

Safety Guide



Learning that works for Utah

CTE[®]

General Safety

Disclaimer

This *Safety Guide for Career and Technical Education* is intended to be a reference for career and technical education (CTE) teachers in the State of Utah. The Utah State Board of Education (USBE) CTE department and Utah Safety Committee has carefully considered applicable industry practices in the development of this *Guide*.

The information contained in this *Guide* is for general guidance for the provision of safety instruction, practices, and procedures. The application and effectiveness of safety rules, regulations, and laws can vary widely based on specific facts involved. Accordingly, the information in this *Guide* is provided as a general safety reference. As such, this *Guide* should not be used as a substitute for consultation with professional, legal, or other competent advisers.

There are links and references in this *Guide* that associate to other websites and materials written or maintained by third parties over whom the Utah Safety Committee has no control. While the Utah Safety Committee has made every attempt to ensure the linked or referenced information contained in this *Guide* has been obtained from reliable sources, the Utah Safety Committee makes no representations as to the accuracy or any other aspect of information contained in third-party websites or materials.

Introduction

The Safety Guide for Career and Technical Education was adopted from Virginia Department of Education CTE department (https://www.doe.virginia.gov/instruction/career_technical/cte-safety-best-practice-guide.docx) and adjusted to meet the needs for the state of Utah CTE programs. The Guide is intended to provide examples of best practice for use by school division administrators and career and technical education teachers.

Local education Agencies (LEAs) within the state of Utah may have established their own safety rules and guidelines. Teachers and administrators should consult with their school division's risk management department and follow their respective procedures and policies. This *Guide* should create an awareness of the risks, responsibilities, and resources available to safely manage and educate students in the CTE classroom.

The *Guide* is not intended to be complete or all-inclusive. Rather, it is intended to draw attention to the necessity for safety instruction in every aspect of CTE and to provide the teacher with resources for improving safety instruction.

The purpose of this *Guide* is to eliminate or reduce the occurrence of accidents in CTE labs and the workplace by:

- making CTE teachers aware of dangers and risks to themselves, students, and visitors;
- providing CTE teachers with knowledge that supports safety in the classroom, lab, and workplace;
- providing recommendations to promote safe environments for learning or working; and
- providing resources to encourage CTE teachers to incorporate safety awareness or safety training in their curriculum and daily instructional practices.

Risk Management

Student creativity and innovation is encouraged in the CTE classroom and lab but not at the expense of student safety. CTE courses in which students create new items and machines should consult with the school division's risk management office before allowing the use of such technologies in the classroom or lab.

Lab equipment that has been created, developed, or modified by students or instructor must be approved by CTE administrators and Risk Management prior to use for classroom instruction or club-sponsored activity.

Laws and Regulations

Awareness of the laws and regulations that govern relevant industries is important for the CTE teacher. These can be federal, state, or local laws, policies, or standards set by organizations or entities with jurisdiction over public schools.

Federal, State, and Local Laws and Regulations

The following excerpt from the National Institute for Occupational Safety and Health (NIOSH), a division of the Centers for Disease Control and Prevention (CDC) (<https://www.cdc.gov/niosh/docs/2004-101/chap1.html>), helps make sense of governmental regulations:

In dealing with regulations, it is important to know the levels of government, the enforcement agencies, their vocabulary, whom or what they protect, and what they regulate before one can understand the regulations.

Regulations are created by federal, state, and local governments. States, counties, and municipalities must comply with all federal regulations. Counties and municipalities must comply with all state regulations, and so on. In most cases, states, counties, and municipalities may add to existing higher-level regulations or may issue new regulations in areas where no higher-level regulations exist. Additionally, in the absence of specific laws or local policies, the

profession sets the standard of care expected. One may find, therefore, differing regulations as one moves from one area to another.

Federal, state, and local agencies or governing bodies have the power to issue and enforce regulations. These groups include the federal Occupational Safety and Health Administration (OSHA), state agencies, county boards of health, municipal boards of health, or town councils.

Federal statutes or acts are passed by Congress and become part of the U.S. Code. Regulations may then be issued and enforced by a designated agency charged with that responsibility. Federal regulations are first issued in the *Federal Register*. After a public comment period, final federal regulations are compiled in the *Code of Federal Regulations* (CFR) and can be cited by title, part, and section. Thus, 29 CFR 1910.120 refers to Title 29, Part 1910, section 120.

The laws are designed to protect private sector employees, public employees (federal, state, county, and municipal employees, including public school teachers), private and public school students, the general public, and the environment. Each agency has jurisdictional responsibilities for promulgating and enforcing regulations to protect these groups. In addition, each agency has defined areas of hazards that it regulates.

Occupational Safety and Health – OSHA, NIOSH, and UOSH

The Occupational Safety and Health Act of 1970 mandated the creation of two agencies dedicated to health and safety in the workplace, OSHA and NIOSH. OSHA, under the U.S. Department of Labor (DOL), is in charge of creating and enforcing regulations, while NIOSH, under the CDC, which in turn is under the U.S. Department of Health and Human Services (HHS), is a research and education institution. OSHA and NIOSH work closely together. NIOSH publishes research, recommendations, and other resources related to safety, but all regulatory enforcement falls under OSHA. OSHA also provides resources for young workers on its website (<https://www.osha.gov/youngworkers/resources.html>).

OSHA issues standards in the *Federal Register* that are compiled in the CFR, including the following:

- 29 CFR 1910 for General Industry Standards (<https://www.osha.gov/laws-regs/regulations/standardnumber/1910>)
- 29 CFR 1915 for Shipyard Employment (<https://www.osha.gov/laws-regs/regulations/standardnumber/1915>)
- 29 CFR 1917 for Marine Terminals (<https://www.osha.gov/laws-regs/regulations/standardnumber/1917>)
- 29 CFR 1918 for Longshoring Safety (https://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_part_number=1918&p_toc_level=1)
- 29 CFR 1926 for Construction Standards (https://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_part_number=1926&p_toc_level=1)

- 29 CFR 1928 for Agricultural Standards (<https://www.osha.gov/laws-regs/regulations/standardnumber/1928>)

Utah is one of 26 states that have OSHA-approved state plans. Utah's Labor Commission administers the Utah Division of Occupational Safety and Health (UOSH) program. The role of the UOSH program is to enforce safety and health regulations for general industry, construction, agricultural, state and local government, and maritime employers in Utah. It mirrors the federal program in many areas but has adopted some different statutes, regulations, policies, and procedures to address unique characteristics of the state of Utah. The overview, coverage and standards can be found on the OSHA website (<https://www.osha.gov/stateplans/ut>) and on the Utah Labor Commission website (<https://laborcommission.utah.gov/divisions/uosh/>).

Child Labor

The Wage and Hour Division under the DOL enforces the child labor standards of the Fair Labor Standards Act (<https://www.dol.gov/whd/childlabor.htm>). In addition, the federal government's website, *Youth Rules!* (<https://www.youthrules.gov/index.htm>), includes information for teens, educators, and parents.

Fire Safety

State and local fire prevention codes dictate many fire safety practices. Consult with the state or local fire marshal for more information. Refer to the Utah Fire Prevention and Safety Act (<https://firemarshal.utah.gov/laws-rules/>) for more information about the laws and rules pertaining to fire safety.

Additionally, the following guidelines support fire safety:

- Maintain a neat and orderly environment so that potential hazards, such as fabric close to a heat source, are visible and can be remedied.
- Plan at least two escape routes in case of fire.
- Adequate numbers of multipurpose ABC fire extinguishers must be strategically placed. These must be checked and serviced regularly. Special-hazard extinguishers may be necessary, depending on the hazards present in the lab.
- Use only approved containers for the storage and disposal of flammable chemicals.
- Exercise care with both flammable and combustible materials. Flammable materials ignite more easily than combustible materials. Examples of flammable materials are gasoline, acetone, and lacquer thinner. Examples of combustible materials are kerosene, fuel oil, mineral spirits, and brake fluids. Many liquids produce vapors that are heavier than air and can accumulate in low points, lying in wait for a stray spark. Many are

readily oxidized, or release heat, so rags or waste coated with them can catch fire spontaneously. Nearly all flammable and combustible liquids will burn violently.

Work-based Learning

USBE has created a Work-Based Learning Guide detailing the work-based learning experiences in Utah and the guidelines for their implementation. This and related information may be accessed on the Work-Based Learning web page on the USBE website.

(<https://www.schools.utah.gov/cte/wbl/manual?mid=3155&tid=0>)

Career and Technical Student Organizations

Career and technical student organizations (CTSOs) often conduct activities in which safety is an important priority. To understand various bylaws governing each individual CTSO, please refer to the USBE website (<https://www.schools.utah.gov/cte/ctso?mid=3070&tid=0>).

General Safety

This section provides an overview of safety practices applicable to any CTE course. While this section is not exhaustive, it aims to bring important aspects of and considerations for safety to the attention of the CTE teacher. For further information and resources on school safety, refer to information USBE website (<https://schools.utah.gov/cte/resources/safety>).

Hazard Assessment and Regular Inspection

Conducting a thorough hazard assessment is the first step in determining what safety precautions and equipment are necessary in a CTE facility, classroom, or lab. The CTE teacher is responsible for conducting a hazard assessment in his/her classroom or lab.

All equipment and facilities used in CTE courses must be inspected regularly in accordance with the specific recommendations of each manufacturer and applicable laws and regulations. Each LEA must establish a system of regular inspection, reporting, and replacement of faulty equipment. In addition, CTE teachers and students must visually inspect all tools and equipment before using them to ensure they are in good working condition. Never use tools that are out of order or that have missing parts. The teacher must ensure proper maintenance of all equipment in the facility. This includes ensuring that items such as electrical receptacles are grounded and circuits are rated to handle the draw of the machines attached to them.

Communicating with Parents and Guardians

Parents of students in CTE courses sign a safety contract at the beginning of each academic year. Its purpose is to:

- inform the parent/guardian of the student's participation in lab activities;
- outline the safety instruction and procedures followed by the teacher and the LEA;
- obtain from the parent/guardian relevant information regarding any health problems having a bearing on the student's ability to participate in classroom or lab activities; and
- list the contact information of the parent/guardian and the physician in case of emergency.

Classroom Management

Effective classroom management practices not only foster student learning, they are essential for student safety. The CTE teacher must:

- never leave the classroom unsupervised at any time when students are present and never delegate responsibility for the class to a student;
- require that students be enrolled in the class and receive the required safety instruction before working in a lab;
- require that students demonstrate an understanding of the safety rules for each piece of equipment to be used and pass a safety test with a score of 100 percent;
- maintain documentation as to who received instruction and when instruction was given.
- model safe practices and techniques at all times;
- prohibit horseplay, running around, and fighting in the CTE lab/classroom; and
- ensure that students wear all essential personal protective equipment (PPE) and observe all safety standards associated with the tools or activity.

Safety Precautions

This section surveys various safety precautions for the CTE classroom. This list is by no means exhaustive; more detailed guidance for each program area is available in this *Guide*. Completing a hazard assessment allows the CTE teacher to determine what safety precautions need to be taken. The guidelines outlined in this section are meant to direct the attention of the CTE teacher to best practices and available resources to ensure safety in the CTE classroom.

Equipment and Facilities Maintenance

Ensure that all equipment is operated in accordance with the manufacturer's specifications. Give particular attention to storage and maintenance. Never use tools that are out of order or that are missing parts.

Proper Signs and Labels

Proper signs and labels are crucial to ensuring safety in any CTE class. Follow these general guidelines:

- Read the labels when using any materials, especially hazardous substances.
- Use signs to indicate hazardous areas. Signs must specify the particular kind of PPE to be used in each area.
- Prominently post emergency procedures and telephone numbers (e.g., fire department, school nurse) in the room.
- Floor and safety lines must be used to mark areas around lab tools and equipment to provide maximum safety and reduce the chance of accidents. A safety zone is a safe, noncongested work area. The area is often marked with yellow or white lines. A nonskid surface can be provided to give firm footing to the operator of a tool or machine.
- Color code for safety. Color coding uses a particular color to indicate the level of risk associated with particular tools or areas. The color-coding system must be standard throughout the school. New equipment must be matched to the existing color-coding system. Most equipment color suggestions would follow the basic American National Standards Institute (ANSI) color system, as follows:
 - **Red—danger**
 - Fire—Red must be used as the basic color for the identification of fire protection equipment and apparatus.
 - Stop—Emergency stop bars, buttons, or electrical switches on hazardous machines must be red.
 - Danger—Safety cans and safety signs must be painted red.
 - **Orange—warning.** Orange must be used as the basic color for designating dangerous parts of machines or energized equipment. Orange must be used to emphasize hazards when enclosure doors are open or when gear bolts or other guards around moving equipment are open or removed, exposing unguarded hazards. Orange can also be used as background for electrical switches, levers, and controls.
 - **Yellow—caution.** Yellow must be used as the basic color for designating caution and for marking physical hazards. It can be used to identify parts of machines, such as wheels, levers, and knobs that control or adjust the machine. Use solid yellow,

- yellow and black stripes, or checkers (or yellow with suitable contrasting background) interchangeably, opting for the combination that will attract the most attention. These strips are used in combination to mark stairs, protruding objects, and other stationary hazards.
- **Green—safety.** Green must be used to indicate the presence of safety equipment, safety areas, first-aid equipment, and medical practice.
 - **Blue—information.** Blue is used for signs if a warning or caution is intended. Such signs are made of white letters on a blue background and carry messages such as *out of order* or *do not operate*.
 - **White.** White is used to mark off traffic areas and can indicate the direction of traffic. White lines also mark work areas around objects in the lab. Yellow may be used in place of white to mark these areas or lanes.
 - **Black-and-yellow diagonal stripes—radioactivity.** A black and yellow diagonal striped pattern is designated as the marking for radiation hazards.
 - **Black-and-white stripes.** Black, white, or a combination of these two must be the basic colors for the designation of traffic and housekeeping markings.
 - **Gray.** Gray is used on floors of work areas in the lab, bodies of machines, and table tops if painting is desired.

Safety Data Sheets

Every lab is required to have a readily accessible file containing safety data sheets (SDS), usually supplied by the manufacturer, for all hazardous chemicals and materials used in the facility. Teachers and students may refer to free online SDS resources from MSDSONline, from velocityEHS (<https://www.msdsonline.com/msds-search/>).

Storage

Proper storage of materials within the CTE lab helps prevent hazards and accidents. The following provides general guidelines:

- Label and carefully store all materials and substances in a CTE lab. Store hazardous materials according to SFPC and local fire codes.
- Store materials in orderly, stable stacks. Separate combustible materials from heaters or heating devices by distance or by shielding to prevent ignition.
- Do not store combustible materials in exits or enclosures for stairways and ramps, boiler rooms, mechanical rooms, or electrical equipment rooms.
- Pay careful attention to which materials are incompatible and must not be stored together. A list of incompatible hazardous materials is available on the California State University, Fullerton, website

<http://rmehs.fullerton.edu/environmentalmanagement/HazardousMaterialsManagement/IncompatibleHazardousMaterials.php>).

Personal Protective Equipment

The PPE required for each course/task varies depending on the needs of the job/task and is based on a hazard assessment. Refer to the applicable program area section of this *Guide* and course safety instructions for details. Never use broken, distorted, or ill-fitting PPE.

The following are the general types of PPE:

- Eye protection (e.g., goggles)
- Protective outer clothing (e.g., aprons, lab gowns)
- Respiratory protection (e.g., facemasks, N95 respirators)
- Hand protection (e.g., gloves)
- Hearing protection (Where noise levels are excessive over long periods of time, proper ear protection must be worn. This is extremely important, because hearing loss is cumulative. Cotton must not be used as protection against abrasive sound. While a wad of cotton may minimize waves of certain frequencies, it fails to alter the intensity of sound, thus providing a false sense of security.)
- Head protection
- Foot protection

Bloodborne Pathogens

Exposure to blood and other body fluids occur across many occupations. Healthcare workers, emergency-response and public-safety personnel, and other workers can be exposed to blood through needlesticks and other sharps injuries, through mucous membranes, and by skin exposure. CTE classrooms and labs carry a similar risk. The pathogens of primary concern are the human immunodeficiency virus (HIV), hepatitis B virus (HBV), and hepatitis C virus (HCV). Schools must take advantage of available engineering controls and work practices to prevent exposure to blood and other body fluids.

The following resources will be helpful to the CTE teacher:

- OSHA Fact Sheet: OSHA's Bloodborne Pathogens Standard (<https://www.osha.gov/OshDoc/data/BloodborneFacts/bbfact01.pdf>) provides information on what OSHA's Bloodborne Pathogens Standard means for employees.
- Health and safety training video (<https://www.youtube.com/watch?v=auMdZ33E9e8>)
- OSHA: Bloodborne Pathogens and Needlestick Prevention (<https://www.osha.gov/SLTC/bloodbornepathogens/index.html>) provides information on OSHA standards, hazard recognition, and post-exposure evaluation.

- NIOSH: Information for Employers Complying with OSHA’s Bloodborne Pathogens Standard (<https://www.cdc.gov/niosh/docs/2009-111/>) summarizes the major provisions of the Bloodborne Pathogens standard and provides links to resources for employers.
- CDC: Healthcare-associated Infections (HAIs)— Tools for Protecting Healthcare Personnel (<https://www.cdc.gov/hai/prevent/ppe.html>) promotes patient safety and increases the safety of the healthcare-work environment through improved use of PPE by healthcare personnel.
- CDC: Biosafety in Microbiological and Biomedical Laboratories (BMBL), 5th Edition (<https://www.cdc.gov/biosafety/publications/bmb15/>) provides guidance for lab workers and the public on the practice of biosafety—the discipline addressing the safe handling and containment of infectious microorganisms and hazardous biological materials.

Electrical Safety

All electrical wiring must be in compliance with the National Electrical Code (NEC).

Additionally, the following guidelines help ensure electrical safety:

- Never bypass safety interlocks (i.e., circuit breakers, fuses).
- All labs must have master shut-off valves/switches.
- Do not overload electrical outlets. All outlets within 5 feet of sinks and serving delicate electrical equipment must be fitted with ground-fault interrupters.
- Use surge protectors where sensitive electrical equipment is being used, in geographic areas where thunderstorm activity is a regular phenomenon, and where electrical spikes and drops are common.
- Only use extension cords sized for the equipment and its power and only for temporary service. Additionally, follow these guidelines with regard to the use of extension cords:
 - Place extension cords out of traffic areas or enclose them in electrical cord ducting strips to prevent tripping, and do not fasten extension cords to a wall; affix them to structures; extend them through walls, ceilings or floors; or place them under doors or floor coverings.
 - Maintain extension cords in good condition without splices, deterioration, or damage. Do not subject extension cords to environmental damage or physical impact.
 - Plug extension cords directly into an approved receptacle, power tap, or multiplug adapter and—except for approved multiplug extension cords—extension cords must serve only one portable appliance.
 - Ground extension cords when they are serving grounded portable appliances.
- Do not perform maintenance or repair on any electrical equipment unless as part of the approved curriculum or under the supervision of a qualified individual.

- Ensure that lab equipment is listed and approved for its intended use (i.e., do not use equipment listed for household use in a lab setting).
- Do not use multiplug adapters, such as cube adapters, unfused plug strips or any other device not complying with NFPA 70.
- Relocatable power taps must be of the polarized or grounded type, equipped with overcurrent protection, and must be listed in accordance with UL 1363. Additionally, relocatable power taps must be directly connected to a permanently installed receptacle. Do not extend relocatable power tap cords through walls, ceilings, floors, under doors or floor coverings, or subject them to environmental or physical damage.

Waste Disposal

Separate and dispose of all waste according to established procedures; additionally, follow these guidelines for safe waste disposal:

- Provide for the cleaning of equipment and facilities after each use. Provide regular custodial service in addition to end-of-class cleanup, including storage and daily removal of all sawdust, metal cuttings, rags, and other waste material.
- Recycle or reuse materials whenever possible and safe.
- Each lab should have a clearly marked container exclusively for the disposal of broken glass and other sharp objects.
- Maintain floors free of oil, water, and foreign material.
- Prohibit the use of compressed air to clean clothing, equipment, and work areas.
- Do not dispose of solid materials down the sink drain unless the sink is specifically designed for that purpose (e.g., sink trap). Dilute any liquid chemicals that are safe for classroom sink disposal before pouring them into drains. Consult the appropriate SDS for additional guidance.

Avoiding Heat Stress

Working in hot environments and doing heavy physical work can affect the body's cooling system and lead to heat stress. Heat stress can result in serious accidents. For more information about occupational heat exposure, visit the OSHA website (<https://www.osha.gov/SLTC/heatstress/>).

Factors that affect the risk of heat stress include:

- physical condition;
- weather conditions, especially temperature and humidity;
- environmental conditions (e.g., direct sun, air movement);
- the physical demands of the work being done; or
- the type and quantity of clothing worn.

Safety tips to avoid heat stress include the following:

- Avoid working alone in a hot environment.
- Acclimatize (gradually expose the body) to heat and work.
- Drink plenty of water (one glass every 20 minutes).
- Wear clean, light-colored, loose-fitting clothing made of breathable fabric.
- Take rest breaks in a cool or well-ventilated area. Take more breaks during the hottest part of the day or when doing hard physical work. Allow the body to cool down before beginning again.
- Schedule work to minimize heat exposure. Do the hardest physical work during the coolest part of the day.

Recognize the following symptoms of heat stress:

- Feeling unwell (e.g., headache, nausea)
- Decreased efficiency, coordination, and alertness
- Increased irritability
- Light-headedness or dizziness
- Fainting
- Swelling of the hands, feet, and ankles, usually one to two days after first exposure

If a student exhibits or reports early signs or symptoms of heat stress, take the following steps:

- Remove the student from the hot environment to rest in a cool place and drink cool water.
- If a student has fainted, have him/her rest with the legs and feet elevated.
- Have the student assessed by the first-aid attendant, if available, or by a physician.
- Keep the student under observation until he or she has fully recovered from the effects of the heat. If there is any doubt about the student's condition, obtain medical advice.

Noise Control

Exposure to noise can cause significant and irreversible hearing damage. Appropriate hearing protection must be provided in high-noise settings (i.e., 85 decibels or higher).

Ergonomics

Work-related musculoskeletal disorders (WMSDs) can happen if ergonomic principles are not followed. These disorders may also be called repetitive-strain injuries, cumulative-trauma disorders, or overuse injuries, and are soft-tissue injuries which occur gradually. Causes of WMSDs are heavy, frequent, or awkward lifting; pushing, pulling, or carrying loads; working in awkward postures; and hand-intensive

work. Risk of injury depends on the duration, frequency, and intensity of exposure. Follow these recommendations to avoid WMSDs:

- Maintain a neutral posture as much as possible. Keep the shoulders relaxed, the low back supported, elbows at sides, wrists straight, and feet supported when sitting. When standing, align the ears, shoulders, hips, knees, and ankles. Position work to be able to reduce the frequency of bending, kneeling, or squatting. Raise and/or tilt work. Use a stool to raise ground-level work, use tools with longer handles, and alternate between bending, kneeling, sitting, and squatting. Reduce the length of reach by keeping items as close as possible to your body and removing obstacles. Attempt to spread out the work during the day. Take frequent stretch pauses, change hands or motions, and rotate tasks with others as possible.
- Use proper lifting procedure (e.g., use the legs, keep materials close to the body) and use mechanical assistance where possible. Use proper muscle groups and distribute the workload. Use both hands to pick up heavier objects. Avoid lifting heavy objects alone. Do not lift heavy loads above shoulder level. Use ladders and devices designed for stepping when obtaining access to areas outside the normal reach. Limit overhead storage to infrequently used items.
- Push rather than pull when possible.
- Use low-vibration tools if available, use anti-vibration gloves, and keep hands warm.

Emergencies and First Aid

Emergencies can arise anywhere in the school environment. Procedures for dealing with these events must be developed and approved by the LEAs before the start of the school year.

Emergency Equipment

Each CTE lab must be equipped with emergency equipment corresponding to the hazards present in that particular environment. This may include the following:

- First-aid kit: contains basic medicines, wound care, and other necessities for common injuries
- Eyewash stations: provide continuously flowing solution to flush the eye in case of contact with chemicals (Consult ANSI Z358.1 for details on placement and maintenance.)
- Showers/body spray
- Chemical-spill containment plan

General Guidelines in the Event of Student Accidents

It is the responsibility of the CTE teacher to know what to do and not do in case of an accident. The first few seconds or minutes following a student's injury are the most critical. Please refer to the applicable LEA policy to determine the appropriate measures to follow.

Additionally, follow these guidelines:

- Require students to report all accidents to the teacher, regardless of the nature or severity (follow the LEAs policy regarding accident reporting).
- Keep a record of any accident resulting in injury, regardless of its nature or severity. Retain one copy for the teacher's permanent file until the injured student reaches age 18 or graduates.
- Analyze the accident to determine the root cause and effect.
- Review and record safety practices, procedures, classroom instruction, and student evaluation to prevent accidents.
- Recommend corrective measures as appropriate. Retain a copy of the communication and any subsequent action taken.
- Follow up in the classroom with discussion and instruction regarding any safe practices that were violated and that contributed to the accident.

Follow these procedures for accidents that were narrowly avoided, as well as accidents without injury, to ensure that any unsafe conditions are identified and eliminated from the lab environment.

Teaching Safety

A critical piece of ensuring safety in the CTE classroom is teaching good safety practices to CTE students. NIOSH has published *Youth@Work—Talking Safety*, (<https://www.cdc.gov/niosh/talkingsafety/teaching.html>) a curriculum that helps educate young people about the basics of job safety and health. A resource from Virginia where they have customized this curriculum that includes six main and five supplemental lesson plans designed for 45-minute class periods, a companion slideshow presentation for each lesson, a companion video, and activities and supplementary materials for each lesson. The curriculum is free to download and use and can be accessed from the NIOSH website (<https://www.cdc.gov/niosh/talkingsafety/states/va/2015-161/default.html>).