

Manchester Police Sergeant Tim Rowan said Leader and his partner were moving a suspended scaffolding from one side of the building to another. A metal suspension cable touched a 132,000 volt overhead line, creating an arc and electrocuting the men.

Peter Jones, a local shop owner arrived first on the scene. He told police that the men were not wearing safety harnesses. He was unable to provide any first aid treatment as it was clear the man was already dead.

"The accident could have been prevented if the electricity company had been informed about the work," a senior official said.

"If maintenance or cleaning work is being done within three metres of a high voltage line, the company is usually contacted, and the power line gets shut down," said Dave Dewhurst, Operations Manager of Field Services.

Local HSE officials are carrying out an immediate investigation.



# Fire

## What to do in the case of fire

Fires are the worst kind of hazard on a construction site. They do a great deal of damage every year. You should investigate all fires, however small. Where there is a fire risk, all necessary precautions must be taken. Everyone on site should be aware of the fire drill procedure.

### If you discover a fire:

- raise the alarm;
- close doors and windows to prevent the spread;
- evacuate the area;
- fight the fire, if you have been trained to do so, but avoid endangering life;
- fight the fire with an appropriate fire extinguisher (the different types are explained on page 23), fire blankets, water or sand.

### What makes a fire?

All of the following three elements need to be present for a fire to start. If you remove one of these elements you will be able to put a fire out.



**FUEL** – can be anything that will burn, e.g. wood, furniture, flammable liquid, gas, etc.

**OXYGEN** – or air in normal circumstances will allow a fire to burn.

**HEAT** – a minimum temperature is needed but a naked flame, match or spark is sufficient to start a fire, especially if in contact with something flammable.

## Preventing fires

Below is a list of things that might help reduce the risk of fire or people being harmed if there is a fire.

- Not smoking at work (no-smoking areas designated);
- Maintaining all electrical appliances in a safe manner;
- Good housekeeping. Clear up after yourself;
- Removing combustible materials outside to a safe place;
- Maintaining all gas supplies;
- Storing flammable materials in flame-proof metal cupboards;
- Disposing of cigarettes carefully;
- Having procedures if there is a fire;
- Make sure everyone knows what the procedures are;
- Putting up signs and notices so people know what to do;
- Having regular evacuation drills;
- Keeping fire exits clear;
- Testing fire alarms regularly.



### Activity: Know your fire extinguishers

There are different types of extinguishers to fight fires. You will need to choose the right one. Each one is designed to put out fires that are caused by specific things. It can be dangerous to use the wrong fire extinguisher.

#### The objectives of this activity are:

- to become familiar with the most common types of fire extinguisher;
- to learn which extinguisher to use to fight fires.

#### Resources

You will need:

- pictures of fire extinguishers on page 23;
- grid on page 24.

### ACTIVITY

#### Stage 1

On your own, look carefully at the pictures on the next page. Pay particular attention to the colours used in each case. With another person in your group, test each other to see if you each know which extinguisher you would need for specific types of fires.

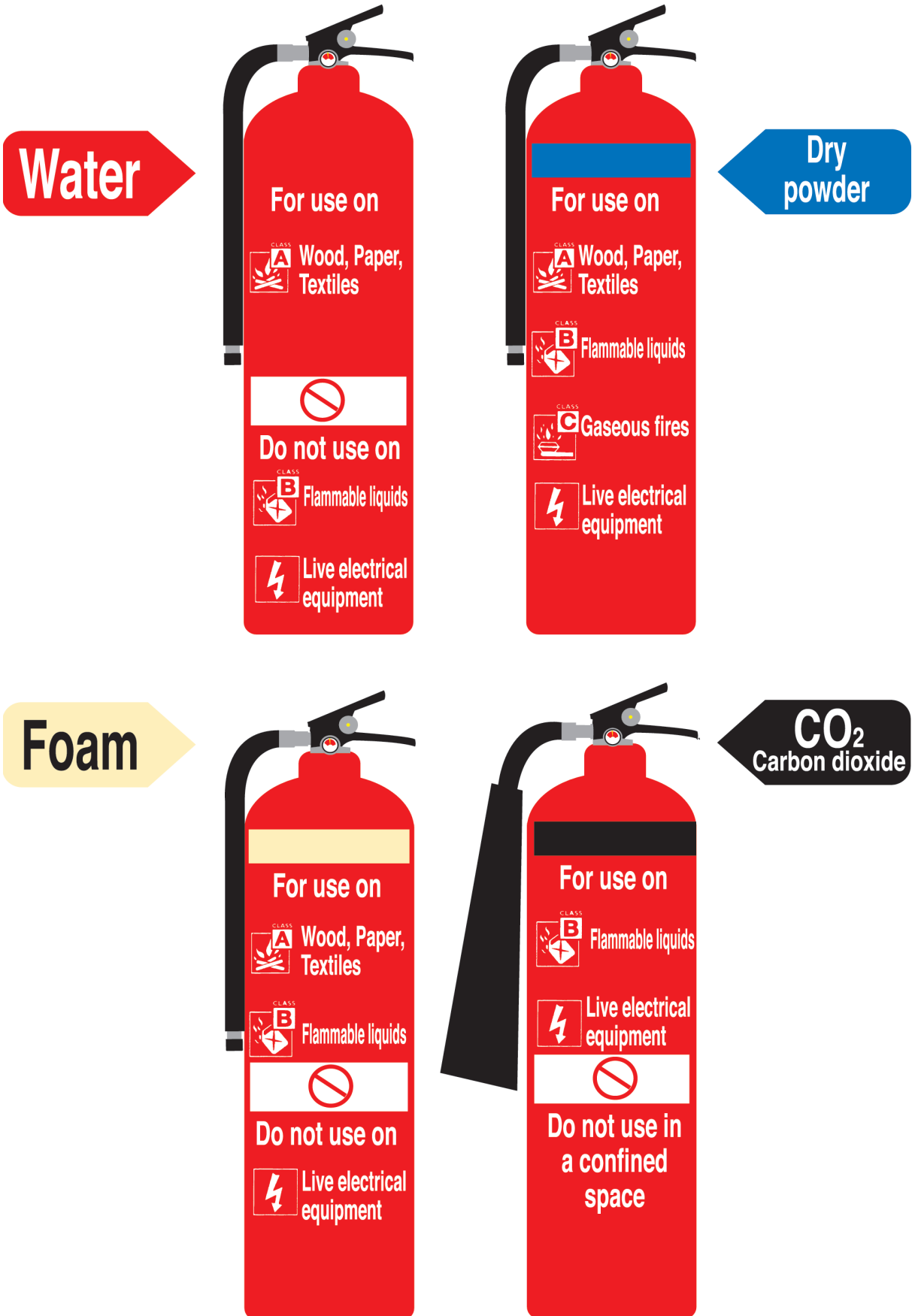
#### Stage 2

On your own, put a tick in the boxes on the grid on page 24 to show that you know which extinguisher to use for which type of fire.






#### Stage 3

Go and find as many different fire extinguishers as you can in your workplace. Make a list of what you have found, where you found it and the type of fire it will put out. Be prepared to answer questions about this in a whole-class discussion.

Know your fire extinguisher colour codes



Know your fire extinguisher colour codes activity

<b>Classification of Fire Risk</b>	 <p><b>Water</b></p>	 <p><b>Dry powder</b></p>	 <p><b>Foam</b></p>	 <p><b>CO<sub>2</sub></b> Carbon dioxide</p>
<b>A</b> Paper, Wood Textile and Fabric				
<b>B</b> Flammable Liquids				
<b>C</b> Flammable Gases				
<b>F</b> Oil & Fats				
 Electrical Hazard				



## Working with power: Electrical safety

Electricity is a very dangerous form of energy. It is invisible and can easily kill or start fires. You must never work with live electrical cables or machinery.

In the construction industry about seven people are killed each year by electrocution and many more are seriously injured.

It's therefore very important that you make sure any electrical equipment (including powered hand tools) are safe to work with. To do this you must follow these safety procedures.

- *Do not plug in before checking*

When you first come across a piece of electrical equipment or powered hand tool, you won't know if it is safe to plug in and work with. The rule is 'Do not plug in until you have checked the tool'. If you plug the power tool in and there is a fault with it, you could be seriously injured or killed!

- *Check body of power tool*

Check that the body of the tool is clean and free from grease or excessive dirt. This dirt could make the tool more difficult to hold and control. It could also hide other defects. Check for cracks in the body. Check for loose fittings and missing bits of the tool. Check as well to see if there is an up-to-date PAT label on the tool. PAT is the 'Portable Appliance Test'. This will show it has passed an electrical safety test on a particular date. The test must be carried out by a competent person.

- *Check cable on power tool*

The cable could be considered the 'weaker' part of the power tool. It often lies on the ground in dirt and water and can easily be damaged by treading or driving over it. Check the cable for cuts, abrasions, burns, bare wires and frayed ends.

- *Check plug of power tool*

The plug needs to be checked to make sure it is not dirty, wet or covered in grease. Check the pins are in place and not loose or misshapen. Also check the casing of the socket to make sure the spring-loaded cover operates correctly and that it is not cracked.

- *Check voltage of power tool*

If the plug and cable are coloured yellow the power tool will operate at 110 volts. There may also be labels on the power tool showing 110 volts. To work on building sites, all power tools should be at this reduced voltage or, better still, battery operated.

- *Plug in power tool*

Once you have made all the checks correctly, you can plug in the power tool and start work. If you are not sure about the checks you have just made, do not plug in the tool and do not start work. Go and ask advice from your supervisor.

There is no set procedure for checking power tools before use, but it is good practice to decide your own routine. The following activity will help you to do this.

### Activity: Electrical safety

#### The objectives of this activity are:

- to describe the power tool safety checking procedure before plugging in the tool for work;
- to complete a list of appropriate powered hand tool safety checking procedures.

#### Resources

In your group you will need:

- one set of 24 coloured cards;
- a yellow start card entitled 'Mains supplied power tool'.

You will also find a chart and a flow chart on pages 28 and 29.

The purpose of the activity is to lay down all the cards in a suitable order to show the correct safety checks needed before using a power tool. Have a look at the flow chart layout for guidance.

(This flow chart is simply a guide. Although there is no set order for checking portable powered hand tools, it is good practice to plan your own procedure and use it every time.)



## ACTIVITY

### Stage 1

Check that everybody understands what the terms on all the cards mean. Discuss the meanings of the statements with your teacher or trainer. Shuffle the cards and share out.

### Stage 2

Put the large, yellow card, 'Mains supplied power tool,' on the table. Choose the order in which each person or group will play the activity.

Only one card can start the activity. The person who thinks they have this first card shows it to the other players. This card is laid down next to the large yellow card.

### Stage 3

The task is now to put down the remaining cards in a logical order. Each player takes turns. If a player cannot lay down any cards, the turn passes to the next player. The group has to agree a card is correct before going on.

The activity is complete when all cards have been laid down.

Check your solutions with the teacher or trainer.

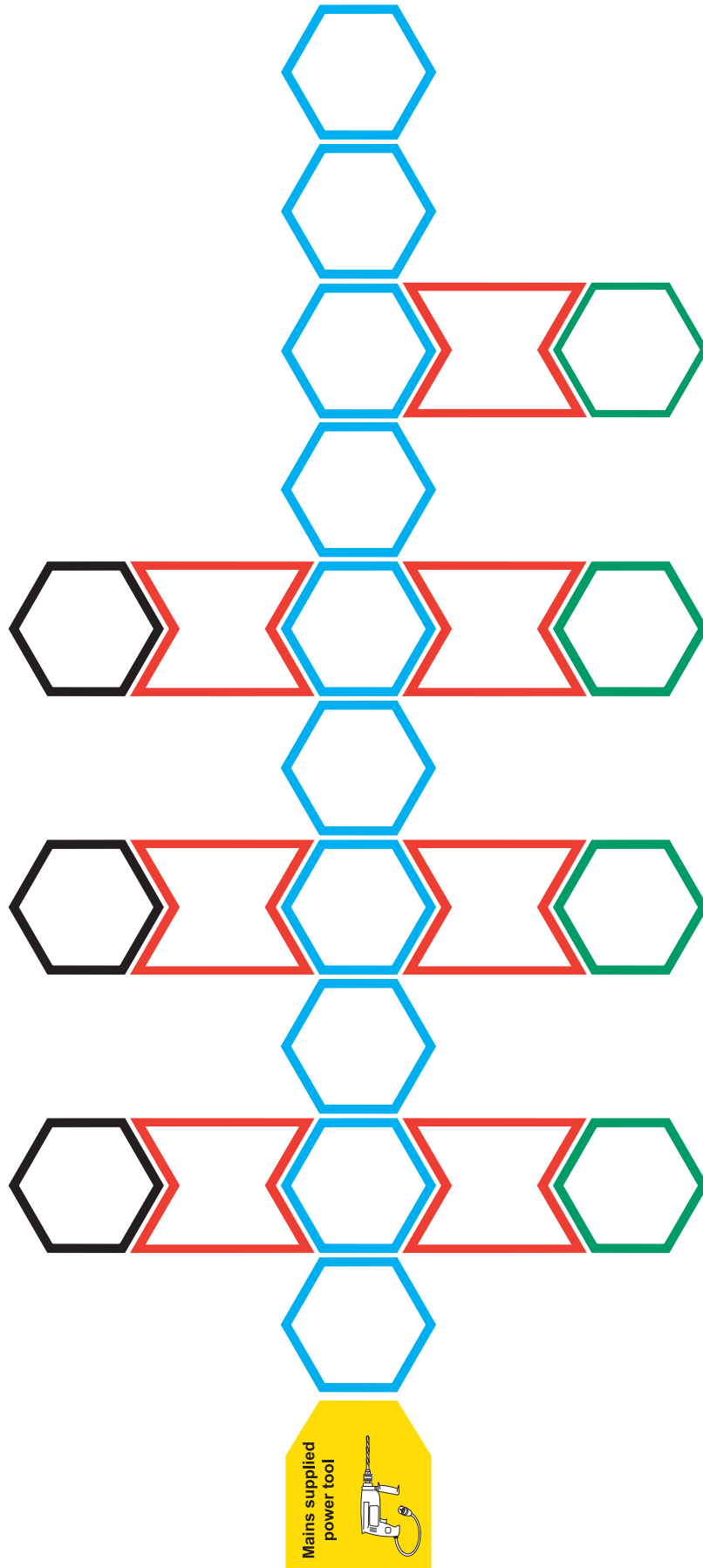
### Stage 4

Now check your understanding.

Complete the power tools safety checks chart on page 29.

The column on the left lists all the stages of successful safety checks. You must complete the column on the right, putting in all the detail for safety checks.

Working with power – flow chart



**Power tools safety checks chart**

Mains supplied powered hand tool	
Safety checks statement	Details for safety checks
Check body of powered hand tool	
Check cable of powered hand tool	
Check plug of powered hand tool	
Check voltage of powered hand tool	

## Pump down the volume: Noise safety

Noise is the sound made by pressure changes in the air and picked up by your ear. Loud noise can annoy people. More importantly, it can damage your hearing. But very soft noise can be difficult to hear.

People who are exposed to high noise levels, even for a short time, may experience temporary hearing loss. If they are exposed to noise for a long time, they can suffer serious, permanent hearing loss. Sufferers don't often realise that their hearing is being damaged until other people ask: 'Can't you hear me? Are you deaf?'

The damage happens when pressure changes in the air affect the inner ear. This is the part of the ear that allows you to hear. You will find that loud noise over a short period of time can cause temporary hearing loss and a 'buzzing' in your ears.

At work, noise can stop you concentrating. It distracts you and may make you unsafe. There is legislation in place to help protect your hearing throughout your lifetime.

### Noise is measured in Decibels (dB).

As a guide, a useful 'rule of thumb' is:

- if you have to raise your voice to speak to someone 2 metres away, noise levels are about 85dB;
- if you have to shout to speak to someone who is 1 metre away, noise levels are about 90dB.

Identifying 'ear protection zones' and putting up signs where noise is at or above 90dB can control the effects of noise.



## Noise at Work Regulations 1989

Noise levels are measured with sound level meters. They have up to four scales, A to D, which give readings in Decibels (dB). The most common scale for construction work and for legal purposes is the A scale.

The regulations identify time limits for exposure to various sound levels and set out three action levels:

First level 85dB(A) scale	Employee is provided, at their request, with suitable and efficient personal ear protectors.
Second level 90dB(A) scale	Employee is provided with suitable personal ear protectors, which must be worn.
Peak level 140dB(A) scale	Employee must wear the personal protective equipment (PPE) provided as noise at this level will cause permanent damage to hearing.

Noise assessments should be carried out by a competent person.

## Changes to the Noise at Work Regulations

The current regulations were adopted in November 2002. From December 2005 the limits of the first and second action levels will be reduced by 5dB.

## Wearing ear protection

You should wear ear protection when the sound level is between the 85dB and 90dB action levels. You must wear it above 90dB.

Without protection there is a risk of damage to your hearing. Remember that, over time, this damage can result in permanent hearing loss. Ear protection cannot repair damage that has already been caused.



## Activity: Noise

### The objectives of this activity are:

- to measure a range of noise levels;
- to classify noise levels according to the Noise at Work Regulations;
- to know the effects of prolonged exposure to high noise levels.

### Resources

You will need:

- a sound level meter;
- access to workshops and work areas;
- the graph on page 33;
- the table on page 34;
- notebook.

### ACTIVITY

Your teacher or trainer will tell you if you are to work on your own, in pairs or small groups.

#### Stage 1

Using the sound level meter, measure and record a range of seven different sounds. You could include:

- workshop noises like machinery, general activity, specific common tasks like cutting bricks, use of hand tools, portable power tools like a hammer drill, erection of platforms/scaffold, etc;
- common everyday noises, e.g. mobile phone ringing, personal stereo at various sound levels, car CD-player, conversation, noise in library, noise in refectory/canteen, etc.

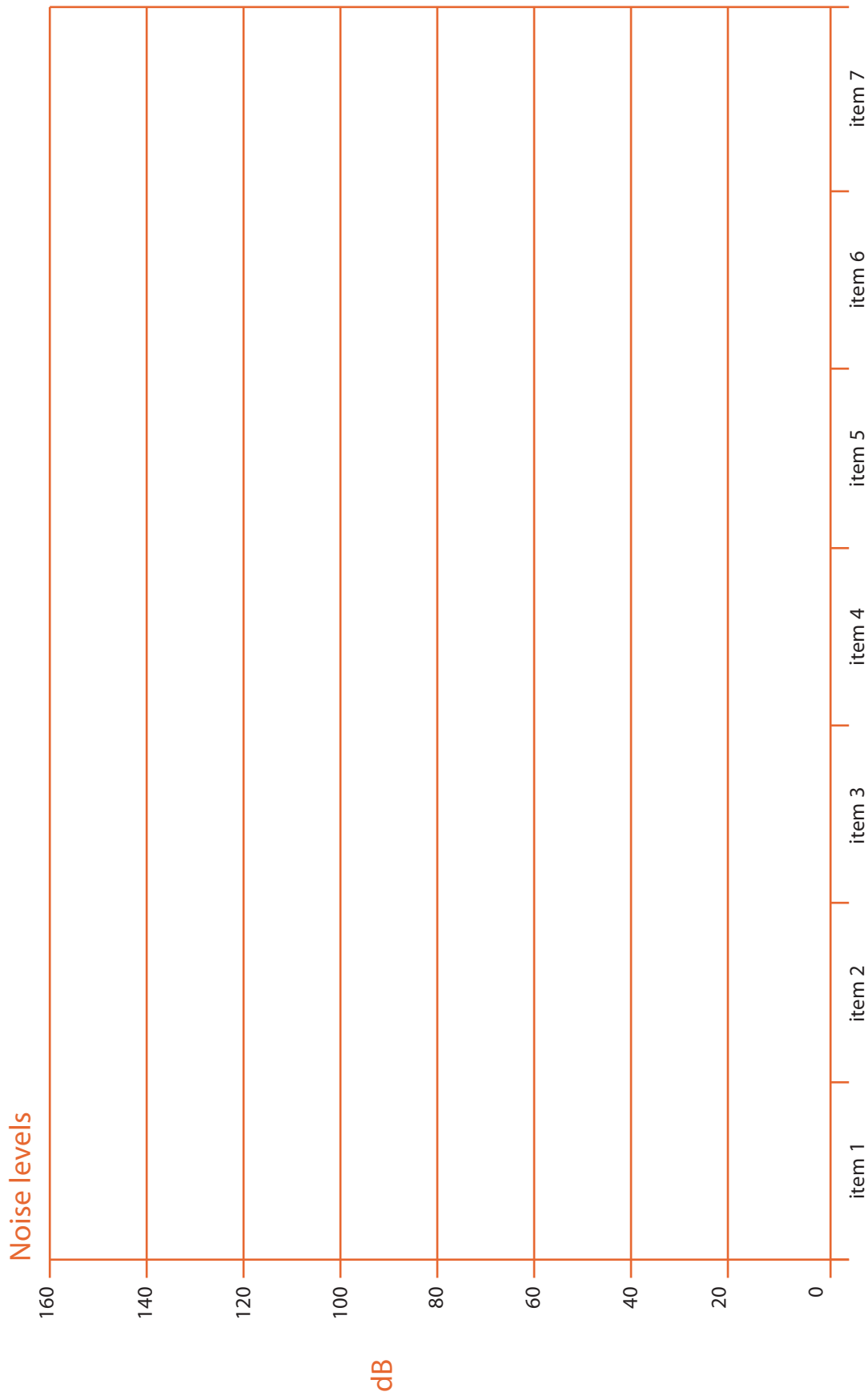
#### Stage 2

Using the graph on page 33, plot and label the position of the noises you recorded on the horizontal axis. Mark the decibel rating on the vertical axis.

#### Stage 3

Use your results to classify the noises into the official action levels. Write them in the table on page 34. Decide if the noises need ear protection and/or an ear protection zone. Report back your group findings and recommendations for action.





	Source of noise	Ear protection required? Yes/No	Ear protection zone required? Yes/No
First level 85dB (A)			
Second level 90dB (A)			
Peak level 140dB (A)			

## Safety signs

### The Health and Safety (Safety Signs and Signals) Regulations

Employers are required to provide safety signs in a variety of situations that do, or may, affect health and safety. There are four types of safety signs in general use. Each of these types has a designated shape and colour to make sure that employees get health and safety information in a simple, bold and standard way, with little use of words.

Details of these signs and typical examples of use are given below.



PROHIBITION

Stop/must not

Red on white background



WARNING

Risk of danger hazard ahead

Yellow background with black border



MANDATORY

Must obey

Blue background with white symbol



SAFE WAY TO GO

Safe condition

Green background with white symbol

There are more signs on the next few pages. Look up where they are used. Write the type and meaning under each sign.



TYPE

MEANING



TYPE

MEANING



TYPE

MEANING



TYPE

MEANING



TYPE

MEANING



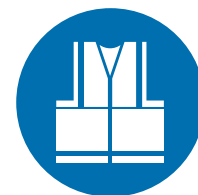
TYPE

MEANING



TYPE

MEANING



TYPE

MEANING



TYPE
MEANING



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MEANING



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MEANING



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MEANING



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MEANING

### Activity: Using safety signs

To be safe at work you will need to recognise, understand and respond to a lot of different safety signs. This activity has been designed to help you identify them.

#### The objectives of this activity are:

- to recognise the types of safety signs and their meaning;
- to understand how and where to use the signs to keep workers safe.

#### Resources

You will need:

- the safety signs on page 39.

You can choose to use a drag and drop version of this activity on the computer. You can also carry out this task using the board activity.

### ACTIVITY

#### Stage 1

On your own, look at the plan of the workshop on the board or on your screen. Look at the safety signs on the next page.

#### Stage 2

In a group, work with others to discuss and agree where to place the safety signs in the correct positions on the workshop floor plan.

#### Stage 3

Be prepared to explain your decisions to the rest of the class.

Safety signs for workshop board activity



No smoking



Not drinking water



First aid



Indication of direction



Emergency stop button



Fire assembly point



Eye wash station



SCAFFOLDING INCOMPLETE

PETROLEUM MIXTURE  
HIGHLY INFLAMMABLE  
NO SMOKING OR  
NAKED LIGHTS

WARNING  
HIGH VOLTAGE  
CABLES  
OVERHEAD



Perimeter of hazard



General warning, caution risk of danger



Caution, corrosive substance



Caution, toxic hazard



Caution, risk of electric shock



Caution, risk of fire



Hearing protection must be worn



Hand protection must be worn



Foot protection must be worn



Eye protection must be worn



Head protection must be worn

## What's it all about?

Health and safety has a lot of terms that need to be read, understood and remembered. You will have come up against quite a few as you have worked through these activities. There are useful lists on pages 42 and 43 to remind you of them and some cards to help you practise and remember the meanings.

### Activity: Common abbreviations, words and meanings

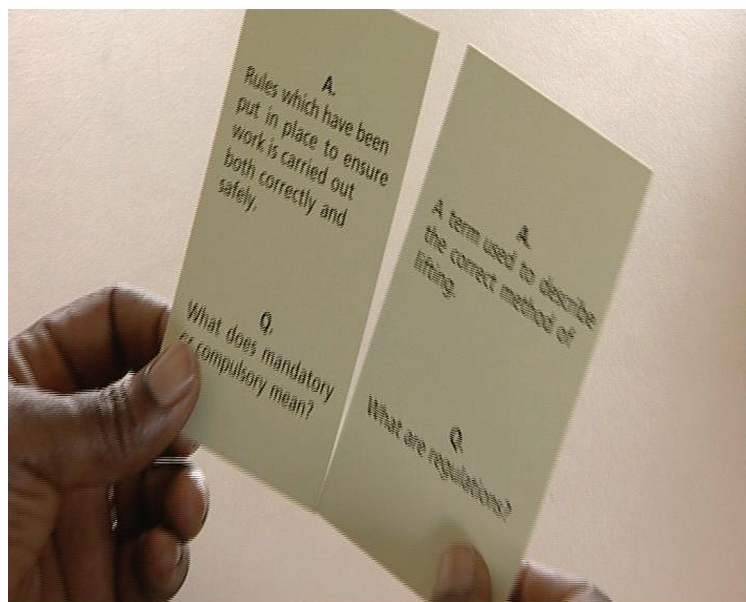
#### The objectives of this activity are:

- to know and understand common terms used in health and safety;
- to practise using them with confidence.

#### Resources

You will need:

- sets of cards for 'Common abbreviations and meanings' and 'Common words and meanings'.





## ACTIVITY

Your teacher or trainer will decide if you are to work alone, in groups or as a whole class.

### Common abbreviations and meanings

These cards are in threes – Abbreviations, terms and meanings.

#### Activity 1: Solitaire

Share out the cards. Take turns to play. Start with the abbreviations, then match the correct terms, then the meanings. Check in the book.

#### Activity 2: A memory activity

Spread the cards face up. Take turns to find three at a time that match correctly. Check in the book. To make it harder, lay the cards face down – now you have to remember where the right cards are.

### Common words and meanings

These cards each have a question and an answer, but not for the same question!

#### Activity 1: Dominoes

Share out the cards. One person starts with a question. Look for the card with the correct answer. Then answer the question on that card. If you get them all right, the cards join up in a chain.

#### Activity 2: Spoken

Your teacher or trainer may give out the cards to the whole group and you can do the activity out loud.

To make it harder, as you get more familiar with the terms, you can play against the clock or take some cards out to test your knowledge. You could also invent some new activities of your own – or make up some new cards for another topic.

## Common abbreviations and meanings

ACoP	Approved Codes of Practice <ul style="list-style-type: none"><li>● Provides general guidance for employers and employees on the most suitable and safest way to carry out activities.</li></ul>
CDM	Construction (Design and Management) Regulations <ul style="list-style-type: none"><li>● Rules that must be observed by all contractors and employees on site.</li></ul>
COSHH	Control of Substances Hazardous to Health <ul style="list-style-type: none"><li>● Rules that cover dangerous solids, liquids or gases and how they should be used and stored.</li><li>● Actions you and your employer must take to protect your health and the health of others.</li></ul>
HASAWA	Health And Safety At Work Act 1974 <ul style="list-style-type: none"><li>● Main rules that cover health and safety in the workplace.</li><li>● To provide safety in the workplace.</li><li>● Protects visitors and the public.</li></ul>
HSE	Health and Safety Executive <ul style="list-style-type: none"><li>● Enforces law in the workplace.</li><li>● Inspects premises and workplaces to advise and ensure employers and employees are complying with health and safety legislation.</li></ul>
MEWP	Mobile Elevating Work Platform <ul style="list-style-type: none"><li>● Used for working at height when it is not possible to erect a scaffold.</li></ul>
PPE	Personal Protective Equipment <ul style="list-style-type: none"><li>● Includes hard hats, impact goggles, ear defenders, protective gloves, overalls, safety footwear and high visibility clothing.</li></ul>
PUWER	Provision and Use of Work Equipment Regulations <ul style="list-style-type: none"><li>● Provides guidance to protect people's health and safety from equipment that they use at work.</li><li>● Equipment that includes, amongst others, woodworking machines, drilling machines, lifting equipment, dumper trucks and ladders.</li></ul>
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations <ul style="list-style-type: none"><li>● The following events must be reported to the Health &amp; Safety Executive: Deaths and major injuries, incidents where employees are incapable of working for more than three days due to an injury at work, diseases, dangerous occurrences or near misses.</li></ul>
RPE	Respiratory Protective Equipment <ul style="list-style-type: none"><li>● To be worn over the mouth and nose when working with strong smelling substances.</li></ul>

## Common words and meanings

Accident	An unplanned or unwanted event or occurrence that may result in injury to a person and/or damage to property.
Competent person	Someone who has done training in a certain task and is able to carry out this task unsupervised.
First aid	How you treat minor injuries where other treatment is not needed. Minimising any chance of further injury or illness until a doctor, nurse or paramedic arrives.
Hazard	Something that can cause harm, illness or damage to health or property.
Improvement Notice	Issued by the HSE to state what is wrong and what is required to be put right, usually to a given timescale.
Kinetic lifting	Term used to describe the correct method for lifting.
Mandatory/Compulsory	This must be done, e.g. a circular sign with a blue background such as 'Wear eye protection'.
Prohibition Notice	Issued by the HSE on employers or employees where, in their opinion, there is an imminent risk of an accident. The work stops immediately. Matters must be corrected before the notice is lifted.
Regulations	Rules that have been put in place to ensure work is carried out both correctly and safely.
Risk	Likelihood or chance that harm, illness or damage will occur and the degree of harm (how many people might be affected and how badly).
Risk assessment	Mainly carried out by an employer to identify risks to his/her employees (and others) and decide what is necessary to control these risks to the standards required under the law.

## Safety quiz

### Check your learning activity

Everyone needs to know how they're getting on when they learn something new. This Safety quiz can help you check your understanding at the end of each health and safety topic, or at the end of your programme.

The objectives of this activity are:

- to practise your learning in health and safety;
- to check your learning and get feedback on how to improve;
- to show that you have achieved a minimum level of understanding.

### Resources

Your teacher or trainer will ask you to do the Safety quiz either on a computer or from a printed quiz sheet.

### ACTIVITY

On the computer you can use the Safety quiz in two different ways.

*The 'Try it' option:*

- helps you check your understanding;
- allows you to practise and check your learning in 16 chosen topics;
- gives you feedback on your score in each topic;
- shows you where your weaker areas are so that you can brush up on particular topics;
- allows you to have as many practice sessions as you like as no record is kept.

*The 'Test me' option:*

- assesses your knowledge against the clock;
- records your performance over a number of trials to check your skills;
- prints out your results for your portfolio. Only you and your teacher or trainer will be able to see your scores. You can then work out together how to improve them.

There are over 500 questions in the database. The computer makes up a new quiz each time you start. The questions were kindly supplied by the Construction Industry Training Board from the *Health and Safety 4th Edition Handbook for the Construction Skills Certification Scheme (CSCS)*.

## Where are the Key Skills?

Key Skills are the skills we need in everyday life, whether at work, in leisure activities or at home. They are the key to any training that you will do at work and will help you to perform better in your everyday tasks.

Some of the activities in this workbook will give you the chance to collect evidence towards the Key Skills criteria listed below. Your teacher or trainer will tell you which pieces of work you can include, where it should go and any extra work you will have to do to meet all of the criteria. You should keep all of your rough work and working out.

Activity title	Stage	Page number	Key Skills criteria	
Being safe at work	1	6	<b>N1.1</b> – Interpret straightforward information from <b>two</b> different sources. At least one source should be a table, chart, diagram or line graph.	
			<b>N2.1</b> – Interpret information from <b>two</b> different sources, including material containing a graph.	
			<b>C1.1</b> – Take part in a one-to-one discussion and a group discussion about different straightforward subjects.	
			<b>C2.1a</b> – Contribute to a discussion about a straightforward subject.	
			<b>C2.1b</b> – Give a short talk about a straightforward subject using an image.	
			<b>IT1.1</b> – Find, explore and develop information for <b>two</b> different purposes.	
				<b>IT1.2</b> – Present information for <b>two</b> different purposes.
	2 and 3	6	<b>C1.1</b> – Take part in a one-to-one discussion and a group discussion about different straightforward subjects.	
			<b>C2.1a</b> – Contribute to a discussion about a straightforward subject.	
			<b>C2.1b</b> – Give a short talk about a straightforward subject using an image.	
<b>IT1.1</b> – Find, explore and develop information for <b>two</b> different purposes.				
			<b>IT1.2</b> – Present information for <b>two</b> different purposes.	
Preventing accidents	1, 2 and 3	9	<b>C1.1</b> – Take part in a one-to-one discussion and a group discussion about different straightforward subjects.	
			<b>C2.1a</b> – Contribute to a discussion about a straightforward subject.	
			<b>C2.1b</b> – Give a short talk about a straightforward subject using an image.	
			<b>IT1.1</b> – Find, explore and develop information for <b>two</b> different purposes.	
			<b>IT1.2</b> – Present information for <b>two</b> different purposes.	
Reporting accidents	1	17	<b>C1.2</b> – Read and obtain information from <b>two</b> different types of documents about straightforward subjects, including at least <b>one</b> image.	
	2	17	<b>C1.1</b> – Take part in a one-to-one discussion and a group discussion about different straightforward subjects.	
			<b>C2.1a</b> – Contribute to a discussion about a straightforward subject.	

Activity title	Stage	Page number	Key Skills criteria
Reporting accidents	3	17	<b>C1.1</b> – Take part in a one-to-one discussion and a group discussion about different straightforward subjects.
	4	17	<b>C1.2</b> – Read and obtain information from <b>two</b> different types of documents about straightforward subjects, including at least <b>one</b> image.
			<b>C2.1a</b> – Contribute to a discussion about a straightforward subject.
Fire: Know your fire extinguishers	1	23	<b>C1.1</b> – Take part in a one-to-one discussion and a group discussion about different straightforward subjects.
	3	23	<b>C1.1</b> – Take part in a one-to-one discussion and a group discussion about different straightforward subjects.
			<b>C1.3</b> – Write <b>two</b> different types of documents about straightforward subjects. Include at least one image in one of the documents.
			<b>C2.1a</b> – Contribute to a discussion about a straightforward subject.
			<b>C2.1b</b> – Give a short talk about a straightforward subject using an image.
			<b>IT1.1</b> – Find, explore and develop information for two different purposes.
<b>IT1.2</b> – Present information for two different purposes.			
Working with power: Electrical safety	1, 2 and 3	26	<b>C1.1</b> – Take part in a one-to-one discussion and a group discussion about different straightforward subjects.
			<b>C2.1a</b> – Contribute to a discussion about a straightforward subject.
Pump down the volume: Noise safety	1	30	<b>C1.1</b> – Take part in a one-to-one discussion and a group discussion about different straightforward subjects.
			<b>C2.1a</b> – Contribute to a discussion about a straightforward subject.
	2	30	<b>N1.1</b> – Interpret straightforward information from <b>two</b> different sources. At least one source should be a table, chart, diagram or line graph.
			<b>N2.1</b> – Interpret information from <b>two</b> different sources, including material containing a graph.
	3	30	<b>C1.1</b> – Take part in a one-to-one discussion and a group discussion about different straightforward subjects.
			<b>C2.1a</b> – Contribute to a discussion about a straightforward subject.
<b>C2.1b</b> – Give a short talk about a straightforward subject using an image.			
Safety signs	2 and 3	35	<b>C1.1</b> – Take part in a one-to-one discussion and a group discussion about different straightforward subjects.
			<b>C2.1a</b> – Contribute to a discussion about a straightforward subject.
What's it all about?	All	40	<b>C1.1</b> – Take part in a one-to-one discussion and a group discussion about different straightforward subjects.

# Notes

