

Young workers injury hotspots!



Background

In Victoria, young workers aged 15 to 24 have the highest proportion of work-related injury – 17% higher than the average across all age groups.

Young workers also have a higher rate of hospitalisation – 21% higher than other age groups. The highest injury rates for young people occur in:

- retail (especially fish shops and takeaway food)
- cafes and restaurants
- manufacturing (particularly in meat products, metal fabrication, wood and joinery sectors), and
- construction (especially plumbing, electrical and carpentry work).

Types of injuries

The most common types of injuries experienced by young people include sprains, strains and muscle tears; lacerations; fractures and burns. Young workers are also more likely to be subjected to bullying and occupational violence.

Injury hotspots

WorkSafe Victoria has produced a series of posters and flyers, *Injury hotspots*, showing the most common injuries in different industry sectors, how people get injured and what can be done to prevent these injuries. They have also produced *Injury hotspots* showing the most common injuries experienced by young workers in the retail, hospitality, manufacturing and construction industries, the industries they commonly work in. These *Injury hotspots* can be accessed at www.worksafe.vic.gov.au/hotspots The *Injury hotspots* for young workers can also be accessed on the CD Rom, *Young Workers: It doesn't hurt to speak up*.

Cooperative logic problems: *Young workers injury hotspots*

Overview of the unit

The activities in this section are cooperative logic problems. Cooperative logic problems are a great way to encourage students to work together and problem solve. They also help those participating in the activity to focus on the data presented, and, in this instance, allow students to share their mathematical knowledge and language. And, students find cooperative logic problems fun.

The cooperative logic problems in this unit focus on the injuries young workers are most likely to receive and the industries they are most likely to work in. There are four cooperative logic problems in this unit. They cover the industries young people are most likely to work in – construction, hospitality, manufacturing and retail. The cooperative logic problems use the information from the *Industry hotspots* for young workers. These can be assessed at www.worksafe.vic.gov.au/hotspots or on the CD Rom, *Young Workers: It doesn't hurt to speak up*.

Purpose of the learning activity

- To focus on the injuries that young people working in the industry are most likely to experience.
- To develop team work skills.
- To develop problem solving skills.
- To develop understanding of percentages.

Target group

Young people who have casual, part time or on-going work or are likely to begin work in the near future.

Description of activity

Preparation

Photocopy each of the pieces for the problem. Each problem in this activity has:

- the problem or question to be solved
- the pieces of information to solve the problem
- clues.

These cooperative logic problems also have an extension activity which will need to be photocopied.

You need to have enough sets for students to work in groups of 4 – 6.

Cut up the pieces as indicated and store each set in an envelope or plastic clip top bag. If you intend to use the activity with other groups, you may like to laminate the pieces.

Solving the problem

- Organise students into groups of 4 – 6. Explain that the aim of the activity is to solve the problem or question by working together.
- Place the problem and the information pieces in the middle of the table face up.
- Give each student at least 1 clue card.
- Students read out their clue and as a group, discuss the clue and, based on the clue, manipulate the information cards. Tell students they need to listen carefully to each of the clues.
- The problem is solved when students have read out all the clues (at least once) and are satisfied that the information is organised in the correct order.

A few tips:

- If some students have reading difficulties, pair them with another student who reads well and they can work together jointly on their clues.
- Some students may be tempted to take over and solve the problem themselves. This will leave the other students unengaged and not understanding how the problem was solved. This defeats the whole purpose of the problem solving activity so it's important to make sure all students are involved in reading clues and manipulating the information pieces.

After each group has solved the problem:

- Check that each group has the same answer
- spend a few minutes discussing the data and how they went about solving the problem.

Student roles and responsibilities in relation to the activity

Listen to each other and share in solving the problem.

Level of teacher support

Preparation of the materials.

Ensure all students are able to participate in the activity and that it is not dominated by one person in the group.

Extension activities

There is an extension activity in each of the cooperative logic problems in this unit. These ask students to match the causes of the injuries to the list of the most common injuries.

Resource requirements

Activity sheet	<p>Activity sheet 1: Young workers in construction cooperative logic problem</p> <p>Activity sheet 2: Young workers in hospitality cooperative logic problem</p> <p>Activity sheet 3: Young workers in manufacturing cooperative logic problem</p> <p>Activity sheet 4: Young workers in retail cooperative logic problem</p>
Published material	<p>You may like to provide students with a copy of the <i>Injury hotspots</i> poster / flyer. These <i>Injury hotspots</i> can be accessed at www.worksafe.vic.gov.au/hotspots The <i>Injury hotspots</i> for young workers can also be accessed on the CD Rom, <i>Young Workers: It doesn't hurt to speak up</i>.</p>
Other	<p>Scissors</p> <p>Envelopes or small plastic clip top bags</p>

Assessment

The cooperative logic problems are learning activities.

VCAL Unit and level

The activities in this unit support the learning outcomes indicated in the table below.

	Foundation	Intermediate	Senior
Work Related Skills 1	Activities may be used to introduce and reinforce OH&S.		
Work Related Skills 2	Activities may be used to introduce and reinforce OH&S.		
Reading and Writing			
Numeracy		LO 6	
Oral Communication	LO 4	LO 4	LO 4
Personal Development Skills 1	LO 2 & 5	The activities can be used to introduce and reinforce problem solving and team work.	
Personal Development Skills 2	LO 4	The activities can be used to introduce and reinforce problem solving and team work.	

Young workers in construction cooperative logic problem

Problem



Young workers in construction

Match the percentage against the common injuries that young workers in the construction industry receive.

Information to solve problem

5%	Face, ear and eye
5%	Ankle
8%	Arm
8%	Knees
9%	Forearm / wrist
14%	Back
33%	Hand and fingers

Clues



Approximately 1/3 of injuries are to hands and fingers.
There are more back injuries than injuries to forearms and wrists.
Injuries to knees and arms are the same.
Powered and unpowered hand tools (eg. nail guns, saws, drills) are the most common causes of hand and finger injuries.
Young workers have more injuries to their backs than to faces, ears and eyes.
Among young workers there are less injuries to face, ears and eyes than to forearms and wrists.
Injuries to ankles and face, ears and eyes are the same.
There are fewer injuries to ankles than to knees.

Extension activity

Now match the causes of the injuries to the list.



<p>Using tools (e.g. electric drills, crowbars, pinch bars, jemmies) and from handling building materials (e.g. metal sheets, sawn and dressed timber).</p> <p>Contact with hot objects.</p>
<p>Lifting materials and equipment (e.g. ladders, pipes and other building material).</p> <p>Slips, trips and falls off ladders or while working in congested or wet areas</p>
<p>Slips, trips and falls off ladders or while working in congested or wet areas.</p> <p>Using tools & equipment.</p>
<p>Slips, trips and falls off ladders or while working in congested or wet areas.</p> <p>Knives and screwdrivers.</p> <p>Powered tools (e.g. electric drills).</p>
<p>Moving heavy wooden pallets.</p> <p>Bending cable.</p> <p>Putting tools down.</p> <p>Lifting ladders and heavy equipment.</p> <p>Bending down for long periods.</p>
<p>Using powered and unpowered hand tools (e.g. nail guns, hammers, hand drills, circular saws, chain saws).</p>

Problem



Young workers in hospitality

Match the percentage against the common injuries that young workers in the hospitality industry receive.

Information to solve problem



5%	Leg
5%	Psychological
6%	Arm
7%	Knees
11%	Forearm / wrist
16%	Back
35%	Hand and fingers

Clues



Just over 1/3 of injuries are to hands and fingers.
There are more back injuries than injuries to forearms and wrists.
Psychological injuries and injuries to legs are the same.
Cutting and preparing food or working with glassware (eg. cleaning or stacking glasses, clearing broken glass) are some of the most common causes of hand and finger injuries such as wounds, cuts and amputations.
Young workers have more injuries to their backs than to their arms.
Among young workers there are less injuries to arms than to knees.
There is 4% more injuries to forearms and wrists than there are to knees.

Extension activity

Now match the cause of the injury to the list.



<p>Burns from hot water, hot oil and hot grills. Wounds, lacerations and amputations from broken glasses, knives and cutlery. Fractures and muscle strain from falls, trips and slips.</p>
<p>Work related stress or anxiety from physical and mental harassment, sexual harassment, bullying and work pressure.</p>
<p>Traumatic strains and muscle tears from falls, trips and slips while working in wet & oily areas. Muscle strains from heavy lifting (e.g. food preparation appliances, glassware, trolleys).</p>
<p>Traumatic strains and muscle injury from heavy lifting or slips, trips and falls in oily or wet areas.</p>
<p>Fractures from falls, trips and slips. Muscle strain from lifting heavy objects (e.g. glassware, crockery, cooking utensils) and repetitive work. Wounds, amputations from using knives and cutlery. Burns from hot oil and ovens.</p>
<p>Muscle strain from lifting heavy objects (e.g. buckets, rubbish bags, heavy trays and moving tables), or from falls in wet and oily areas, congested areas, or in stair ways.</p>
<p>Wounds, lacerations and amputations while cutting and preparing food, or working with glassware (e.g. cleaning or stacking glasses, clearing broken glass). Fractures from falls in wet or oily areas and burns from hot water or chemicals.</p>

Problem



Young workers in manufacturing

Match the percentage against the common injuries that young workers in the manufacturing industry receive.

Information to solve problem



6%	Shoulder
6%	Knees
7%	Forearm / wrist
20%	Back
40%	Hand and fingers

Clues



1/5 of injuries are to backs.
There are more back injuries than injuries to forearms and wrists.
There are 1 percent more injuries to forearms and wrists than to knees.
Amputations from using panel saws, circular saws and other machinery are a common cause of hand and finger injuries.
Young workers have more injuries to their hands and fingers than to their shoulders.
Among young workers, injuries to shoulders and to knees are the same.

Extension activity

Now match the causes of the injuries to the list.



<p>Traumatic muscle/joint injury or muscle strain from lifting heavy objects. Muscle strain from using unpowered tools.</p>
<p>Traumatic joint/muscle injury from working kneeling, working in confined spaces or using ill-fitting safety boots. Muscle strains from falls, trips and slips. Open wounds, bruises or lacerations from using tools.</p>
<p>Muscle strain from lifting heavy materials (e.g. timber, door frames, glass sheets). Wounds and lacerations from being hit by objects (e.g. grinders, circular saws, hand drills). Falls, trips or slips from ladders and working in oily or slippery areas.</p>
<p>Muscle strain from lifting heavy materials (e.g. timber, steel sheets), bending over, or moving equipment, boxes or furniture.</p>
<p>Open wounds and amputations from using panel saws, circular saws and other machinery or from using hand tools and powered tools. Wounds from handling metal panels, using slicing machines etc.</p>

Young workers in retail cooperative logic problem**Problem****Young workers in retail**

Match the percentage against the common injuries that young workers in the retail industry receive.

Information to solve problem

5%	Ankle
6%	Psychological
7%	Shoulder
7%	Knees
8%	Forearms / wrist
12%	Hands and fingers
35%	Back

Clues



Just over 1/3 of injuries are to backs.
There are more hand and finger injuries than injuries to forearms and wrists.
Injuries to knees and shoulders are the same.
Muscle strains from lifting and moving heavy boxes are a common cause of back injury.
Young workers have less injuries to their ankles than to their forearms and wrists.
There are slightly more psychological injuries than injuries to ankles.

Extension activity

Now match the causes of the injuries to the list.



Being hit by moving/stationery objects (e.g. knives, storage equipment, trolleys). Trips, slips and falls.
Harassment, work pressure or exposure to traumatic events.
Lifting and handling materials (e.g. crates, boxes, bundles, bales).
Lifting and putting down stored objects (e.g. crates, boxes, bags) or from falls, slips and trips. Falls, slips and trips on slippery or uneven surfaces or falls from ladders.
Lifting and handling materials (e.g. crates, boxes, bags and bundles). Falls, slips and trips in oily and wet areas, from ladders or on steps/stair ways.
Tools and machinery used in food preparation (e.g. knives, slicers, mincers, cooking appliances). Falls, trips and slips, or repetitive work.
Lifting and moving heavy boxes. Slips, trips and falls on slippery or uneven surfaces, or falls from ladders.