



TEXAS TECH UNIVERSITY
College of Visual & Performing Arts
School of Art

PRINTMAKING STUDIO GUIDE & SAFETY PLAN

Rooms covered – ART 107, 111, 116

Responsible Individual – Terry Morrow 834-4455, office Art 115

Safety Coordinator / DCHO – Mark Bond 834-1559, office Art 101

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Emergencies

In case of fire exit out the south entry doors and meet at the blue call box near 18th street. If that door is blocked exit down the stairs, cross the courtyard and meet at the bird sculpture. Do not go up the driveway because it may be used by emergency vehicles. There is a fire alarm pull station near the exit doors. If you pull it also call 911 to inform them of the situation.

In case of a medical or security emergency call 911 or use the blue emergency call box located across from the basement restrooms.

In case of a tornado or severe weather, go to the sub-basement.

Chemical Spills -

Small chemical spills can generally be handled in the studio with the spill containment kit. Spill containment kits are clearly marked and are in rooms 116. Spills should be handled in the following manner:

1. Assess the need to evacuate the lab /studio.
2. Any concentrated acid spills (such as the acids in the locked acid cabinet) require cleanup by Environmental Health and Safety (EH&S) **(806) 742-3876** (during regular business hours) or **(806) 742-3328** (after hours).
3. If you don't know what the chemical is, call EH&S
4. Look up chemical in Safety Data Sheet (SDS)
5. If you feel confident following the cleanup instructions on the SDS proceed with cleanup.
6. If you don't feel confident or don't have the materials on hand for cleanup, because the spill is too large, call EH&S.

7. Report all spills that need more than paper towels cleanup to the SOA DCHO mark.bond@ttu.edu. He will arrange for waste pickup.

First Aid

1. There is an eyewash station in room 116. If you get irritating chemicals in your eye immediately splash water in your affected eye(s) for fifteen (15) minutes unless otherwise instructed. If you get foreign matter lodged in your eye (metal, wood, etc.) do NOT rub your eye! The eyewash station may not dislodge something stuck in your eye; you will need to go to the emergency room in that case.
2. The First Aid kits are located throughout the studios and are clearly marked.
3. There are two kinds of burns that need attention:
 - a. **Minor cuts / burns** – can be attended to in the lab/studio. (examples – cuts that are not deep and stop bleeding and burns without large blisters) Minor cuts should be cleaned with antiseptic spray, alcohol wipes, or triple ointment. Cover them with a sterile Band-aid. Minor burns should be immersed in cool (not cold) running water for 15 minutes. Then apply a sterile bandage. Do not apply ice or ointments. If the wound does not heal properly seek medical attention.
 - b. **Major cuts / burns** - these are deep cuts or burns that will need IMMEDIATE medical attention. (examples – cuts pulsing blood or will not stop bleeding, or more than ¼” deep or with jagged edges. Major burns develop large blisters or char the skin) Major cuts should have pressure applied with a clean compress. Major burns should NOT be immersed in cool water, but covered with a clean compress and held above heart level if possible. In both cases, seek immediate medical attention.

When in doubt always seek professional medical attention – use the blue emergency call box or dial 911.

The complete Texas Tech University Chemical Hygiene Plan and other helpful documents can be found online at <http://www.depts.ttu.edu/ehs/Web/Default.aspx>

Records of Employee / Student training are located in the School of Art main office.

Introduction

We at the School of Art endeavor to create a safe, healthy environment for all to work in so they can have a long and productive creative life. The following information will help you achieve these goals. Failure to follow the safety policies and procedures may lead to disciplinary action.

Be aware that words such as “water based,” “all natural,” and “organic” or “green” do not indicate the safety of a material. There are many items in nature that are hazardous to humans. Art supplies and

materials may be “non-toxic” when “used as directed” but can become hazardous when not used as directed, such as heating, sanding or spraying the material.

Personal safety is usually more of an issue when fewer people are around in the evenings and weekends. Always be aware of your surroundings, know who is around you or not, keep your ears open by keeping music low and not using headphones. When working with machinery or hazardous processes always have more than one person present. Do not work when impaired by lack of sleep, illness, drugs or alcohol. All the buildings have combination locks on at least one door, so never prop open doors to help keep unauthorized people out. Doors can remain open during class time and when the room is occupied by an authorized person. Doors must be kept locked when the room is not occupied.

General rules

All students must have signed the Student Safety Training Form BEFORE they can participate in any hands on studio / lab activities.

The Safety Data Sheets for Printmaking are in the yellow binder by the white sink in room 111.

Chemicals and materials not listed in the Safety Data Sheet yellow binder cannot be stored or used in this lab without the consent of the Responsible Individual and the Safety Data Sheets being added to the SDS binder.

Any container other than the original container a chemical comes in is considered a “secondary container.” This includes open containers such as trays. Food or drink containers cannot be reused as secondary containers. All secondary containers (including water), **must be** labeled according to the OSHA GHS standard. The safety coordinator can answer GHS labeling questions. The RI will provide appropriate secondary containers.

Limited spraying is allowed in room 116, see instructor for details.

All flammable and combustible liquids and gasses must be stored in the yellow flammable cabinet when not in use. After class, or any work sessions all flammables and combustibles **must be** returned to flammable cabinets. Lockers or open shelves are not acceptable storage for flammable or combustible liquids or gasses. NO EXCEPTIONS!

All solvents and corrosives must be barcoded into the inventory system by Environmental Health and Safety, including any that are student purchased. For details contact the SOA Safety Coordinator.

Procedures that are not listed in the Standard Operating Procedures section cannot be used without consent of the Responsible Individual and until the new procedures **have been added** to this Safety Plan.

Long pants and closed toed shoes are required in these studio / labs unless stated in the Standard Operating Procedures.

Do not wear bracelets or necklaces that might get caught in the presses.

Food and drink are not allowed to be stored or consumed in these rooms.

Aprons are required for some processes and equipment operation, and are provided.

Housekeeping is to be kept up with to provide a safe work space. Aisles and exits are to be kept free of slip, trip and fall hazards. Bench tops are to be free of excess storage and clutter.

Extension cords can only be used temporarily and must be picked up at the end of class or work periods.

Sharp objects, such as xacto knife blades, utility knife blades and saw blades must be disposed of in an approved "Sharps" container, never the regular trash.

Art Installations must be pre-approved by the Safety Coordinator if they involve public spaces. If in doubt, ask first.

Never stand on anything other than a ladder or stepstool to increase your reach. Climbing on chairs, stools and tables frequently leads to falls and injuries.

Do not hang anything from any pipes, sprinkler heads or conduit. You may hang objects of less than one pound from suspended ceilings. If you need to hang multiple objects get approval from the Building Manager first.

No bicycles, skates, roller blades, skateboards, scooters, etc., are allowed in Art buildings.

Pets and animals are not allowed in buildings. Service animals for persons with disabilities are permitted as long as they are in compliance with section 7 of TTU OP 34.22.

Children are not allowed in Printmaking Studios / Labs without Minors in Laboratory forms filled out and approved in advance.

No smoking inside the building or within 20 feet of any doorway. No alcohol or illegal drugs in any Studios / Labs.

Wash hands upon leaving the studio.

Standard Operating Procedures

General

1. No eating, drinking, or smoking in the Printmaking Labs
2. No children allowed
3. No pets allowed

4. No bicycles, skateboards, or roller blades allowed
5. All personal containers must be labeled and stored properly
6. Caution and common sense should be exercised when working around presses and other machinery.
 - a. wear eye and ear protection when appropriate.
 - b. long sleeves must be buttoned or rolled up.
 - c. long hair must be tied back or covered.
 - d. closed toe shoes must be worn in the Print Lab
7. Caution should be exercised when using any chemicals or inks.
 - a. wear eye and ear protection when appropriate.
 - b. aprons must be worn when working with chemicals or inks.
 - c. wear polyurethane gloves when appropriate.
8. Students must receive appropriate instruction for using all major and small equipment in the Print Lab prior to use. Instruction is provided by qualified faculty, teaching assistants, or print technicians. Students must checked out on all use of major and small equipment in the Print Lab prior to using.
9. Students must receive appropriate instruction for using all materials (inks, solvents, acids, carborundum, etc.) involved in the Print Lab prior to use. Instruction is provided by qualified faculty, teaching assistants, or print technicians. Students must receive the proper instruction prior to using any materials in the Print Lab.
10. Keep all areas clean. Good Housekeeping provides clean and orderly work areas. This is essential for a safe working environment.
11. Clean all large and small equipment after use. This is essential for

maintaining a safe working environment.

12. Place all small equipment and material containers in the proper storage area after use. All work areas must be “picked up”.
13. Eye wash station and shower are located in the west section of the Print Lab (#116). Use the eye wash immediately if you get something in your eye.
14. All accidents and incidents including minor injuries and all hazardous conditions are to be reported immediately to the instructor and the safety coordinator.

Precautions for Printmaking

1. Floors, shelves, tables and other surfaces should be made of materials that can be easily cleaned, acid-resistant rubber mats should be used in areas where students must stand.
2. Proper ventilation should be used for the process being performed. Chemical fume hoods or slot hoods should be used for acid baths.
3. Reduction of solvent use is advised where feasible, use of water-based inks and other products that are less toxic.
4. Respirators should only be used where engineered ventilation is not possible. All guidelines for the ES&H Respirator program will apply if an individual wishes to wear a respirator. The Department is responsible for all cost incurred for the Respirator Medical Exam, the purchase of the respirator/cartridges , the Fit Test will be provided by EH&S at no cost.
5. Protective equipment shall be provided to all that work with acids, caustics or other irritating chemicals; protection is to include chemical splash goggles, chemical splash face-shields, proper gloves for the chemical, chemical splash aprons and other protective equipment that is needed. First aid equipment shall be on hand for chemical burns and have emergency procedures posted in the area.
6. Containers of inks, pigments, solvents, acids and other materials shall be kept closed when not in use and stored properly after use.

7. Avoid working with powdered materials. Purchase premixed inks and other products that are available. If toxic products must be handled, weighed or mixed perform these processes where local exhaust ventilation is available (fume hoods, or task exhausts or glove boxes)
8. Avoid dust creating processes; if engineering controls are not available a respirator will be required. Respirators and cartridges will be correct for the type of hazard.
9. Provide local exhaust for heating and burning processes.
10. Dispose of all inks, pigments, solvent and other chemicals in accordance with Texas Tech University Environmental Health and Safety protocols.
11. Dispose of all acids in accordance with Texas Tech University Environmental Health and Safety protocols.
12. Always be prepared to provide precise information about chemical usage and exposure and work practices to YOUR doctor. If using lead containing paints or pigments arrange for regular medical blood test for lead.

Equipment Use

Presses – General SOPs

1. Use presses only after receiving proper instruction for safe operating procedures from print faculty, teaching assistant, or the print technician.
2. Always use caution and common sense when operating any press. When operating a printmaking press, always think before action is taken.
3. Dress appropriately (as listed above) when operating a press.
4. Always consult an instructor, teaching assistant, or print technician if there is a question about press operation.

1. Lithography Press (Fuchs & Lange, Brand, & Takach Slide Action Presses) SOPs

All three lithography presses are based upon the identical mechanical principal of operation. Therefore all three presses should be operated in the following manner.

1. Only one person should be involved in the operation of a lithography press.
2. The operator should adhere to the general SOPs as listed above.

3. The operator should be aware of the placement of both of her or his hands at all times while operating the press.
4. The operator should engage the press bed (with litho matrix on the press bed under properly set pressure, with tympan sheet greased) by using the press bed engagement handle (grasping above the red tape mark).
5. The operator should engage the press bed clutch to align the nib with the slot.
6. The operator should crank the press bed by using the crank handle which will move the slide action scraper bar over the matrix.
7. The operator should disengage the press bed by disengaging the press bed engagement handle.
8. The operator should disengage the press bed clutch by pulling the knob out and turning it so as to disalign the nib and slot.
9. Grasping the end of the press bed by the proper handle (note red tape), the operator should pull the press bed back to the original position and lock the press bed in place with the bed handle.
10. The tympan sheet and print are removed and the operator is now able to re-ink the matrix for the next printing.

2. Etching/Relief Press (Brand, Takach, and Conrad Roller Action Presses) SOPs

All three Etching/Relief Presses are based upon the identical mechanical principle of operation. Therefore, all three presses should be operated in the following manner.

1. Only one person should be involved in the operation of an Etching/Relief Press.
2. The operator should adhere to the general SOPs listed above.
3. The operator should be aware of the placement of both of her or his hands at all times while operating an etching/relief press.
4. With the press bed cranked all the way out, the operator should place the

inked matrix with substrate on the center of the press bed.

5. The operator should place three press blankets (or felts) over the matrix and paper (sizing catcher, cushion, and pusher – in that order).
6. The operator pushes the press bed lightly with one hand located at the center top and end of the press bed while cranking the press bed handle slowly with the other hand. Note that the pressure is preset for block or plate matrix.
7. When the press cylinder has passed over the entire block or plate, the operator may crank the press bed in the opposite direction back over the entire matrix or not.
8. The press blankets and print may now be removed by the operator and the matrix re-inked for another pass through the press.

Hot Plate

When operating the Hot Plate, proceed in the following manner.

1. Never leave anything on the hot plate.
2. Plug in Hot Plate power cord into proper outlet.
3. Turn the operating switch on by turning the dial to the right. The red light is illuminated when the power is on.
4. Turn on the Hot Plate Exhaust located on the North Wall.
5. Lower the exhaust hood to below head level.
6. Set the Hot Plate to a proper temperature setting. Note that a temperature of 200 degrees F is adequate for any project use—DO NOT OVERHEAT!
7. Place plate or block on Hot Plate while wearing heavy cotton gloves.
8. Remove plate or block and turn the Hot Plate off.
9. Turn off HP Exhaust and return the hood to above head level.

Stationary Paper Cutters

1. Use the paper cutter with extreme caution. Always know where both hands are positioned prior to lowering the cutting blade.
2. Cut only one sheet of material at a time.
3. Return the cutting blade to the “down” and/or “lock” position after use.

Exhaust Equipment

1. Use the lithography press snorkels while processing plates or matrices.
2. Snorkel timer switches are color-coded and located on the North Wall of room #111.
3. Set the snorkel “bell” below head level while in use.
4. When snorkel is not in use, raise the snorkel “bell” above head level.
5. To operate the Hot Plate Exhaust Hood, see above “Hot Plate” SOP.
6. To operate the exhaust system for the Chemical Parts Washer, turn on the unit by using the switch located on the North Wall in the vicinity of the CPW. Turn off at same switch.
7. To use the exhaust system for the Exhaust Hood, place item to be sprayed in the booth, lower the plexiglass shield/door to below head level and turn on the exhaust fan at the black switch located on the left side of unit.
8. Wear gloves and protective eye wear.
9. To turn off the unit, turn the black switch off, raise the shield/door to above head level and remove item.

Chemical Parts Washer

1. Wear gloves and protective eye wear.
2. Place plate or item in the proper position in the CPW unit.
3. Plug in CPW unit.
4. Close lid to the CPW unit.

5. Turn on CPW Exhaust Switch located on North Wall.
6. Turn CPW unit switch on. Let run for a time.
7. Turn off CPW switch, raise lid and check item to be cleaned
8. If item is cleaned to satisfaction, then turn off the CPW Exhaust system.
9. Unplug CPW unit.

Lithograph Stones, Shelves, Grinding Sink, and Transporter

Used in transporting large lithograph stones between storage shelves, grinding sink and lithograph presses.

1. Use the lithograph stone shelves and transporter unit only after receiving instruction for safe operating procedures from print faculty, teaching assistant, or print technician.
2. Always operate this equipment with the assistance of another person.
3. Use extreme caution when moving lithograph stones. Be aware of where the stone is located in regard to your hands.
4. Set litho stone transporter shelf at proper level. Lock shelf in place by operating the lock lever on the back of the transporter.
5. Roll transporter unit to touch the bottom of the shelf that has the desired stone to be removed. Make sure transporter unit aligns with the litho storage shelf.
6. Lock and stabilize transporter unit wheels.
7. With the help of a second person carefully open the litho storage shelf and pull litho stone on to the transporter unit. Persons must be aware of the position of both hands at all times.
8. When stone is securely placed upon the transporter the wheels of the unit may be unlocked and both persons may roll the litho stone to the desired

destination.

9. Once the transporter unit and litho stone have reached the grinding sink or lithograph press, the transporter shelf level must be reset and locked to the height of the bed of the press or sink surface.
10. The wheels of the transporter unit are again locked and the litho stone may be carefully pushed on to the desired surface. Be aware of the placement of both hands during the process.
11. The wheels of the transporter unit are unlocked and the unit returned to the proper place in the Print Lab.

Vertical Etching Tanks (Ferric Chloride)

A solution of ferric chloride crystals has long been known as a highly controllable etchant with the most accurate bite for copper plates. It does not give off toxic vapors and is of low risk when in contact with one's skin. If any acid comes in contact with skin or clothing, flush immediately with tap water. If any ferric chloride is spilled on the floor, immediately apply baking soda and rinse with tap water after twenty minutes. Ferric Chloride is not readily volatile. Ferric Chloride can be diluted neutralized with soda ash, and disposed of safely and easily.

1. When using the vertical etching tanks, always wear polyurethane gloves.
2. Use only ferric chloride with copper plates. No zinc or aluminum should not be used. No metal other than copper may be used.
3. The ferric chloride acid bath must be mixed only by the instructor, the teaching assistant, or print technician.
4. Protect the back of the copper plate with an acid resistant coating.
5. Use an acid resistant etching ground on the front of the plate.

6. Place a modest strip of duct tape on the back side of the plate.
7. Wear protective goggles with closed sides. Use polyurethane gloves before opening the lid of the acid tank.
8. Lower copper plate into the acid and attach loose end of duct tape to the outside of the tank. Close lid and make note of the time. After a time, the plate may be removed, rinsed in tap water and reworked if necessary.
9. When removing the copper plate from the tank, always use a plastic tray to transfer the plate to the sink.
10. Rinse copper plate with tap water and blot dry.

Print Drying Racks

1. Use the print drying racks only after receiving proper instruction for safe operation from print faculty, teaching assistant, or print technician.
2. Operate racks by lifting each layer of the rack individually to its resting position furthest up and back.
3. Operate the drying rack by using both hands.

Dry Mount Press

1. Use the dry mount press only after receiving proper instruction for safe operation from print faculty, teaching assistant, or print technician.
2. Place dry mount press on a work table and plug in.
3. Set proper heat level as instructed.
4. Use only dry mount sheets provided by the Print Lab.
5. Do not place any combustible or fragile materials in the dry mount press.

All Exposure Units

1. Use the exposure units only after receiving proper instruction for safe operation from print faculty, teaching assistant, or print technician.
2. Never lift the unit cover when in operation.
3. Never look at the unit lights when on.
4. Never place anything on the exposure unit cover—at any time.
5. Raise the lid and place plate to be exposed on the vacuum frame and lock.
6. Turn on room “safe lights”.
7. Turn on the vacuum switch and expose the plate in the UV light in the following order: 1.) vacuum, 2.) blower, 3.) timer, 4.) fluorescent lamps.
8. Make sure there is no leak in the rubber blanket.
9. When setting the timer, turn the dial past three and turn to the proper time setting.
10. When the exposure is complete, unlock the frame lid and remove the exposed screen or plate to a light safe location for developing.
11. Avoid placing any sharp object under the rubber blanket as it may tear the rubber when the unit is in operation.

All Paper-Making Equipment

Hollander Beater

The Hollander Beater Plug is locked and no students may use the Hollander Beater without the consent and observation of the Instructor. Always be aware of where

both hands are located during any steps of operation of the Hollander Beater.

Wear proper clothing and eye protection.

1. Beater should be set at 30
2. Put plug in.
3. Fill beater with water less than half way.
4. Turn the beater on and let the water circulate.
5. Begin feeding the cooked fiber or soft soaked linter into the beater. Do not overfeed as this will jam the beater and seriously overheat the motor.
6. As the beater works, slowly and carefully lower the beater and continue beating the fibers.
7. When the fiber is beaten, raise the beater to 30. This is important.
8. Turn off beater.
9. Pull the plug and empty the beater.
10. Make sure the beater is cleaned thoroughly and all fiber is removed.
11. Keep the beater open to dry so as not to rust.
12. Depending on the amount of use, sharpen the unplugged beater with linter and carborundum.
13. Mop up any water or pulp which has spilled on the floor.

Drying Fan Box

The Drying Fan is to be used to flatten cotton and abaca sheep paper. It can be used to flatten prints under certain circumstances.

1. Open lid.
2. Remove all cardboard, chipboard, and pellow units.
3. Place 2 pieces of cardboard on the bottom board.
4. Place chipboard on top of the cardboard.

5. Place 1 sheet of thin pellow on top of the chipboard.
6. Place wet paper from either vacuum unit or 20 ton press on pellow.
7. Cover with 1 sheet of pellow, 1 piece of chipboard, and 2 pieces of cardboard.
8. Repeat # 4-7 for additional paper.
9. When filled, place board on top. Weight down with bricks.
10. Close lid.
11. Turn on fan.
12. Check every 12 hours.

The same process is used for flattening prints except:

1. Only graduate students and faculty should use this process.
2. Between the pellow sheets, there should be the print with newsprint on each side to avoid in getting on the pellow sheets. Blotters can also be used in conjunction with this.

20 Ton Press

This paper press is to be used only by students with consent and observation of the Instructor. Always be aware of where both hands are placed during the operation of the 20 Ton Press.

1. The press is only to be used with specific blankets on the press.
2. Begin by releasing the press.
3. Remove all blankets. Board should be in water tray. Place hose in bucket.
4. Place two thick blankets on the board.
5. Place 1 medium blanket on heavy.
6. Place 1 thick sheet on medium.
7. Place fresh paper on sheet.
8. Cover fresh paper with sheet, medium blanket, 2 heavy blankets.

9. Repeat #5-8 for more paper.
10. Once all paper is placed in press, put board on top.
11. Engage press and pump until tight and water flows out of paper and collects in bucket. Leave to drain for 20 minutes.
12. Release press.
13. Remove paper and put in drying fan box using previous instructions.
14. Place all blankets to dry on folding racks.

Papermaking Vacuum Table

The vacuum table is only to be used by students with the consent and observation of the Instructor. Always be aware of where both hands are located while operating the Papermaking Vacuum Table. Wear appropriate protective clothing.

1. Plug in vacuum table.
2. Close tank valve.
3. Make sure table is clean.
4. Place clean mesh on top of table.
5. Place pellow on top of mesh.
6. Place freshly made paper on top of pellow.
7. When the table is full, place thick plastic over paper. Make sure there is a $\frac{1}{2}$ inch of bare table around entire edge. Wet this edge and make sure that plastic is stuck to the table.
8. Open valves according to instructions on table and turn on.
9. Vacuum until all the water is extracted from the paper.
10. Turn off and remove paper. Place in drying box.
11. Purge the unit according to the instructions on the side of the unit.
12. Leave tank valve open after purging.

Pulp Spraying

1. Standard beating of cotton fiber. (see standard beating instructions)
2. Put beaten pulp in a plastic hopper. No other chemicals needed.
3. Take out pulp, hopper, plastic and screen outside to embankment
4. Hook up air hose.
5. Put on dust mask
6. Spray onto Papermaking screen that is on plastic outside.

Screen Washout Booth and Power Washer

1. Put on proper safety equipment:
 - a. goggles
 - b. ear guards
 - c. student fitted respirator if available
 - d. dust mask
2. Turn on 2 red switches near green cabinet for ventilation.
3. Place screen in booth, turn on light.
4. Turn on water to power washer. Turn on power washer.
5. Using power washer, wash out all emulsion, screenfiller, or dehazer.
6. Paper towel dry screen and put away.
7. Turn off power washer and water.
8. Scrub out any residue of emulsion or ink from the booth with steel wool.
9. Turn off light and ventilation.

Other Equipment Including Small Tools Use

1. All small hand tools used in preparation of matrices for the production of fine art prints must be used only after receiving proper instruction from print faculty, teaching assistant, or print technician.

This applies to standard shop tools such as hammers, screw drivers, saws, vice grips, etc. It also applies to specialized print matrix prep tools such as brayers, relief cutting tools (cutters/gouges), intaglio scrapers and burnishers, drypoint needles, engraving tools, metal files, X-Acto knives and saws, screenprint squeegees, barens, etc.

2. Hair Dryers must be used only after receiving proper instruction from print faculty, teaching assistant, or print technician. Never use a hair dryer around a sink or an area that has water on the floor.

Again, students must receive proper instruction from print faculty, teaching assistant, or print technician for use of any equipment, tools, or materials prior to using them.

If after receiving instructions regarding proper use, you are unsure how to use any of the equipment, tools, or materials listed, simply ask a print faculty, teaching assistant, or print technician about equipment, tool, or materials use—the only stupid question is the one which is not asked.

Once you have received appropriate instruction regarding operation and use of any equipment, tools, and materials and before using any of them, you must always pause and think about how you are to proceed prior to use.

