



Skilled Trades Helper

A partnership project of Prince Edward Learning Centre,
Quinte Adult Day School
and
Literacy Link Eastern Ontario

Funded by the National Literacy Secretariat (HRSDC)
and
the East Central Ontario Training Board

Skilled Trades Helper Essential Skills Training

Literacy Link Eastern Ontario (LLEO), Prince Edward Learning Centre (PELC), and Quinte Adult Day School (QADS) wish to thank the following people and businesses for their help with this project:

Tim Noxon

Tim York

Sid Wells

Jeff Brideau

Don Lang

Jim Robertson

Lesley Hamilton, LOCS Network

Learners and staff at Quinte Adult Day School

Learners at Prince Edward Learning Centre and Trails to Literacy

LLEO gratefully acknowledges and thanks the Canadian Centre for Occupational Health and Safety, Steps to Employment, and the Construction Safety Association of Ontario for allowing us to cite, adapt, and/or reference their materials. Their ongoing support has been invaluable to the creation of this literacy and essential skills training material.

Skilled Trades Helper Essential Skills Training

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LLEO, PELC and QADS gratefully acknowledge the National Literacy Secretariat (HRSDC) for funding this Workplace Literacy Special Initiative project. The groups also wish to thank the East Central Ontario Training Board for its financial contribution to the project.

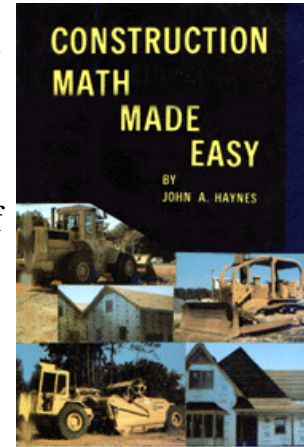
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If your learners would like more information, this is a good book to have in your library.

Construction Math Made Easy

This book is written with the layman in mind. 240 pages filled with explanations, how-to's, and examples with almost 100 charts and illustration - all to make this kind of math easier to understand. The step-by-step procedures and easy to understand illustrations that are found here would take years of experience to learn on your own. You will want to keep this book handy to use as a reference guide - no matter what your career. *Construction Math Made Easy* has been adopted by the State of Alabama as a textbook
from: <http://www.constructionmath.com/>



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What is a Skilled Trades Helper?

ANSWERS

1. perform labouring activities at construction sites
2. construction companies and trade and labour contractors
3. Answers may vary, but may include some of the following:
 - carry loads of wood or minerals
 - clean work site areas
 - build items using a variety of basic tools
 - read work orders
 - read and follow safety procedures
 - use maps to locate work sites
 - complete time sheets
4. Answers will vary. Learners should give a definition in their own words; what they believe a skilled trades helper does.
5. Answers will vary. The information is to not only give you more insight into your learners, but mainly to get them thinking about what they want; what their goals are; what they would like to learn.

Other Trades People on the Job Site

ANSWERS

Learning Activity 1: Construction Trades

1.
 - A) materials
 - B) structures
 - C) materials
 - D) equipment and machinery
 - E) equipment
 - F) mixers and compressors
 - G) traffic near construction sites
 - H) herbicides and pesticides
 - I) holding and moving stakes and rods
2. Answers will vary.

Learning Activity 2: Carpenters

1. read ... blueprints, drawings, & sketches
build ... foundations
erect ... walls and roof systems
install ... floor beams
2. Answers will vary. May include: saws, hammers, wrenches, screwdrivers, drills, etc.
3. houses, mills, hospitals, industrial plants
4. medical, dental, pension
5. \$31,000
6. \$33.00/hour

Learning Activity 3: Cement Masons and Finishers

1. A) concrete by pushing or pulling a screen or template over the surface
 B) fixtures such as anchor bolts, steel plates, and door sills
 C) vertical surfaces by wetting the concrete and rubbing it with abrasive stone
2. edging tools, rulers, jointers, straight edges, chisels, hammers, grinders
3. apprenticeship
4. No
5. seasons and with economic growth
6. workers who are skilled in the operation of computer controlled equipment
7. both
8. Operative Plasterers, Cement Masons, and Restoration Steeple Jacks of the United States and Canada

Learning Activity 4: Industrial Painters

1. new and old construction
2. remove old paint using blow torches, liquid paint remover, and scrapers
3. brushes, rollers, spray guns
4. International Brotherhood of Painters and Allied Trades
5. 40 hours/week
6. both, the job is seasonal

Learning Activity 5: Plumbers

1.

install		an instrument to measure water pressure
repair		sinks, toilets, etc.
maintain		to keep something in good condition
waste water		dirty water (from toilet or sink)
plant		to put in (a toilet, sink, pipe, etc.)
establishment		a place that produces something
fixtures		a place (plant, factory, building, etc.)
leak		to fix something
gauge		when water comes out of a pipe (e.g.) that it shouldn't

2.
 - pipe, pipe fittings
 - air, water
 - couplings, clamps, screws, bolts, cement, soldering, brazing, welding
 - water, waste, drainage
 - domestic, industrial
 - hand, power
 - passage, walls, floors

Learning Activity 6: Roofers and Shinglers

1.
 - asphalt-saturated felts and hot asphalt and gravel
 - waterproof sheet materials
 - sloped roofs of buildings
 - flashings
 - concrete
 - hand and power tools
 - provide safe access to roofs
 - on sloped roofs of buildings

2. roofing contractors or self-employed

3. No

Learning Activity 7: Terrazzo, Tile, and Marble Craftspeople

1.
 - surface to be covered
 - underbeds
 - mortar, cement, mastic, glue, or other adhesive
 - in position
 - levels, squares, and straight edges
 - obstacles and openings
 - joints between tiles
 - tile strips
 - decorative wall, mural, and floor designs
 - terra surfaces
 - cracked or damaged tiles

2. examine blueprints
layout, measure, and mark area
assemble materials and mix compounds

3. union hiring halls and networking

4. knees and back

5. special trade, building, general contractors

What Employers Want in a Skilled Trades Helper

ANSWERS

1. show up on time, follow instructions, ask questions when needed, be willing to learn, work hard, use no alcohol or drugs on the job
2. Answers will vary. Some learners may be surprised that more woodworking/construction type skills were not on the list.
3. Answers will vary. Some learners may not have anything to add to the list.
4. numeracy, significant use of memory, working with others
5. Answers may vary, but should include some of the following:

not committed to the job, inconsiderate, poor time management skills, not giving 100%, if you can't get to work on time it may mean you can't work well, you don't really care about being employed
6. Answers will vary as the reading contains ten tips. Answers should contain three of the following:
 - Set your alarm clock 20 minutes ahead.
 - Set your alarm earlier.
 - Buy an alarm clock that doesn't have a snooze button.
 - Set the alarm clock on the other side of the room.
 - Prepare for your day the night before.
 - Create a morning routine and stick to it.
 - Get 8 hours of sleep a night.
 - Don't drink alcohol on week nights.
 - Don't drink coffee in the evenings.
 - Ask someone to give you a wake up call.

7. Answers may vary. May include the following:

- reading a list of things to do
- reading and following safety procedures
- reading and understanding MSDS
- reading instructions to put something together



8. Answers will vary, but should include at least one of the seven tips below as well as an explanation of why it is important.

- Read all of the directions before starting.
- Read and complete step by step.
- Take one step at a time.
- Check off when you've completed a step.
- Read the instructions before you begin.
- Look at the diagrams.
- Circle important words .

9. taking in the information, processing, understanding, memorizing

10. F, T, F, T, F, T

11. Answers may vary and may include some of the following:

- worried about looking “stupid”
- worried others will think that they don't know what they are doing
- embarrassed to talk in a group

12. Answers will vary.

“Where exactly do you want it piled out back?”

13. Saying the information back to the speaker in order to make sure you understand exactly what they want you to do.

Answers will vary.

Paraphrasing or mirroring

Two gallons red, two gallons white, 2 lbs finishing nails, charged to company.

Clean up table saw, scraps to dumpster, and make room for electrician.

(May add clarifying question: Where do you want me to move the pile of lumber to?)

14. volunteer to help, ask questions, read more about it, take courses or training, volunteer for charitable organizations
15. Answers may vary.
Hard work refers to the fact that the job is physically demanding. Working hard refers to the amount of effort you put into doing a job.
16. Answers may vary.
The more you anticipate what needs to be done, the less direction your boss needs to give you. You want to try to save your employer from having to take time out of their day to constantly assign new tasks to you.
17. ● No person under the influence of, or carrying, alcoholic beverages is to enter, or knowingly be permitted to enter, the construction project.
- No person under the influence of, or carrying, illicit drugs is to enter, or knowingly be permitted to enter, the construction project.
- The use of alcohol and other drugs (not prescribed by a physician) on a job or during work hours will result in disciplinary action.

18. Answers may vary but should contain Jack Smith, Wilson Brickyard, order delayed because machine broke down, should be here by next Thursday.
Jack's numbers: 548-8492 or 878-8726.

19. Answers should reflect an understanding of the importance of following verbal instructions.

Communicating with Others

ANSWERS

Learning Activity #1

1. He plays real good = He plays really well.

I ain't going = I am not going.

You could of made it = You could have made it.

No way can I do that = There is no way I can do that.

He goes, "...." = He said, "..."

I got to = I have to

Huh? = Pardon me/ I'm sorry, what did you say?

2. He decided to bag that idea = He decided not to pursue that idea.

You're a cool dude, Mr. Smith = I appreciate your work, Mr. Smith./ It's great working with you, Mr. Smith.

Run that by me again = Could you repeat that, please?

Cathy used to be a real jock. but now she's a couch potato = Cathy used to be into sports, but she isn't anymore.

Learning Activity #2

1. By external factors, such as noise, as well as internal factors, such as hunger, worry etc.
2. Slouching in the chair, looking at our watch, playing with our glasses etc.
3. Have something to eat before the conversation so that we are not hungry. Try to talk in a quiet place, if possible.
4. Nonverbal clues, such as facial expressions, gestures etc.

Learning Activity #3

1.
 - Say 'I' instead of 'you' so that the boss wouldn't think I was blaming him or saying that everything was 'all his fault'.
 - Try not to put my boss on the spot. I would make sure that he isn't busy and that he's not dealing with any other crisis or situations.
 - Give suggestions on how to make the situation better or how to turn it into a safe one.
2.
 - There is something unsafe happening
 - If I did something wrong and was trying to explain what happened to my boss .
 - If a co-worker was having trouble explaining to the boss, then I could respectfully step in and offer some suggestions

Ladder Safety Tips

ANSWERS

1. Answers will vary

Picture 1 tie-off the ladder at the top

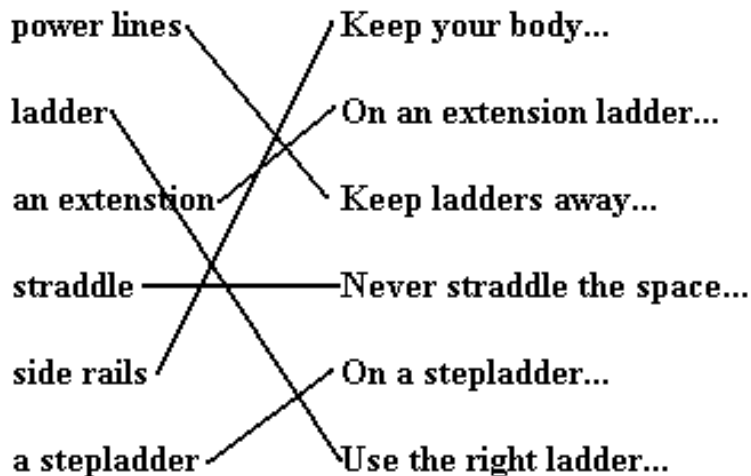
Picture 2 tie-off the ladder at the top

Picture 3 make sure the grips at the bottom of the ladder are facing down, so as to grip the ground

Picture 4 if the ladder doesn't have grips or if more security is needed, temporarily nail a block of wood into the floor so that the ladder can't slip back

2. 2 feet

3.



Extension Ladders

ANSWERS

1. bottom
2. Daniel failed to re-check the clamping devices when he checked the footing.
3. 1 metre, 3 feet
4. The person should face the ladder with a hand on each side rail and a foot resting on the bottom rung.
5. When you are taking the ladder down.
6. If you are carrying a ladder and walk into a wire, you could be electrocuted.
7.
 - Lay a ladder on the ground close to intended location.
 - Brace ladder base using helpers' feet.
 - Grasp the top rung with both hands, raise the top end over your head, and walk toward the base of a ladder. Grasp the centre of the rungs to maintain stability.
 - Move the erect ladder to the desired location. Lean it forward against the resting point.
8.
 - Place the bottom of a ladder firmly against the base of a building or stationary object.
 - Lift the top of ladder, and pull upwards to raise a ladder to a vertical position.
 - Transfer a ladder to its required position when it is erect.
 - Keep a ladder upright and close to the body with a firm grip.

Portable Ladders

ANSWERS

1. Answers will vary. Falls from portable ladders are a major source of serious injury.
2. Canadian Standards Association. If they approve a ladder, you know it is safe.
3. Muddy soles are slippery.
4. The higher a person goes on a ladder, the greater the possibility that the ladder will slip out at the base.
5. Paint hides defects.
6. 2"
7. 1 m
8. keeping two hands and one foot or two feet and one hand on the ladder at all times
9. Answers will vary.
10. Answers will vary. A ladder stay is a piece that you attach to your ladder that allows you to rest against walls without causing damage to gutters, tiles, window frames, etc.
11. To prevent it from sliding sideways.
12. Have a person stand at the bottom, holding both rails, and having one foot on the bottom rung.

Step Ladders

ANSWERS

1. Repeated sideways movement can make ladders wobbly since they are weaker or less stable in those directions.
2. If your knees are above the top of the step ladder or if you cannot maintain a handhold on the ladder.
3. Answers will vary.

Getting On or Off Ladders Safety Tips

ANSWERS

1. Answers will vary.
2. getting on or off the ladder
3. Two hands and one foot or two feet and one hand on the ladder at all times.

Ladder Inspection

ANSWERS

1. - when you first get one
 - before each use
 - if the ladder has been dropped or has fallen

2. Answers may vary. Sighting ladder rails refers to looking right down the sides of a ladder rail to see if it is straight, twisted, or bowed.

3. Answers will vary.

4. - make your own repairs
 - try to straighten bent or bowed ladders

Storage and Handling of Ladders

ANSWERS

1. 2 metres (6 feet)
2. Answers will vary. To keep the wood from rotting or warping.
3. red or orange
4. Answers will vary. You cannot see what is coming, and therefore could walk into someone or something that could cause an accident.
5. Ensure that you and your partner are on the same side when carrying a ladder. Stay in step. Work out in advance any hand or voice signals to coordinate stopping or changing direction.

Hand Tool Basic Safety

ANSWERS

1. Answers may vary but may include getting splinters in your hand, having the handle break while you are using it, having the hammer head fly off and hit someone when you are using it, etc.
2. tripping, slipping, stepping on something dangerous
3. good condition, away from aisles, defects, you hold your palm open
4. wearing big, bulky gloves
carrying tools in plastic bag
throwing tools
climbing ladders while using both hands to carry something
messy work area
using a wrench as a hammer

Electric Tools - Basic Safety

ANSWERS

1. Answers will vary. May include something along the lines of checking to see that they are not broken.
2. The cord may be frayed or cracked.
3. “Out of service for repair”.
4. You should have repairs done by a qualified person because you may not fix it properly and then use it and it could be very dangerous. You could receive a shock or it may spark.
5. F, T, T, F, F, T, T, F
6. Answers will vary. May include: when you have a lot of cords plugged into one socket. It can overload a circuit.
7. electric shock
8. Answers will vary. It could startle them and they could make a sudden move which could knock part of their body into a tool (finger, hand, arm).

Wrenches

ANSWERS

1. gripping round things
2. nuts and bolts that have flat, parallel surfaces
3. fixes size
4. pipe, crescent/adjustable
5. metric: whole numbers; non-metric: fractions of an inch
6. It will prevent you from losing your balance and hurting yourself if the wrench slips.
7. Answers for description may vary.

name of fixed-size wrench	description of wrench
open end wrench	jaws with parallel sides or tines that fit on nuts and bolts
closed end wrench or box end	have loops on the ends
combination wrench	have a loop on one end and jaws on the other (open and closed)
socket wrench	like closed wrenches except they are cylindrical in shape

torque wrench	one type of socket wrench, with a spring loaded indicator that shows how much torque is being applied
nut drivers	another type of socket wrench that can be snapped on or permanently fixed to a screwdriver-type handle
allen wrench or allen key	hexagon-shaped metal shafts

8. Answers will vary.

Tin Snips

ANSWERS

1. shapes, sizes, tasks, handle, finger, thumb, plier, cutting, curves, right
- 2.

Name of snip	Something about this snip
universal snips	can be in both straight and wide curves
straight snips duckbill snips	cut straight lines some duckbill snips are designed for cutting curves
hawk's bill snips	cutting tight circles has crescent-shaped jaws
aviation snips	compound leverage that reduces the effort required for cutting
offset snips	have jaws that are set at an angle from the handle

3.
 - Select the right size and type of snips for the job. Check the manufacturer's specifications about the intended use of the snips (e.g., type of cut - straight, wide curve, tight curve, right or left, and maximum thickness, and kind of metal or other material that can be cut).
 - Only use snips that are sharp and in good condition.
 - Wear safety glasses or a face shield and protective gloves when working with snips. Small pieces of metal may go flying in the air and cut edges of metal are sharp.

4. Left cut snips are for making cuts to the left and straight cuts.
5. Right cut snips are for making cuts to the right and straight cuts.
6. Offset snips permit you to keep your hands safely above the cut while cutting directly through the centre of a large sheet.
7. F, F, T, F, T, T, F

Screwdrivers

ANSWERS

1. Answers will vary.
2. easily accessible, able to choose the correct screwdriver for the job
3. Excessive heat can weaken the metal, making it unsafe to use.
4. before
5. Answers will vary.
6. flat, round, pan
7. The shank is size #8 and the screw is 2" long.

Handsaw

ANSWERS

1. 3 Pull upwards until blade bites the wood.
- 2 Start cut carefully and slowly to prevent blade from jumping.
- 4 Start with partial cut, then set saw at proper angle.
- 1 Start the cut by placing your hand beside the cut mark with your thumb upright and pressing against the blade.

2. The saw blade starts to cut into the wood.

3. F, F, F

4. Answers will vary.

Pliers

ANSWERS

1. gripping, twisting wire, cutting wire
2. to protect yourself from flying particles or pieces of wire
3. dull and worn down cutting edges require more force to cut
4. make the tools easier to use
5. rock, bend

Clamps



ANSWERS

1. hold work securely in place
2. carpentry, woodworking, furniture making, welding, construction, metal working
3. C- clamps, bar clamps, pipe clamps, handscrews
4. strength and weight (e.g., consider rail size and nominal clamping pressure), opening (length of reach), throat depth (depth of reach), ease of adjustment, clamping surfaces (material used and size)
5. use pads
6. F, T, T, F, T

Hammers

ANSWERS

1. general carpentry, framing, nail pulling, cabinet making, assembling furniture, upholstering, finishing, riveting, bending & shaping metal, striking masonry drill and steel chisels
2. Select one that is comfortable for you and that is the proper weight and size for the job.
3. A striking blow hit directly on the wood. The striking face of the hammer is parallel to the wood. Glancing blows are when the striking face is not parallel to the wood.
4. So that you don't hit someone with your hammer.
5. claw, ball-peen, pin
- 6.

Name of Hammer	Quick sketch of hammer	Description or Qualities
claw hammer		<ul style="list-style-type: none"> ● heavy enough to drive large nails with ease ● claw designed to take out large nails
ball-peen hammer		<ul style="list-style-type: none"> ● “engineer’s hammer” or “machinist’s hammer” ● best hammer to use for metal ● steel head is harder than a claw hammer which means it’s less likely to chip

pin hammer		<ul style="list-style-type: none">● lightweight● used to drive small nails, tacks, staples
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7. 7, 6, 1, 4, 2, 3, 5

8. Answers may vary. If you miss the nail and put a dent or a 'bruise' in the wood, you can fix it by soaking the dent with water. This will make the wood swell. Wait for it to dry. Lightly sand the area.

9. A nail punch is a square tipped punch used to drive nails below the surface of the wood. You can also use it to finish hammering a nail in, if you are worried about denting the wood.

Table Saw

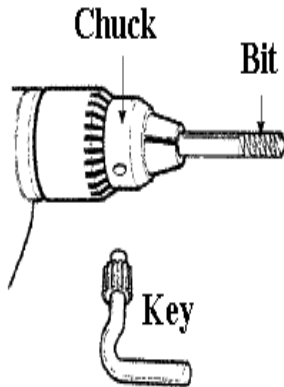
ANSWERS

- 1 . when the wood can be violently thrown back toward the operator
2. when you have a long piece of wood and need help to support it, it acts as another pair of hands. It is generally the same height as the table saw, and works to lengthen the area you can support.
3. when ripping narrow or short stock, when the piece is less than 30 cm (12") long or when the last 30 cm (12") of a longer piece is being cut
- 4 . Answers may vary.
May include: you could cut yourself, you could catch your sleeve in the saw, you could jam up the blade, someone else could cut themselves on the saw if they didn't notice it running.
5. Answers may vary.

Drills

ANSWERS

1.



2. Learners should use the internet to find and print a photograph of a drill and a chuck. These pages should go into their binder with the drills information.
3. Answers will vary. ‘Turning true’ means that it turns accurately, in correct position, balanced, level. If learners have a hard time articulating this, have them look up the word ‘true’ in the dictionary.
4. Answers will vary.
You should clamp small pieces of wood so they won’t twist or spin. Do not drill with one hand while holding the material with the other. These rules are important because if the wood twists or spins, it is out of control and could become dangerous. If the piece of wood is small and you are holding it with one hand, it means that your hand is close to the drill bit. This could be dangerous. If you are holding the piece of wood with one hand and you haven’t clamped the wood down, it could start to spin and knock your hand into the drill bit.
5. Answers will vary.

Sanders

ANSWERS

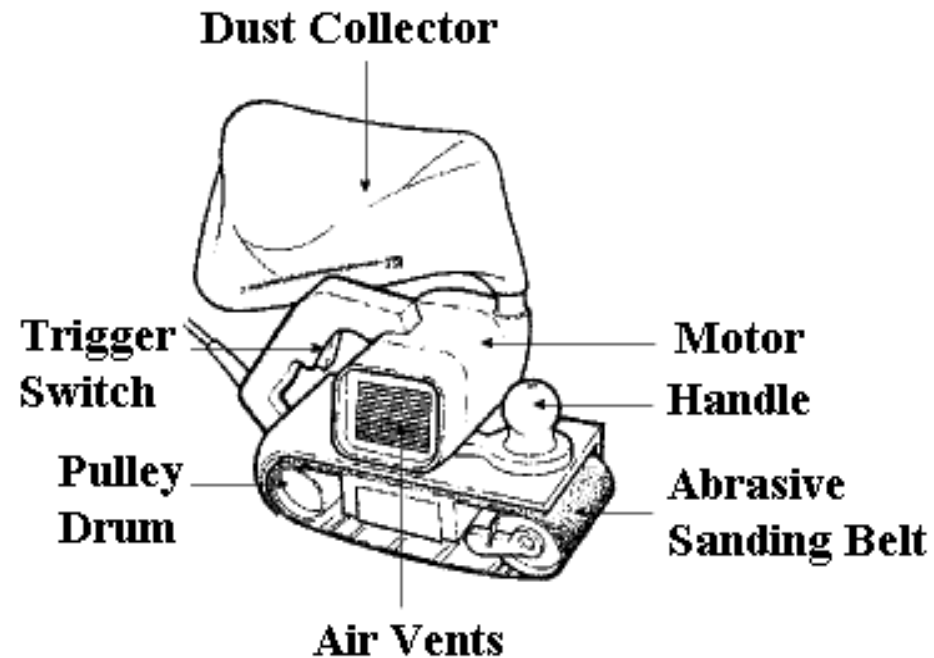
1. Goggles offer more protection as they have side pieces that will stop particles from hitting you in the eye. Glasses only offer protection from head-on.
2. hearing, dust masks
3. Because the belts are turning very fast and it is easy to slip and catch your fingers on the belts. They can, very quickly, sand you skin off leaving you with a very painful wound.
4. They can get caught and pulled by the sander belts and pulleys that are in motion.
5. Answer may vary. Use of diagram may vary.

You should hold the piece of wood on the downward side of the belt so that the motion of the wheel forces the wood down onto the table by the machines rotation. If you were to sand on the other side, it is very easy for the machines rotation to catch the piece you are sanding and very quickly jerk it away from you. It could fly across the room and hurt someone. The jerking motion is very sudden and could pull your fingers into the sander.

Belt Sanders

ANSWERS

1.



2. Answers will vary. Breathing wood dust is very dangerous for your health.
3. The weight of the sander is enough pressure to get the job done.

Routers

ANSWERS

1. Answers will vary.
2. freely
3. Answers will vary. You should never put your fingers near a part that has the potential to move unless the power supply is disconnected. If the power button accidentally gets turned on, you could injure yourself.
4. No, it is not ok to have someone else hold the piece of wood for you. Sudden torque or kickback from the router can cause the wood to suddenly move. The wood could hit you or your helper. Also, when the wood moves, it leaves your fingers and hands very close to the bit. This could be very dangerous.

5.

Kind of wood	Speed of cutting
Softwood	you can sometimes move the router as fast as it can go
Hardwood, knotty, or twisted pine	cutting may be very slow

6. makes a high pitched whine
7. makes a low growling noise

Band Saws

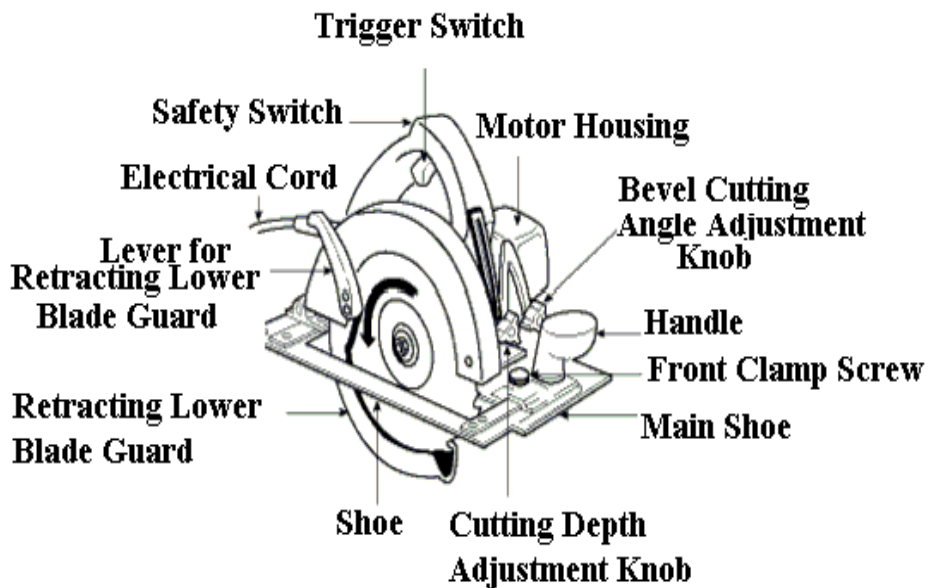
ANSWERS

1. to decrease vibration
2. 3 mm or 1/8"
3. Answers will vary. To remove cut pieces from between the fence and saw blade or when your hands are close to the blade.

Circular Saws

ANSWERS

1. Sharper blades work better and are safer.
2. right, left
3. unplugged, 0.3 cm, 1/8"
4. safety goggles or face shield, respirator or dust mask, hearing protection
5. T, F, F, T, T, T
- 6.



7. done on individual basis

Circular Saws - Pocket Cuts

ANSWERS

1. 4 Lower saw until front teeth **almost** touch wood.
- 7 Keep saw tilted forward and push it down and forward with even pressure, gradually lowering it until shoe rests flat on wood.
- 1 Tilt saw forward.
- 5 Release guard to rest on wood.
- 6 Switch on the saw.
- 2 Rest front of shoe on wood.
- 3 Retract lower guard.

2.

PPE

Why do I need to use it?

hard hat

mandatory on construction site

safety boots

mandatory on construction site

eye protection

should be worn at all times

respiratory protection

protect against dust

hearing protection

should be used especially if you are cutting for long periods of time

Mitre Saws

ANSWERS

1. trigger switch, stock
2. make sure the saw is in the off position before plugging it in
3. sparks may ignite the fumes
4. Don't cut free hand. The stock should lie solidly on the table against the fence.

Push Blocks / Push Sticks

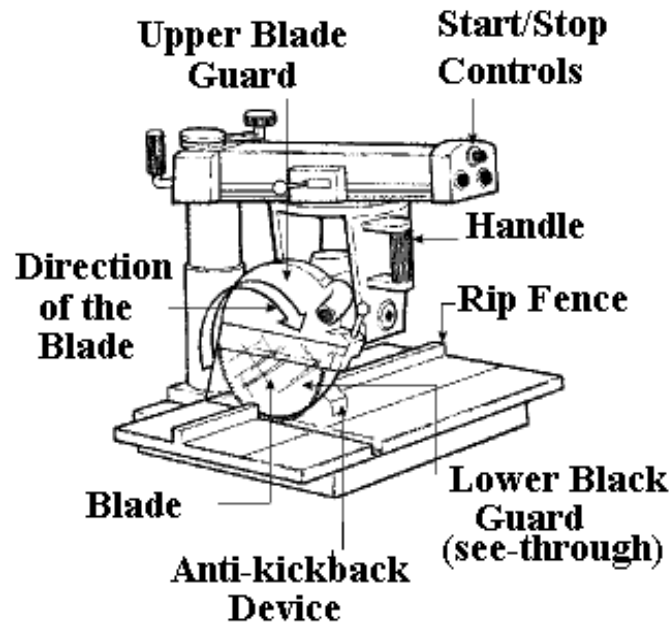
ANSWERS

1. table saw, radial arm saw, jointers/planers, shapers
2. Answers will vary.
A push block is used to move a piece of wood along a machine, where you do not want to use your hand. It keeps your hands and arms safely away from the blade.
3. A side push block is used to hold the wood against the blade, and a frontal push block is used to push the wood through the blade.

Radial Arm Saw

ANSWERS

1.



2. safety glasses, hearing protection

3. You need to feed the stock (wood) into the equipment against the direction of the blade. The blade should move downward when viewed by the operator.

4. never, blade, back, handle

5. Clamping prevents the wood from sliding along the fence during the cut.

Pneumatic Tools - Basic Safety

ANSWERS

1. compressed air
2. buffers, nailing guns, stapling guns, grinders, drills, jack hammers, chipping hammers, riveting guns, sanders, and wrenches
3. To protect people from flying fragments, chips, dust, or excessive noise.
4. Tag and replace.
5. You could blow debris, dust, or particles into your eyes or skin. The compressed air is moving very fast, and the air alone could damage your eyes.

Pneumatic Nailing and Stapling Tools

ANSWERS

1. - check tool safety mechanisms
 - tighten securely all screws and cylinder caps

2. Answers will vary. The tool could go off. If you know a tool is loaded, you handle it with more care in case it fires off. You need to treat every tool as if it were loaded. Never assume a tool is empty.

Construction Machines on the Job Site

ANSWERS

1. Answers will vary.
2. Answers will vary.

It is important to know what these machines do so that you can anticipate their movements. Knowing if a certain machine swings or swivels or has an arm that moves up and down, will help you to stay out of the way and stay safe.

3. A bulldozer pushes rocks, earth, mud, etc. They are also used to level the ground. Bulldozers come in different styles and sizes. They are made to do different types of jobs.

The loader is used to carry things like rocks and dirt. It then dumps the load into dump trucks. There are different types of wheel loaders, designed to do work in different conditions. The bucket can also be replaced with other equipment.

The excavator can dig, level, and load materials. To *excavate* is to dig out and leave a hole. A backhoe is an excavator.

A dump truck is used to carry things like dirt and rocks.

Cement mixers carry concrete to the job site. The tank rolls continuously to keep the cement from hardening.

Cranes are very useful for lifting things that are very heavy. They can lift things up very high.

Blueprints and Drawings

ANSWERS

Learning Activity #1

1. They incorporate all the details required for the Tradesperson to follow the architect's plans for the building.
2. It ensures the building is built according to budget. A mistake in construction could cost thousand's of dollars.
3. The blueprint is a detailed drawing for the tradesperson to follow with pipe runs and wiring diagrams. The floor plan gives the dimensions of the rooms and location of fixtures and appliances without pipe runs and wiring diagrams.
4. Usually as a drawing for owners or purchasers to follow. They outline the locations of appliances and fixtures.

Imperial Measurement

ANSWERS

Learning Activity 1

$4' = 48''$

$5' = 60''$

$6' = 72''$

$7' = 84''$

$8' = 96''$

$9' = 108''$

$10' = 120''$

$11' = 132''$

$12' = 144''$

Learning Activity 2

$1. \quad 5' 3/4'' = \underline{60 - 3/4''}$

$2. \quad 3' 5/8'' = 36 - 5/8''$

$3. \quad 8' 2-1/4'' = 98 - 1/4''$

$4. \quad 10' 2/3'' = 120 - 2/3''$

$5. \quad 5' 7/8'' = 60 - 7/8''$

$6. \quad 1' 5-1/8'' = 17 - 1/8''$

$7. \quad 4' 5/8'' = 48 - 5/8''$

$8. \quad 6' 9/16'' = 72 - 9/16''$

$9. \quad 7' 1/2'' = 84 - 1/2''$

$10. \quad 8' 6-5/16'' = 102 - 5/16''$

$11. \quad 7' 7/8'' = 84 - 7/8''$

$12. \quad 2' 1/16'' = 24 - 1/16''$

$13. \quad 4' 4-1/8'' = 52 - 1/8''$

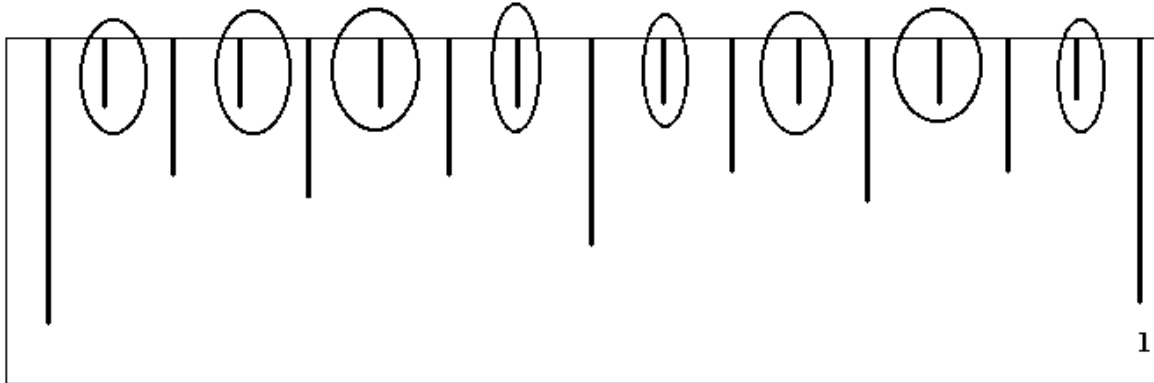
$14. \quad 6' 7/16'' = 72 - 7/16''$

$15. \quad 8' 7/8'' = 96 - 7/8''$

$16. \quad 2' 8-3/4'' = 32 - 3/4''$

Learning Activity 3

How long is the item you are measuring? 11/16"



* enlarged inch measure

Learning Activity 4

Answers will vary.

- 2 5/16"
- 4 1/8"
- 4 11/16"
- 3 3/8"
- 3 13/16"
- 4 7/16"
- 4 9/16"

Learning Activity 5

Answers will vary.

Learning Activity 6

Answers will vary.

Metric Measurement: The Basics

ANSWERS

Learning Activity 1

Measure for 1 cm.

Learning Activity 2

A = 2 cm

E = 9.4 cm

B = 3.5 cm

F = 12.2 cm

C = 6 cm

G = 14.7 cm

D = 7.8 cm

Learning Activity 3

4 cm, 11.2 cm, 5.3 cm, 4.4 cm

Learning Activity 4

2 cm, 10 cm, 7.6 cm, 5 cm, 18.5 cm, 12.4 cm, 4 cm, 11 cm, 5.7 cm, 3 cm

Learning Activity 5

1 m, 2 m, 5 m, 8 m, 7 m, 3 m, 6 m, 4 m, 9 m

Learning Activity 6

Answers will vary.

Basic Geometry

ANSWERS

Learning Activity 1

1. lines, points, shapes, angles

2. intersect

3. angles

4. **g**HIJ or **g**JIH **g**JIM or **g**MIJ
gLIM or **g**MIL **g**HIL or **g**LIH

5. degrees

6. $^{\circ}$ (as in 90°)

7. 180°

8. 360°

9. A “180” refers to turning 180° . If he were driving and did a 180, he would be facing the other direction. This is geometry because the term 180 comes from the fact that a line measures 180° .

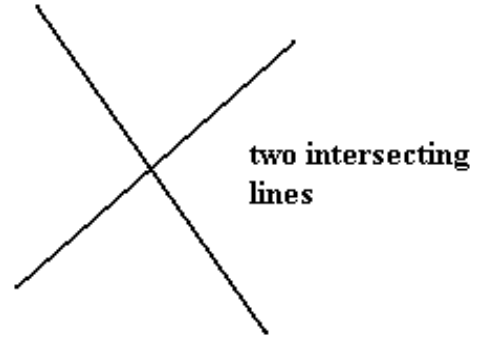
A total 360 refers to turning all the way around, ending up where you started. If he were driving and did a total 360, he would spin all the way around and end up facing the same direction.

10. protractor

11. Answers may vary by a few degrees due to differences in printers. Answers may be 1° different on either side of the answer.

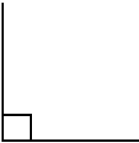

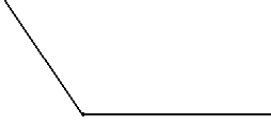

$A = 58^{\circ}$, $B = 82^{\circ}$, $C = 18^{\circ}$, $D = 42^{\circ}$, $E = 84^{\circ}$, $F = 122^{\circ}$

12. Answers will vary. Use a protractor to verify measurements.



Learning Activity 2

1. Fill in the following table using the information about angles.

Name of angle	Drawing of shape	Information about shape
right angle		- 90° angle - square
acute angle		- less than 90°
obtuse angle		- more than 90°
straight angle		- straight line - measures 180°

2. 90° , 45° , 22.5°

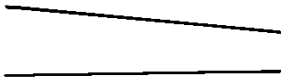
Learning Activity 3

1. never cross or intersect

2.

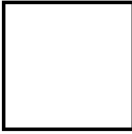

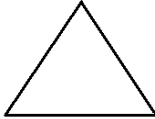
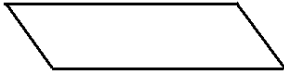
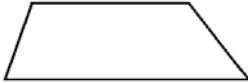
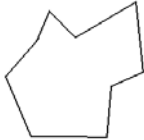



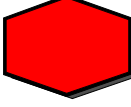
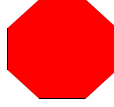
3. intersect.



4. Answers will vary. Instructor will need to verify if items listed have parallel lines or not.

Learning Activity 4

Name of shape	Drawing of shape	Information about shape
square		<ul style="list-style-type: none">- all four sides are of equal length- all angles are 90°
rectangle		<ul style="list-style-type: none">- opposite sides are of equal length- all angles are 90°
triangle		<ul style="list-style-type: none">- a three-sided enclosed shape
parallelogram		<ul style="list-style-type: none">- opposite sides are parallel and are equal lengths- opposite angles are the same- neither set of opposite lines would ever intersect
trapezoid		<ul style="list-style-type: none">- one pair of the lines are parallel, the other set are not- one set would intersect
polygon		<ul style="list-style-type: none">- a many sided shape- made up of line segments

pentagon		- a 5 sided polygon
hexagon		- a 6 sided polygon
octagon		- an 8 sided polygon - a stop sign is an octagon

Fractions and Decimals

ANSWERS

Learning Activity #1

1. a) 10 b) $9\frac{7}{8}$ c) $5\frac{11}{16}$ d) $8\frac{5}{16}$

Learning Activity #2

1. a) 15.75 b) 9.99 c) 24.11 d) 65

Learning Activity #3

1. a) 0.6875 b) 0.875 c) 0.75
2. a) $10\frac{7}{8}$ b) 10.875

Circles - The Basics

ANSWERS

1.

A) 12.56"

B) 21.98"

C) 25.12"

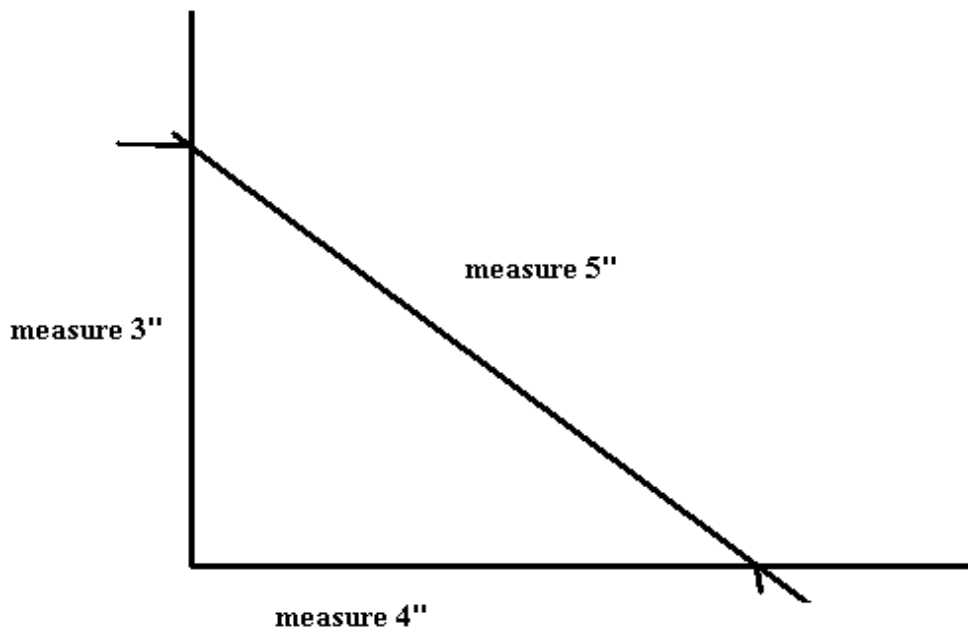
D) 31.4"

E) 37.68"

3 / 4 / 5 Rule for Making Square Corners or Pythagorean Theorem

ANSWERS

1. Answers will vary.
2. The 3/4/5 rule is used to make things square: a foundation, deck, or anything else that you want to make square.
3. Pythagorean
4. B) 18/24/30
C) 15/20/25
D) 27/36/45
E) 6/8/10
F) 12/16/20
G) 21/28/35
- 5.



Calculations at Work

ANSWERS

Learning Activity #1

- A) 130 square feet.
- B) 168 square feet
- C) 8 square inches

Learning Activity #2

$$A = L \times W$$

$$A = 8 \times 6$$

$$A = 48 \text{ square feet}$$

$$48 \text{ square feet} \times \$7.00 \text{ per square foot} = \$336.00.$$

Learning Activity #3

1. A (wall 1) = $12 \times 10 = 120$ square feet
 A (wall 2) = $12 \times 10 = 120$ square feet
 A (wall 3) = $11 \times 10 = 110$ square feet
 A (wall 4) = $11 \times 10 = 110$ square feet
2. Total area = $120 + 120 + 110 + 110 = 460$ square feet
3. Total paint = $460 \div 110 = 4.18$ litres
4. No.

General Safety Tips

ANSWERS

1. If you have trouble hearing someone speak from 3' (1 m) away, the noise level from the machine is too high. Damage to hearing may occur.
2. They could get caught in the blade while it is turning.
3. Answers will vary.
4. Answers may vary.

The working space has to be big enough so that you can move around and move the piece of wood around that you are cutting. If the space is too small, you could bump someone and that could cause them to injure themselves on a machine.

5. keep area free of clutter
sweep
clean up spills
floors should be non-slip
good housekeeping
clean the area
area should be well lit
floors should be level
workplace design
6. They could get caught in the workings of the machine.
7. Answers will vary.
8. Answers will vary.

Fire Extinguishers

ANSWERS

1. Answers will vary.
2.
 - where flammable materials are
 - where temporary gas or oil fired equipment is stored
 - where welding or open flame cutting is being done
 - on each storey of a building under construction
 - for at least 325 square metres
3. A, C, B, D
4. **Pull** the pin.

Aim the nozzle at the base, or bottom, of the fire. Direct the spray back and forth.

Squeeze the trigger.

Sweep from side to side until the fire is out.

5. Answers will vary.

Electrical Safety

ANSWERS

1. cause death by electrocution
2. You could come in contact with the “hot” or live part of the socket which could kill you.
3. electrocution, electric shock, burns, falls
4. Muscle contractions, or a startle reaction, can cause a person to fall from a ladder, scaffold, or aerial bucket which could cause serious injuries.
5. walls, floors, staples, fire, shock
6. unsafe wiring conditions exist
7. Wood is non-conductive. It doesn't allow electricity to pass through it very easily.
8. F, T, F, F, T
9. Answers will vary but should include one of the following:

Inspect Cords and Plugs

- Check power cords and plugs daily. Discard if worn or damaged. Have any cord that feels more than comfortably warm checked by an electrician.

Eliminate Octopus Connection

- Do not plug several power cords into one outlet.
- Pull the plug, not the cord.
- Do not disconnect the power supply by pulling or jerking the cord from the outlet. Pulling the cord causes wear and may cause a shock.

Never Break OFF the Third Prong on a Plug

- Replace broken 3-prong plugs and make sure the third prong is properly grounded.

Never Use Extension Cords as Permanent Wiring

- Use extension cords only to temporarily supply power to an area that does not have a power outlet.
- Keep power cords away from heat, water, and oil. They can damage the insulation and cause a shock.

Personal Protective Equipment

ANSWERS

Learning Activity #1

Hazard = a danger

Potential = possible

Precaution = something you can do to reduce risk

Harmful = dangerous

Maintained = kept in good condition

Restrict = To reduce; make more difficult; not allow

Durable = long-lasting

Fatal = causes death

Learning Activity #2

1. Hazard assessment
2. a walk through the worksite to develop a list of potential hazards.
3. sources of potential injury from impact, penetration, harmful dust, chemicals etc.
4. carpenters, pipe fitters, electricians, plumbers and their assistants
5. injuries can be fatal or cause permanent damage to employee.
6. impact-resistant toes, metal insoles, heat-resistant soles.

Risk Management

ANSWERS

1. T, F, F, T, F, T
2. Answers will vary. May include the following:
 - Risk management is something you can do...every day, all day. Always be on the lookout for situations that could be dangerous.
 - Safety doesn't just happen. It takes workers who are committed to making their sites as safe as possible.
 - Your job is to look at every situation. Think 'what could go wrong?' What accidents might happen and what the consequences of that accident would be, and then go back and change the situation to make it as safe as possible.

Housekeeping

ANSWERS

1. Answers may vary.
Cleaning up scrap and debris, putting it in containers, making sure the containers are emptied regularly, storing materials and equipment properly.
2. Answers may vary.
If the work area is messy, you lose tools and the time to make something goes up. This means that the quality of the work may go down.
3. Answers will vary.
4. scrap, debris, emptied, equipment, accidents, injuries, irregular, hard, sharp

Workplace Housekeeping - Checklist for Construction Sites

ANSWERS

1.

DO gather up and remove debris to keep the work site orderly.

DO NOT permit rubbish to fall freely from any level of the project. Use chutes or other approved devices for materials.

DO plan for the proper disposal of scrap, waste, and extra materials.

DO keep the work area and all equipment tidy. Have areas for waste materials and provide containers.

DO NOT throw tools or other materials.

DO keep stairways, passageways, and gangways free of material, supplies, and obstructions.

DO remove or bend over nails protruding from lumber.

DO secure loose or light material that is stored on roofs or on open floors.

DO NOT raise or lower any tool or equipment by its own cable or supply hose.

Contact Lenses at Work

ANSWERS

1. complicate eye safety

2.

PRO (for)	CON (against)
may prevent some substances from reaching the eye, minimizing an injury	dust & chemicals gets trapped behind lens
	gases & vapours cause irritation
	removal of lenses delays treatment after a chemical splash

3. personal protective equipment or PPE

4. chemical exposure chemical splash tiny particles in the air
 infrared rays intense heat dry air
 flying particles caustic substances

Slips, Trips and Falls

ANSWERS

Learning Activity#1

1. Attention, walking
2. Slips, friction, traction, surface
3. Personal Protective Equipment
4. Wind, snow, ice, rain, sun, hail, sleet etc.
5. Small, rugs, trip
6. Wet, slippery, dry
7. Ladder, three
8. Hand railing

Learning Activity#2

1. A substance, such as sand, used for polishing or removing a surface.
2. correct or suitable
3. A state where all parts have the proper weight; centred
4. a mess; things scattered around in a disorderly way
5. The rubbing, often repeated, of two surfaces together
6. something that stands in the way and prevents action or movement

7. showing resistance to
8. one of the cross bars that forms the steps of a ladder
9. environment; the things around you
10. the force that prevents you from slipping on a surface

Noise: Auditory Effects

ANSWERS

1. permanent hearing loss
2. short burst of extremely loud noise such as a gun shot
3. spending time in a very quiet place - may take several hours

Noise: Non-Auditory Effects

ANSWERS

1. not associated with hearing
2. May include some or all of the following:
 - heart and blood vessels
 - changes to blood pressure
 - hypertension
 - changes in breathing
 - annoyance
 - sleep
 - physical health
 - mental health
 - fatigue
3. T, F, T, T

Lock Out and Tag Out

ANSWERS

1. True
2. True
3. False
4. False
5. True
6. False

WHMIS Overview

ANSWERS

1. right to know
2. labels, material safety data sheets (MSDSs), worker education & training
3. b) a product, material, or substance that falls into one of the 6 hazard classes
4. acetylene, oxygen, ammonia
5.
 - will react with water to produce a poisonous gas, or which will undergo a reaction if the container is heated, pressurized, or agitated
 - will ignite and continue to burn
 - will cause another substance to burn
 - causes other toxic effects (including cancer)
 - is in a gaseous state at room temp
 - is a biohazard and infectious
 - will erode steel or aluminum or destroy animal tissue
6. Answers will vary.
They could save your life!
7. grinding, crushing, or handling
8. fumes
9. burned

10. mist
11. cleaning agents and paint thinners
12. carbon monoxide, methane, oxygen
13. your lungs, your skin, your mouth, your eyes
14. warning labels, MSDSs, worker training
15. easily recognized, a controlled product, basic information
16. supplier label, workplace label
17. hazardous materials
18. first aid measures, supplier name & address, risk phrases, hazard symbols, product name, precautionary measures, reference to MSDS
19. product name, safe handling instructions, reference to MSDS
20. substitutes for workplace labels
21. Stop! Do not use the chemical. Tell your supervisor.
22. So that he can properly fight the fire. Some chemicals react to water (Dangerously Reactive Material), and a dangerous chemical is released. The firefighters need to know if the building that they are working on contains any of this material.

23. Answers will vary.

Physical Data: Physical properties of the material, such as physical state (gas, solid, or liquid), odour, and appearance.

Fire or Explosion Hazard: Information such as flashpoint of the material, and upper and lower flammable limits.

Reactivity Data: Details of stability and reaction to conditions such as light, heat, moisture, and vibration.

Toxicological Properties: Adverse health effects from exposure.

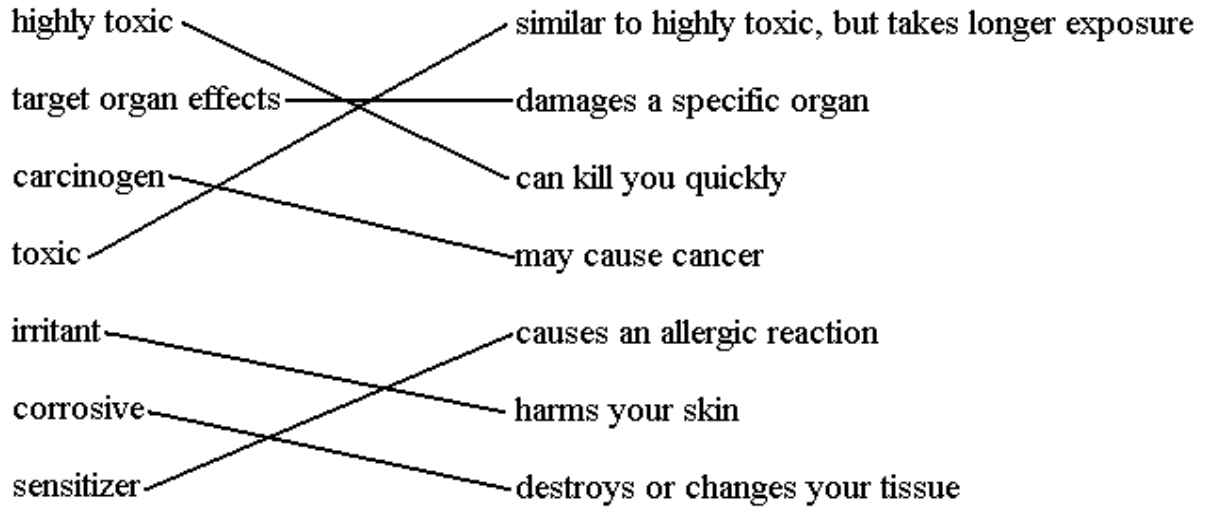
Preventive Measures: Instructions for safe use, handling, and storage.

First Aid Measures: Instructions for initial treatment of anyone exposed or overexposed to the material.

Preparation Information: Name, address, and telephone number of the person, group, or department which prepared the MSDS and the date of preparation.

24. the information will be of little use if the worker cannot understand it and apply it
25. any person who stores, handles, uses, or disposes of a controlled product or anyone who supervises another worker doing these activities
26. have access to hazard information, be able to understand it, follow required procedures and precautions
27. learn the information, tell the employer about unsafe environments, work with employer to make training as good as possible
28. if there are different skilled trades people using different chemicals
29. general contractor

30.



31. Answers will vary.

WHMIS - Information Bulletin

ANSWERS

1. Workplace Hazardous Materials Information System
2. 1988
3. protect the health and safety of workers by providing information about hazardous materials on the job
4. Material Safety Data Sheets
5. on following page



Class D - Poisonous and infectious material
Division 3 - Biohazardous material (not normally found in construction)



Class B - Flammable and combustible material (solvents)



Class D - Poisonous and infectious material
Division 2 - Other toxic effects (asbestos)



Class C - Oxidizing material (epoxy hardeners)



Class F - Dangerously reactive material (acetylene)



Class A - Compressed gas (oxygen)



Class E - Corrosive material (acid)



Class D - Poisonous and infectious material
Division 1 - Immediate and serious effects (ammonia)

Ergonomics

ANSWERS

Learning Activity #1

Posture = the way you stand (straight, hunched over etc.)

Joint(s) = the places where your body bends (knees, elbows etc.)

Slouching = Not standing up straight

Conveyor = A belt along which objects move

Varicose veins = dark blue veins that stick out, caused by poor circulation

Fatigue = tiredness

Learning Activity #2

1. muscle and joint strain and pain; repetitive strain injuries
2. Answers may vary. See list- by stretching, practice good posture etc.
3.
 - CSA certified
 - soles should be flat
 - there should be good arch support

Employee Rights

ANSWERS

Learning Activity #1

1. Whether too busy or not, Paul knew that the shelves were not strong enough to hold the material, that it was too high and that he could be hurt by falling items or falling himself by trying to climb onto the shelves to stack them.
2. More shelving needs to be installed. Whoever stocks the shelves must use a ladder, not a footstool.

Learning Activity #2

1. Answers will vary.
2. Answers will vary.

Learning Activity #3

1. (b)
2. (a)
3. (c)
4. The Ministry of Labour
5. (a), (b), (d)
6. (c)
7. To help sick and injured workers return to work safely and quickly.

Learning Activity #4

1. (e)
2. (d)
3. (c)
4. (f)
5. (g)
6. (a)
7. (b)

Learner Name: _____ Date Completed: _____

Demonstration Title: List of Other Trades People on the Job Site

Description of Demonstration Activity

In this demonstration the learner will create a resource guide of skilled trades companies in their area. (i.e. plumbers, carpenters, masons). The resource must contain at least 25 entries and include all relevant contact information

Main Goal Path: Employment

Theme: Other trades on a construction site

Short Term Goal: Read to find information and arrange it in a useful fashion.
Produce a computer generated list.

Primary Outcome:

Read with understanding for various purposes (LBS level 3)
Choose and integrate information from various sources or from several parts of a single text and identify relevant and irrelevant information. (ES Reading Text Level 3)

Essential Skills Demonstrated:

Reading Text (3)
Document Use (2)
Writing (1)
Decision Making (1)
Job Task Planning and Organizing (2)
Finding Information (2)
Computer Use (1)

Materials Required :

Telephone book or business directories
Computer

Learner Name: _____ Date Completed: _____

Demonstration Title: List of Other Trades People on the Job Site

Practitioner Instructions:

Make sure the learner understands the information and instructions for this demonstration

1. Go over the evaluation section with the learner to ensure that they understand what skills, knowledge, or actions are being assessed and how these skills will be demonstrated.
2. Decide with the learner what would be a reasonable length of time for the completion of this demonstration activity. Record this on the assessment form.
3. You may show the learner other resource guides that could be used as a model.
4. When the learner has completed the demonstration, provide a way for the learner to self reflect on the experience. Complete the assessment form with the learner, enter the date completed, and note whether it was successful or needs to be tried again.

Learner Name: _____ Date Completed: _____

Demonstration Title: List of Other Trades People on the Job Site

Help Allowed:

The learner may ask questions to clarify the assignment instructions.
A model of a resource guide may be provided

Learner Information and Instructions

This demonstration will allow you to show how well you understood and can apply the things you learned in the “Before You Begin “ module. An employer might ask you about people you know who are involved in different trades in your community. You know, or will soon learn when you are on the job, that making lists is an important skill for a skilled trades helper.

Your task is to create a resource guide that a contractor can leave with his secretary so that she can call a trades person to do a job for him.

Use the yellow pages in your local telephone book or a business directory to find relevant information about local skilled trades people. Try to include the following:

- company name
- contact person
- address
- telephone and fax numbers
- email address or website
- specialty

Sort your list by choosing five different trades that might be found on a construction site and trying to have five listings for each trade.

Use the computer to produce your resource guide in a way that looks professional and is easy to use.

Learner Name: _____ Date Completed: _____

Demonstration Title: List of Other Trades People on the Job Site

Assessment:

Learner's Self Reflection

- | | | |
|--|---------------------------|--------------------------|
| I decided which trades I would research | Yes <input type="radio"/> | No <input type="radio"/> |
| I did the required research independently | Yes <input type="radio"/> | No <input type="radio"/> |
| I did five listings in each trade | Yes <input type="radio"/> | No <input type="radio"/> |
| I made a rough copy of my resource guide | Yes <input type="radio"/> | No <input type="radio"/> |
| I entered my resource guide in the computer | Yes <input type="radio"/> | No <input type="radio"/> |
| I proofread and corrected my guide | Yes <input type="radio"/> | No <input type="radio"/> |
| My guide followed a common resource guide format | Yes <input type="radio"/> | No <input type="radio"/> |
| I found this demonstration challenging and enjoyable. | Yes <input type="radio"/> | No <input type="radio"/> |
| This demonstration is related to my employment goal. | Yes <input type="radio"/> | No <input type="radio"/> |
| There are some things I would change about this demonstration. | Yes <input type="radio"/> | No <input type="radio"/> |

Other comments:

Learner Name: _____ Date Completed: _____

Demonstration Title: List of Other Trades People on the Job Site

	Needs Work	Satisfactory	Outstanding
Read With Understanding For Various Purposes			
Draws on personal experience and on reading experience to gather meaning from text			
Skims to understand type of text; scans to find specific information			
Begins to take notes			
Write Clearly to Express Ideas			
Completes more complex forms requiring non-personal information			
Writes short summaries to present factual information			
Shows an awareness of audience needs			
Uses appropriate levels of language			
Uses basic word processing applications			
Essential Skills - Reading Text (3)			
Chooses and integrate information from various sources or from several parts of a single text.			
Essential Skills - Document Use (2)			
Locates one or more pieces of information using consecutive searches with the same one or two search criteria			
Enters several pieces of information			
Essential Skills - Writing (1)			

Learner Name: _____ Date Completed: _____

Demonstration Title: List of Other Trades People on the Job Site

Writes with the intention to organize, remind, or inform.			
Essential Skills - Decision Making (1)			
Makes decisions as to which trades would be of most general use and decides which trades people to include under each category.			
Job Task Planning and Organizing (2)			
Decides how to complete the job most efficiently based on prior knowledge, experience, and advice from instructors and peers.			
Finding Information (2)			
Finds the needed information from a source that is easily identified. Uses simple processing in selecting information according to a predetermined criteria.			
Computer use (1)			
Uses several familiar software features such as simple formatting of text using a limited number of steps that can be memorized easily..			

This demonstration: was successfully completed
 needs to be tried again

Skilled Trades Helper Demonstration: Numeracy

LBS Level 3

Overview of Demonstration

<p>Description of Demonstration Activity: The learner will measure the length, width and height of a room. The learner will use these measurements to calculate the area of the walls and the ceiling. The learner will use these calculations to determine the amount of paint required to paint the walls and ceiling. Finally, the learner will determine if there is enough paint at the work site, based on the information listed on the paint can, and communicate this to the supervisor.</p>
<p>Main Goal Path: Employment</p>
<p>Theme: Numeracy - Area</p>
<p>Short Term Goal: To apply measurement and calculation skills in the workplace and to communicate the results.</p>
<p>Primary Outcome: Numeracy: Areas, Perimeters, and Volume; Numerical Estimation</p>
<p>Secondary Outcome(s): Oral Communication: Interact with supervisor/manager.</p>
<p>Essential Skills Demonstrated</p> <p>Document Use – Level – 2 Measurement and Calculation Math – Level 3 Data Analysis Math – Level 1 Oral Communications – Level 1 Finding Information – Level 1</p>
<p>Materials Required: Measuring device (tape measure), paper, pencil, and calculator (if necessary); paint can label (included).</p>
<p>Adaptation: The learner may sketch a room, indicating the measurements, if measuring a room is not appropriate.</p>

Skilled Trades Helper Demonstration: Numeracy**LBS Level 3****Practitioner Instructions**

Make sure the learner understands the information and instructions for this demonstration.

1. Go over the evaluation section with the learner to ensure that he or she understands what skills, knowledge, or actions are being assessed and how these skills will be demonstrated.
2. Decide with the learner what would be a reasonable length of time for the completion of this demonstration activity. Record this on the assessment form. Keep in mind that in a workplace, an employee should be able to measure accurately (sometimes twice) and make calculations quickly.
3. Allow the learner to review the Measurement Module (especially Area and Estimation) and answer any questions.
4. After the learner has measured the length, width and height of the room, ask if the measurements were repeated for accuracy and that they were recorded on paper.
5. Ensure the learner understands the information on the paint can label (attached).
6. Tell the learner you will act as the supervisor. The learner should orally communicate the results to you and produce the written evidence.
7. When the learner has completed the demonstration, provide a way for the learner to self-reflect on the experience. Complete the assessment form with the learner, enter the date completed, and note whether it was successful or needs to be tried again.

Help Allowed: The learner may ask questions to clarify the assignment instructions. Using a calculator for the demonstration would be appropriate.

Skilled Trades Helper Demonstration: LBS Level 3

Learner Information and Instructions

Your instructor will act as your workplace supervisor in this demonstration. This demonstration will show how well you understood and can apply the content of the Numeracy Module. You will measure the length, width, and height of a room accurately. You will calculate the area of the surfaces. You will decide if there is enough paint at the work site to paint the walls and the ceiling (based on the paint can label) or how much you need. You have two 3.56 litre (1 gallon) cans. Tell your supervisor if you need more paint and how much. You will write the measurements and calculations on paper to show your supervisor.

1. Review the Area and Estimation sections of the Numeracy Module.
2. Measure the length and width of the ceiling of a room. Measure the height of the walls. Measure these again to be sure of accuracy. Write these measurements on paper.
3. Calculate the area of the ceiling and the walls. You may use a calculator. Write these calculations on paper.
4. Look at the paint can label. Calculate how much of the room can be covered with the paint. Record this amount on paper. Decide if you will have enough paint to paint the walls and ceiling or how much more you need.
5. Tell your supervisor the results. Show your supervisor the paper with the calculations.

Skilled Trades Helper Demonstration:**LBS Level 3****Learner's Self-Reflection**

Date: _____

- I re-read sections of the Numeracy Module which most applied to the demonstration. Yes No
- I measured carefully. Yes No
- I measured again to be sure I was accurate. Yes No
- I wrote the measurements on paper. Yes No
- I calculated the areas of the ceiling and walls. Yes No
- I wrote the areas on paper. Yes No
- I read the paint can label. Yes No
- I found out how much area the paint would cover. Yes No
- I wrote this amount on paper. Yes No
- I figured out if I had enough paint or needed more. Yes No
- I told my supervisor the result. Yes No
- I showed my supervisor the paper with my calculations. Yes No
- I found this demonstration challenging. Yes No
- I found this demonstration enjoyable. Yes No
- This demonstration is related to my employment goal(s). Yes No
- There are some things I would change about this demonstration. Yes No

Learner Name:

Date Completed:

They are:

Other Comments:

Learner Name: _____

Date Completed: _____

Skilled Trades Demonstration:

LBS Level 3

Numeracy

Assessment

Date: _____

- This demonstration must be completed in the satisfactory or outstanding column.

- The agreed upon amount of time for the learner to complete this task was: _____

- This timeline was met. Yes No

- This demonstration was successfully completed. Yes No

Comments:

Skilled Trades Helper Demonstration: Numeracy**LBS Level 3****Marking Rubric**

	Needs Work	Satisfactory	Outstanding
Speak and Listen Effectively			
Use trade appropriate vocabulary and selects words needed to provide the needed information.			
Speaks clearly in an organized and focused way.			
Numeracy – Use Measurement for Various Purposes			
Measures the length, width, and height of the room using a tape measure.			
Calculates the area of the surfaces to be painted.			
Essential Skills Demonstrated			
Document Use – Level 2			
Used a simple document with multiple			
Numeracy -			
Measurement and Calculation Math – Level 3			
Calculated area of shapes that are the composite of simple, familiar shapes.			
Data Analysis Math – Level 1			
Compared area to be covered by paint to area that can be covered by one can of paint.			
Oral Communications – Level 1			
Communicated paint needs to supervisor.			
Finding Information – Level 1			
Found information needed on the paint can label.			



**3.56
Litres**

PREMIER – Pure Colour, Lasting Performance

FEATURES – Washable, durable medium gloss finish. 100% acrylic

- Masks surface irregularities. Resists mildew, stains & smudges
- Resists fading & yellowing

FOR – Interior walls & ceilings

Proper preparation & priming result in better hiding and increased durability.

Covers up to 32 m² (352 sq. ft.)

Clean-up & thinner – Water

Tools – Roller, synthetic brush, pad, sprayer. For **Best Results**, use excellent quality tools & rollers.

Preparation – Fill, sand and patch all nail holes, cracks & open seams

- Sand all glossy areas. Sand all weathered wood. Remove loose paint
- Remove all grease, dirt & mildew. Wash with TSP, rinse well and allow to dry thoroughly. Prime as needed.

Primers – Old alkyd paint & chalky surfaces – Alkyd Primer or Super adherent Latex Primer. Bare wood & wallpaper – Alkyd Primer. Water & smoke stains, knots, & graffiti – Stain Barrier. Drywall, plaster & porous paint – Latex Primer. Metal – Metal Primer

Directions – Temperature must be above 10°C (50°F) for at least 24 hours after painting. **DO NOT** apply in wet or damp weather. Make sure plaster is dry and clean.

WHMIS - On-Line Learning

Dear Instructor:

The following information is about on-line learning. You can use one or both as demonstrations of learning once the WHMIS Overview is completed.

Free WHMIS Course

The Free WHMIS Course is available on the website listed below. It offers an on-line course made up of 7 modules. Successful completion of this would be a demonstration of learning.

<http://www.whmiscourse.ca>

This course is provided as a public service by Quantum Systems 2000 Inc.

There are 7 modules:



- Module 1 - What is WHMIS?
- Module 2 - Hazard Classification System
- Module 3 - WHMIS Labels
- Module 4 - Materials Safety Data Sheet (MSDS)
- Module 5 - Other Information
- Module 6 - Safe Work Practices
- Module 7 - Emergency Procedures

There is a self test at the end of each module. When you have completed all 7 modules, there is a final test. The results will be sent off to be marked by examiners, and you will be notified if you passed or failed.

If you pass, you are entitled to a certificate. For a recovery cost of \$10.00, they will mail you a certificate. Successful completion of this course is a demonstration of achievement.

Practical WHMIS

The **Practical WHMIS** Free Demo is available on this CD as well as at the website below. This whole course costs \$39.95 per learner. Included in this folder is a Free Demo of the program. There are two units that you can have your learners work through, whether or not you decide to purchase the program. Successful completion of these two units will represent demonstrations in those areas.

Instructions for using Practical WHMIS

If you have highspeed internet access, you may wish to go to:

www.practicalwhmis.com

and go to the *Free Demo Site*. This will allow you access to the same free modules included on this CD.

If you do not have highspeed internet access, please work with your learners to assist them in accessing these files from the LLEO 2004, Skilled Trades Helper Essential Skills Training CD.

Go to the Modules/Health & Safety/WHMIS On-Line Course Info/Practical WHMIS/htm

Inside the htm folder, you will see a lot of files and folders. Find the file called: **healthsafety1**. Double click on it. The **Health & Safety** module will open up. Have your learner work through these pages and take the quiz at the end. When they are finished, click on the **Personal Protection Equipment** bar on the left. Have them work through this, and take the quiz at the end. If you like the Practical WHMIS and would like to order full access, see the information on the following page.

Successful completion is a demonstration of learning.

Practical WHMIS

OWLware, Workplace Training & Services Inc. 2002

Price: Cdn \$39.95 per learner

For more information contact:

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or toll free 1 (800) 788-1912

Fax: (416) 322-0780 or toll free 1 (800) 788-1417

Email: purchase@alphaplus.ca



Training description

Practical WHMIS is self-paced, on-line training in the Workplace Hazardous Materials Information System (WHMIS). WHMIS is a Canada-wide standard designed to ensure chemicals and other hazardous substances are handled safely. All Canadian employers are required by law to ensure that employees who work in contact with hazardous materials have proper WHMIS training.

This on-line training, written for individuals who are already in the workplace or who are entering the workplace, ensures that employees have the skills and knowledge to work safely.

Easy to navigate and understand, Practical WHMIS provides information and guidelines on how to properly and safely handle, use, store, and dispose of hazardous materials in the workplace.

Practical WHMIS is divided into the following units:

- How to use the program
- Protective Equipment
- What is WHMIS?
- WHMIS Symbols
- Responsibilities
- Glossary
- Health & Safety
- What do I know?
- Human Body
- Labels and Data Sheets
- Review

The first unit, called 'How to use the Program', provides an overview of the program and explains the tools being used to navigate the pages. It is very useful for new computer users.

Each unit ends with a quiz, which must be answered correctly before moving to the next unit. The learner can take the test as many times as necessary to pass the test. The questions for the test are selected at random to ensure that they are slightly different each time.

Learners who achieve a score of 100% on all tests will receive a certificate in WHMIS. A certificate in WHMIS training can be an excellent addition to a resume or portfolio.

Practical WHMIS was developed using clear language and is accessible to individuals with reading and writing difficulties. There is an extensive glossary for individuals who may not have extensive work experience or who speak English as a second language.

This training tool can be used for independent on-line learning or as a classroom supplement.