

Purpose

In this lesson, students learn to recognize potentially hazardous workplace situations.

British Columbia Planning 10 Curriculum Connections

Prescribed Learning Outcomes	Suggested Achievement Indicators
<i>It is expected that students will:</i>	<i>Students who have fully met the prescribed learning outcome are able to:</i>
<ul style="list-style-type: none">Analyse practices associated with work-related risk reduction and injury prevention (e.g., safety training, hazard recognition, risk management, communication)	<ul style="list-style-type: none">Describe and discuss standard guidelines and procedures for reducing risk and injury in the workplace (e.g., following established safety guidelines such as those set out by the Workers' Compensation Board, knowing own abilities and limits, using safety and personal protective equipment, knowing where to go to address a problem)List and discuss primary causes of injury to young workers (e.g., inability to recognize and respond appropriately to hazards, lack of training)Create a list of factors that contribute to making workers and workplaces physically and emotionally safe (e.g., safety training programs, team building, harassment policies)Propose strategies to minimize workplace hazards

Teaching Strategies

- Direct instruction
- Small-group work
- Independent study

Suggested Time

- 1–2 hours, including homework time

Materials and Resources

- Student Handout 10: Hazard Recognition Scenarios 1–10* (visuals that can be shown as they are or turned into overhead transparencies)
- Teacher Resource 4: Hazard Recognition Answer Key*
- Student Handout 11: Hazard Recognition Activity Worksheet*
- Student Handout 12: Mark Ignores the Rules*
- Student Handout 13: Safe Work Practices*

Assessment Strategies

- *Assessment Tool 4: Hazard Recognition Assessment*

Preparation

- Print copies of the student handouts and teacher resources and review them before teaching the lesson.



1. **Introduce** the subject by asking students to define the word “hazard.” (A hazard is an action or situation that could cause injury or death.)
2. **Brainstorm** with students a list of possible workplace hazards. Record their responses on the board under four category headings: physical, chemical, ergonomic, and biological. Once you’ve recorded a few hazard examples under each heading, ask the students to explain the nature of the four categories and come up with some category-specific hazards. Suggested responses could include:
 - Physical hazards: involve accidents or physical trauma (e.g., slipping or tripping hazards, unstable ladders, using a saw without the guard, getting into altercations with violent customers)
 - Chemical hazards: involve burns, rashes, or illness resulting from exposure to unsafe chemicals, e.g., chemical spills, improper handling or use of a chemical substance, prolonged exposure to toxic fumes
 - Ergonomic hazards: involve injuries resulting from improper lifting, repetitive motions, overextending (e.g., spending long periods at the computer, poor set-up of workstation)
 - Biological hazards: involve exposure to unhealthy germs, bacteria, and other life forms (e.g., contact with used needles, contact with bodily fluids, exposure to poisonous plants, insects, or reptiles)
3. **Discuss** with students three key steps that can be used to control a hazard: Recognition, Evaluation, and Control. Then suggest a simple way of remembering these steps:

See it.



Think it.



Do it.



LESSON 4: Hazard Recognition

Instructional Plan continued



- Inform** students that “See it,” “Think it,” and “Do it” are steps they can use to assess and reduce the risk of hazardous situations. At each step, they should ask the following set of questions:

- **See it. Questions to ask:** What is unsafe? How many unsafe acts or conditions are there? What are the hazards?
- **Think it. Questions to ask:** Why is it a hazardous situation? What could happen? What is creating the hazard? What injuries could occur?
- **Do it. Questions to ask:** What could be done to prevent an accident from happening? What could minimize the risk? What could be done to eliminate or minimize the hazard?

See it.



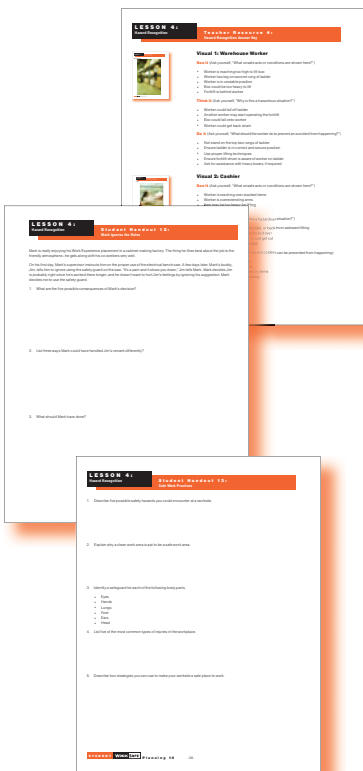
Think it.

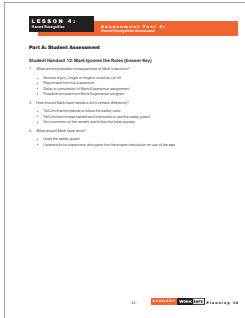


Do it.



- Organize** the class into five groups. Distribute two of the *Student Handout 10: Hazard Recognition Scenarios* to each of the groups, as well as *Student Handout 11: Hazard Recognition Activity Worksheet* to all class members. Have groups discuss their scenarios and answer the questions on the student handout using the “See it, Think it, Do it” strategy.
- Ask** each group to present their findings to the class. If visual sets were made into overhead transparencies, use the overheads during the group presentations.
- Debrief** with a short class discussion. Refer to *Teacher Resource 4: Hazard Recognition Answer Key* for relevant information.
- Distribute** *Student Handout 12: Mark Ignores the Rules* and *Student Handout 13: Safe Work Practices* to the class and have students complete the handouts as independent study or homework.





Assessment

- Distribute copies of *Assessment Tool 4: Hazard Recognition Assessment, Part A*, to students so that they assess their own work on Student Handouts 11 and 12. Then, in Part B, record your assessment of each student's work in this lesson.

Extensions

- Have students write a fictional journal entry describing an experience with a workplace hazard. Encourage the students to conduct some online research to add realistic detail to their story, especially in terms of consequences resulting from the injury.
- Direct students to the WorkSafeBC web site and encourage them to try out the push/pull/carry calculator (<http://www2.worksafebc.com/ppcc/default.htm>) to learn more about the risks associated with pushing, pulling, and carrying heavy objects.
- Have students create a diorama of workplace hazards and set it up somewhere in the school so that other students may have a chance to see it and learn from it.



Warehouse Worker



Cashier



Deep Fryer



Construction Worker



Cook Assistant



Kitchen Worker



Woodworker



Supermarket Worker



Mechanic



Server and Bussperson





Visual 1: Warehouse Worker

See it (Ask yourself, “What unsafe acts or conditions are shown here?”)

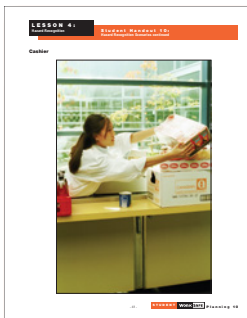
- Worker is reaching too high to lift box
- Worker has leg on second rung of ladder
- Worker is in unstable position
- Box could be too heavy to lift
- Forklift is behind worker

Think it (Ask yourself, “Why is this a hazardous situation?”)

- Worker could fall off ladder
- Another worker may start operating the forklift
- Box could fall onto worker
- Worker could get back strain

Do it (Ask yourself, “What should the worker do to prevent an accident from happening?”)

- Not stand on the top two rungs of ladder
- Ensure ladder is in correct and secure position
- Use proper lifting techniques
- Ensure forklift driver is aware of worker on ladder
- Ask for assistance with heavy boxes, if required



Visual 2: Cashier

See it (Ask yourself, “What unsafe acts or conditions are shown here?”)

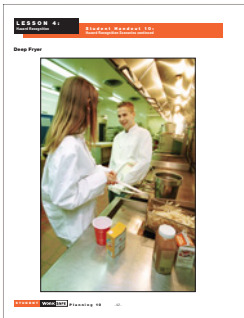
- Worker is reaching over stacked items
- Worker is overextending arms
- Item may be too heavy for lifting
- Items not stacked properly

Think it (Ask yourself, “Why is this a hazardous situation?”)

- Worker could strain arms, shoulder, or back from awkward lifting
- Items could fall on worker if knocked over
- If glass items broken, worker could get cut
- Grocery items could fall off edge

Do it (In this scenario, suggest how an accident can be prevented from happening)

- Not overextend or twist body
- Use proper lifting techniques
- Ask for assistance in lifting heavy items
- Use proper posture while working



Visual 3: Deep Fryer

See it (Ask yourself, “What unsafe acts or conditions are shown here?”)

- Worker is not paying attention to task
- Kitchen items are too close to deep fryer
- Second worker could knock over hot items
- Worker’s hair not tied back

Think it (Ask yourself, “Why is this a hazardous situation?”)

- Hot oil could splash onto workers
- Worker could get burned by hot oil or deep fryer
- Kitchen items or utensils could fall into deep fryer
- Worker’s hair could get in the way

Do it (Ask yourself, “What should the worker do to prevent an accident from happening?”)

- Pay attention to task
- Remove items or utensils that are too close to deep fryer
- Tie back hair
- Ensure safe work procedures are followed for deep frying



Visual 4: Construction Worker

See it (Ask yourself, “What unsafe acts or conditions are shown here?”)

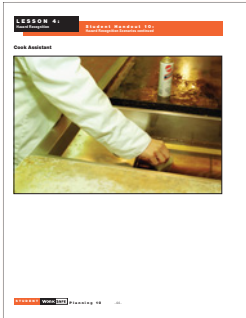
- Wood items are stacked in unstable position
- Awkward lifting and handling of wood items by worker
- Extension cord lies across the work area
- Worker not wearing safety gloves
- Messy/cluttered area

Think it (Ask yourself, “Why is this a hazardous situation?”)

- Worker could get back injury from awkward lifting
- Wood items or ladders could fall onto worker
- Worker’s hand could get cuts or slivers
- Worker could trip and fall on wood items on the ground

Do it (Ask yourself, “What should the worker do to prevent an accident from happening?”)

- Wear gloves
- Use proper lifting techniques
- Ensure path or walkway is clear
- Move ladders and extension cord away from work area
- Ask for assistance if required



Visual 5: Cook Assistant

See it (Ask yourself, “What unsafe acts or conditions are shown here?”)

- Grill could be hot
- Cleaning sponge may not be appropriate
- Worker’s long sleeve is in the way
- Aerosol can sitting above possibly hot oil

Think it (Ask yourself, “Why is this a hazardous situation?”)

- Flammable aerosol can could explode
- Worker’s fingers could get burned from hot grill or oil
- Worker’s long sleeve could get hot oil on it
- Worker’s fingers could get burned from using small sponge

Do it (Ask yourself, “What should the worker do to prevent an accident from happening?”)

- Remove aerosol can from hot area
- Wear proper clothing (no wide sleeves or sleeves too long)
- Use proper cleaning tools
- Use safe work procedures for cleaning grill



Visual 6: Kitchen Worker

See it (Ask yourself, “What unsafe acts or conditions are shown here?”)

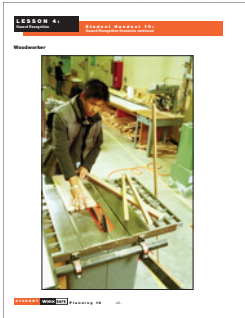
- Worker cannot see where she is going
- Boxes laying on floor
- Box too heavy for worker
- Worker could bump into another worker
- Worker could fall onto hot stove top

Think it (Ask yourself, “Why is this a hazardous situation?”)

- Worker could get a strained back from lifting heavy box
- Worker could trip or slip on boxes laying on floor
- Worker could bump another worker with box
- Possible fall onto hot stove or cause another to fall

Do it (Ask yourself, “What should the worker do to prevent an accident from happening?”)

- Remove debris/boxes laying on floor
- Do not walk without seeing pathway
- Awareness of other workers working around you
- Get assistance with carrying box
- Use handcart to move box
- Ensure nothing is in pathway
- Use proper lifting/carrying techniques



Visual 7: Woodworker

See it (Ask yourself, “What unsafe acts or conditions are shown here?”)

- Hand is too close to blade
- Extra wood pieces in the way of work
- Broom leaning on work table
- Extension cord behind worker
- General mess in shop
- No guard on saw
- Loose jewelry and clothing on worker

Think it (Ask yourself, “Why is this a hazardous situation?”)

- Worker’s fingers/hand could get cut on blade
- Loose clothing could get caught
- Dangling jewelry could get caught in blade
- Broom could fall
- Worker could trip on extension cord and fall

Do it (Ask yourself, “What should the worker do to prevent an accident from happening?”)

- Keep fingers at least three inches from saw blade
- Ensure there is no clutter around saw area
- Move broom away from table saw
- Have guard on saw
- Ensure safe work procedures are followed for working on saw
- Clean up work area
- Do not wear loose jewelry or clothing while working on saw



Visual 8: Supermarket Worker

See it (Ask yourself, “What unsafe acts or conditions are shown here?”)

- Lifting heavy box in awkward position
- Lifting box with box cutter in hand
- Turning while lifting
- Improper footwear
- Repetitive lifting of boxes

Think it (Ask yourself, “Why is this a hazardous situation?”)

- Worker could get back strain due to improper and repetitive lifting
- Hand could get cut from box cutter
- Boxes could fall onto foot
- Cart could move throwing worker off balance

Do it (Ask yourself, “What should the worker do to prevent an accident from happening?”)

- Use proper lifting techniques
- Do not turn body while lifting
- Do not lift boxes with box cutter in hand
- Wear proper footwear
- Position cart in better position
- Get assistance if boxes are too heavy



Visual 9: Mechanic

See it (Ask yourself, “What unsafe acts or conditions are shown here?”)

- Worker not wearing face mask
- Worker not wearing safety glasses
- Distracted by other person
- Other person sitting on unstable stack of tires

Think it (Ask yourself, “Why is this a hazardous situation?”)

- Asbestos dust is airborne
- Debris can get into worker’s eyes
- Stack of tires could collapse—other person could fall
- Other person could fall onto worker or car

Do it (Ask yourself, “What should the worker do to prevent an accident from happening?”)

- Wear proper personal protective equipment (dust mask, safety eyewear)
- Move tires away from car
- Do not sit on stack of tires
- Clean up work area
- Pay attention to task



Visual 10: Server and Busperson

See it (Ask yourself, “What unsafe acts or conditions are shown here?”)

- Server holding tray in unstable position (over shoulder)
- Server cannot see busperson coming around corner
- Server not paying attention to potential oncoming traffic
- Server could lose balance




Think it (Ask yourself, “Why is this a hazardous situation?”)

- Workers could collide coming around corner
- Workers could fall due to collision
- Both workers could get hurt from broken glass
- Both workers could get burned by hot liquids

Do it (Ask yourself, “What should the worker do to prevent an accident from happening?”)

- Both workers need to pay attention for oncoming traffic
- Mirror could be installed so that workers can see oncoming traffic
- Use proper technique for carrying tray
- Use both hands for carrying tray
- Proceed cautiously around corner

With your group, discuss the scenario on the visual and answer the following questions.

<p>Scenario Description</p> <p>Setting:</p> <p>Activity/Job:</p> <p>Specific Location:</p>	<p>Keep in mind:</p> <ul style="list-style-type: none"> • Physical layout • Equipment • Tool condition • Housekeeping • Time of day • Lack of procedures • Unnecessary risks • Use of protective equipment • Handling of hazardous materials or substances • People movement (actions/errors) 	<p>See it.</p>  <p>Think it.</p>  <p>Do it.</p> 
<p>See it (Recognition)</p> <p>What is unsafe?</p>	<p>Think it (Evaluation)</p> <p>Why is it unsafe?</p>	<p>Do it (Control)</p> <p>What must be done to make it safe?</p>

1. Describe five possible safety hazards you could encounter at a worksite.
2. Explain why a clean work area is apt to be a safe work area.
3. Identify a safeguard for each of the following body parts.
 - Eyes
 - Hands
 - Lungs
 - Feet
 - Ears
 - Head
4. List five of the most common types of injuries in the workplace.
5. Describe four strategies you can use to make your worksite a safe place to work.

Part A: Student Assessment

Student Handout 12: Mark Ignores the Rules (Answer Key)

1. What are the possible consequences of Mark's decision?
 - Serious injury—finger or fingers could be cut off
 - Reprimand from his supervisor
 - Delay in completion of Work Experience assignment
 - Possible removal from Work Experience program
2. How should Mark have handled Jim's remark differently?
 - Tell Jim that he intends to follow the safety rules
 - Tell Jim that he was trained and instructed to use the safety guard
 - Not comment on the remark and follow the rules anyway
3. What should Mark have done?
 - Used the safety guard
 - Listened to his supervisor, who gave him the proper instruction on use of the saw

Student Handout 13: Safe Work Practices (Answer Key)

1. Describe at least five possible safety hazards you could encounter at a worksite.
 - Liquids spilled on floor
 - Hot objects
 - Heavy objects needing to be lifted
 - Faulty equipment
 - Lack of training

2. Explain why a clean work area is apt to be a safe work area.
 - Less likely an injury will occur
 - Debris will not get in the way of work
 - Tripping and slipping hazards

3. Identify at least one safeguard for each of the following body parts.
 - Eyes: safety goggles
 - Hands: safety gloves
 - Lungs: dust mask
 - Feet: steel-toed boots
 - Ears: earplugs
 - Head: hardhat

4. List the most common causes of injuries in the workplace.
 - Slips, trips, and falls; heavy, awkward lifting; improper use of equipment; faulty equipment; improper storage or use of chemicals; falling objects, bumping into objects; not using personal protective clothes and equipment

5. Describe what you can do to make your worksite a safe place to work.
 - Follow all safety procedures/rules.
 - Ensure you have adequate and proper training.
 - Ask for assistance if required.
 - Use the “See it, Think it, Do it” strategy at the worksite.

Part B: Teacher Assessment

Use the following chart to assess student work during this lesson.

The student is able to:	Does not meet expectations	Meets expectations	Fully meets expectations	Exceeds expectations
Identify the consequences of poor decision-making concerning safety in the workplace	Student isn't able to identify any consequences of poor decision-making	Student identifies some consequences of poor decision-making	Student identifies most or all consequences of poor decision-making	Student identifies and describes all consequences of poor decision-making without prompting
Identify appropriate communication strategies that can help ensure safety in the workplace	Student isn't able to identify any appropriate communication strategies	Student identifies some appropriate communication strategies	Student identifies most or all appropriate communication strategies	Student identifies and describes all appropriate communication strategies without prompting
Identify safety hazards associated with a workplace situation	Student isn't able to identify any safety hazards	Student identifies some safety hazards	Student identifies most or all safety hazards	Student identifies and describes all safety hazards without prompting
Identify personal protective equipment (PPE) for all major body parts	Student identifies two or fewer items of PPE	Student identifies some items of PPE	Student identifies most or all items of PPE	Student identifies and describes all items of PPE without prompting
Identify common causes of workplace injuries	Student identifies two or fewer causes of workplace injury	Student identifies some causes of workplace injury	Student identifies most or all causes of workplace injury	Student identifies and describes all causes of workplace injury without prompting
Propose strategies that can help make a workplace safe	Student isn't able to identify any safety strategies	Student identifies some safety strategies	Student identifies most or all safety strategies	Student identifies and describes all safety strategies without prompting
Teacher's comments:				

