

Understanding Hazardous Product Labels

Understanding Hazardous Product Symbols

This unit will introduce students to labels found on cleaning products. It will help them to identify the WHMIS symbols on the label and will help them to determine the safety equipment needed and the precautions that should be taken to be safe when using the products.

The instructor should become familiar with WHMIS: the symbols, the label, the law about where a label is required, and the employer/employee responsibilities. The WHMIS website and the Canadian Centre for Occupational Health and Safety (CCOHS) website are excellent.

PREREQUISITE OR ADDITIONAL SKILLS NOT TAUGHT IN THIS UNIT

- Identifies letters by sound and name
- Some recognition of warning signs around them (See *Understanding Signs* unit in this manual.)
- Some sight vocabulary of signs around them (See *Understanding Signs* unit in this manual.)
- Understanding of cause and effect relationships

OBJECTIVES

Students will

- Identify warning signs in the workplace
- Read labels on products
- Identify WHMIS symbols on labels
- Know the different types of protective equipment
- Know when to use the appropriate protective equipment
- Know when and how to ask for help when not feeling safe

MATERIALS

- Blank cards to use for vocabulary, etc.
- Laminating facilities for vocabulary cards, posters, etc.
- Cleaning product bottles (empty and washed) with labels intact.
- Samples of protective equipment: especially gloves (rubber & work), boots (steel-toed and rubber), dust mask, goggles, face shield, apron, work overalls. (may be available at your location, or get from building supply or hardware store)
- WHMIS symbol cards
- Samples of signs in your workplace
- Camera
- Computer with Internet access
- Chart paper and markers

VOCABULARY

- Apron
- Body
- Breathing
- Caution
- Caution
- Corrosive
- Danger
- Equipment
- Explosive
- Eye/ eyes
- Face
- Feet
- Flammable
- Foot
- Glasses
- Goggles
- Hands
- Hazard / hazardous
- Head
- Keep Closed
- Keep Out
- Labels
- Mask
- No Eating
- No Smoking
- Personal
- Poison
- Protective
- Safety
- Signs
- Skin
- Toxic
- Ventilate
- Warning
- Wash
- WHMIS

(Review all vocabulary taught in the *Safety* unit of this manual.)

RESOURCES

- www.labour.gov.on.ca/english/hs/whmis - search the table of contents for appropriate topics – many good visuals
- www.whmis.net on-line training – you ask for a password
- www.DuraLabel.com free WHMIS guide available
- www.ccohs.ca search WHMIS, then OSH answers: excellent site.
- Use a search engine for WHMIS sites, then look at sponsored links for on-line trainings: some free items, others must be purchased: These could be valuable training in how to take on-line trainings, which are common in the workplace, especially for delivering WHMIS training
- <http://www.nald.ca/library/learning/wkplace/cover.htm> : Unit IV: WHMIS Made Easy – pdf format.

#	Activity Description	ESSENTIAL SKILLS																
		RT	DU	W	N					OC	TS					WWO	CU	CL
					MM	SBA	MC	DA	NE		PS	DM	JTPO	SUM	FI			
1.	Hazards									1	1	1		*				*
2.	Hazards in the workplace	1	1							1	1	1		*			2	*
3.	Labels		1							1	1	1		*	1			*
4.	Hazard symbols	1	1	1						1	2	2		*	1			*
5.	Examining WHMIS labels		1							1				*				*
6.	Why do we need protection?		1							1	2	2		*				*
7.	Poison (poisonous)		1							1	1	2		*	1			*
8.	Poison (poisonous): prevention	1	1							1	1	2		*	1			*
9.	Poison (poisonous): be safe	1	1							1	1	2		*	1			*
10.	Corrosive	1	1							1	1	1		*	1			*
11.	Spilling corrosive materials		1							1	1	1		*				*
12.	Corrosive: be safe	1	1	1						1	1	1		*	1			*
13.	Flammable	1	1							1	1	1		*	1			*
14.	Flammable risks: be safe	1	1	1						1	1	1		*	1			*
15.	Explosive / compressed gas	1	1							1	1	1		*	1			*
16.	Other WHMIS symbols	1	1							1	1	1		*				*
17.	No mixing	1	1							1	1	1		*				*

#	Activity Description	ESSENTIAL SKILLS																
		RT	DU	W	N					OC	TS					WWO	CU	CL
					MM	SBA	MC	DA	NE		PS	DM	JTPO	SUM	FI			
18.	Unknown symbol		1							1	1	1		*		*		*
D	Hazard symbols		1							2	1	1		*				

LEARNING ACTIVITIES

<p>1. HAZARDS</p> <ul style="list-style-type: none"> • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 1 ◦ Significant Use of Memory • Continuous Learning 	<p>Materials: None</p>
<p>Ask students if they know the meaning of a hazard (a danger), and if they understand the word “hazardous” (dangerous).</p> <p>Teach vocabulary: danger/dangerous; hazard/hazardous; warning; caution. Post these words in plain view for frequent reference.</p> <p>Explain that each day we all experience situations which could be dangerous if we did not know the correct way to deal with them. (crossing the road, riding a bike, using the stove, working a machine, etc.).</p> <p>Ask students if taking a bath or shower is dangerous. If they say No, ask if it could be dangerous. Point out that people could slip and fall in the bathtub or shower; they could burn themselves if the water is too hot; they could even kill themselves if they took something electric into the tub with them. Assure students that taking baths or showers is safe as long as they take some safety precautions. Ask what are some of the things they could do to keep themselves safe in this situation.</p> <ul style="list-style-type: none"> • Use rubber mats • Use handrails • Keep bathroom door unlocked (or locked in rooming house) • Get help when needed • Test water temperature before stepping in • Keep electrical appliances away <p>Discuss other situations that could be dangerous if not handled correctly; for example:</p> <ul style="list-style-type: none"> • Medication • Knives • Fireplaces • Sun • Etc. 	

<p>2. HAZARDS IN THE WORKPLACE</p> <ul style="list-style-type: none"> • Reading Text 1 • Document Use 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 1 ◦ Significant Use of Memory • Computer Use 2 • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Teaching Aid: <i>WHMIS Label & Symbols</i> • Computer with Internet access • Websites – see <i>Resources</i> at the beginning of this unit: check that it works for your students
<p>Explain that workplaces can also have hazards. Janitors are often asked to handle cleaning materials that could cause harm if not used properly with the proper protective equipment. Some chemicals can burn the skin; some might cause difficulty breathing; some could harm the eyes. That is why workplaces have rules to follow to keep the worker safe when using chemicals.</p> <p>Labels on dangerous products should tell you what the danger could be and tell how to protect your body from harm. Sometimes words are used and sometimes symbols. Explain the meaning of “symbol”: a picture or sketch that stands for something. Give examples. (thumbs up, picture of man on washroom door, etc.)</p> <p>Explain that there are some standard hazard symbols used in workplaces in Canada. Show the Teaching Aid: <i>WHMIS Label & Symbols</i>. Tell the students that WHMIS means “Workplace Hazardous Materials Information System” – they do not need to remember the full name, just WHMIS. It is not necessary to talk about each individually now (later activity), but they should learn to recognize what is and is not a WHMIS symbol. Explain that WHMIS is the law: it is there to protect workers from accidents in the workplace. They should always receive WHMIS training on the job.</p> <p>In the USA, a different labeling system is used: NFPA (National Fire Protection Agency). For more advanced students, you could examine this system as well: use a search engine to find websites.</p> <p>Use one or more of the websites if possible, to examine labels and safety precautions. Some of the sites have animated on-line trainings. These are commonly used in workplaces, so this is a good opportunity for guided instruction! By the end of this unit, you could use one of these sites for review or extended learning.</p> <p>***It is extremely important that you, as the instructor, have learned some of the WHMIS requirements before teaching these. They are legal requirements for the workers’ safety. Use the CCOHS website. Go to OHSANSWERS section.</p>	

<p>3. LABELS</p> <ul style="list-style-type: none"> • Document Use 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 1 ◦ Significant Use of Memory ◦ Finding Information 1 • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Selection of household cleaning products: glass cleaner, toilet cleaner, carpet cleaner, stove cleaner, dusting product, strong cleaner to remove rust or stains, bleach, mildew remover, etc. Make sure bottles are either empty and washed, or securely fastened with no drips on bottle. • <i>Mopping – Following a Pattern</i> in this manual for more reading of product labels • Teaching Aid: <i>WHMIS Label & Symbols</i>
<p>Mention that sometimes janitors use regular household cleaning products, bought at the supermarket. Ask students what cleaning materials they use at home. Make a list and photocopy a label for each product mentioned if possible. There are some labels and label reading activities in the <i>Mopping</i> unit of this manual.</p> <p>Show students a variety of household products used for different cleaning tasks: You might give each student a different product. Use the photocopied labels as well.</p> <p>Ask what the purpose of a label is. (It identifies the product and gives other important information.) Ask what they would expect to find on the label. (name of product, what it is used for, hazard symbol, precautions to take, first aid.)</p> <p>Tell students to examine each label to see if it tells whether or not the product is hazardous.</p> <ul style="list-style-type: none"> • Look for the words “DANGER” or “WARNING” or “HAZARD” and needs to be “handled with care”. • Tell them to look for hazard symbols like those they saw on the WHMIS website. (Refer to Teaching Aid: <i>WHMIS Label & Symbols</i>). • Look for other symbols that they think may indicate a danger. (Bony hand, explosion, etc.) <p>Explain that household products do not all have WHMIS labels, BUT that large industrial size containers used in workplaces MUST have a WHMIS label with a symbol. If they are asked to use a product without a WHMIS label in the workplace, they should always make sure to get full safety instruction first. (Ask for training; someone to read the full instructions and warnings; demonstration of use, etc.) If the product has been poured into smaller containers at work, then each small container MUST be labeled with the WHMIS label.</p> <p>Ask if they would use a cleaning product that had no label. (Perhaps it had been torn off.) Why not? (Wouldn’t know how to use it safely.)</p>	

<p>4. HAZARD SYMBOLS</p> <ul style="list-style-type: none"> • Reading Text 1 • Document Use 1 • Writing 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 2 ◦ Decision Making 2 ◦ Significant Use of Memory ◦ Finding information 1 • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Selection of products with hazard symbols (danger, warning, caution, like on Student Activity Sheet) • Student Activity Sheet: <i>Shapes of Symbols</i>
<p>Point out that the most important part of the label is the hazard symbol. Many household products that do not have WHMIS labels still do use some hazard symbols.</p> <p>Ask students to point to the hazard symbol on each product. What does it mean if there is no hazard symbol on a household product?</p> <ul style="list-style-type: none"> • Is it safe? (Generally, if used according to the instructions.) • Should they drink it? (No) • Could it irritate their skin or eyes? (It might) • Should they inhale any fumes? (Probably not.) • What should they do? (They must read the words, looking for warnings and first aid information.) • What if reading is hard for them or they do not understand what is written? (Ask for help!!) <p>Use the Student Activity Sheet: <i>Shapes of Symbols</i>.</p> <ul style="list-style-type: none"> • Ask students which one resembles a Stop sign. Explain that this one means “Danger”. Be very careful before using this. Which of their products has this shape symbol? Remind them that red is another indicator of danger. • Explain that the upside-down triangle means “Warning”. This one is the same shape as the “Yield” traffic sign. (Traffic that may be coming can go straight through: you would need to stop and look first before entering the road.) Which of their products has this shape symbol? • Explain that the diamond shape is like the yellow “Caution” signs on the road that tell of a curve in the road, or of something else that they have to be careful of. Which of their products has this shape symbol? • Complete the activity sheet. 	

<p>5. EXAMINING WHMIS LABELS</p> <ul style="list-style-type: none"> • Document Use 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Significant Use of Memory • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Teaching Aid: <i>WHMIS Label & Symbols</i> • WHMIS labels
<p>Use the Teaching Aid: <i>WHMIS Label & Symbols</i>.</p> <p>Begin by explaining that WHMIS labels all have the same border.</p> <ul style="list-style-type: none"> • Describe the border. Is it a solid line or broken (dashes, dotted)? • Explain that whenever they see this border, they should look inside for a hazard symbol. <p>Ask if they recognize any of the symbols. Some may be different from those on household products, but many are the same.</p> <ul style="list-style-type: none"> • Notice that the symbols are all inside circles. <p>Emphasize that whenever they see this border or these symbols, they know there is something dangerous inside. You may need some special equipment when handling the product, and it will need special care.</p> <p>Show some actual WHMIS labels to see the border and the symbols.</p> <ul style="list-style-type: none"> • Tell students that the left side has English and the right side has French. • Explain that they would need to read the entire label in the workplace, or to have someone read it to them or explain it. • Tell them that there is another sheet: Materials Safety and Data Sheet with detailed information, that must be at every workplace, to match with all the hazardous products. They would receive training about those on the job. 	

<p>6. WHY DO WE NEED PROTECTION?</p> <ul style="list-style-type: none"> • Document Use 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 2 ◦ Decision Making 2 ◦ Significant Use of Memory • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Samples of protective equipment: especially gloves (rubber & work), boots (steel-toed), dust mask, goggles, face shield, apron. • Teaching Aid: <i>Personal Protective Equipment</i> (make separate cards with labels on reverse for extra learning)) • Student Activity Sheet: <i>Wear It For Safety's Sake</i> • Student Activity Sheet: <i>Know Your Body</i>
<p>Ask the students why they think that the body needs to be protected from certain chemicals. Explain that cleaning products can hurt the outside of the body (skin or eyes), or they can get inside the body and make the person sick.</p> <p>Ask how a cleaning product might get on the skin. (You spill it, you touch the cleaning cloth or mop, some spray gets on the skin,) and how it might get in the eyes (splash, mist in the air.)</p> <p>Ask how things get inside the body:</p> <ul style="list-style-type: none"> • Through the mouth: on food, on cigarettes, on hands touching the mouth, food or cigarettes. • Through the nose: breathing in dangerous products in the air. • Through the skin pores: touching dangerous materials. • Through wounds: a cut or other broken skin. <p>Point out that sometimes these things have an effect right away (irritation or sickness); other times it takes years, the person getting a little sicker over time, or even years later (such as cancer).</p> <p>Ask students how they protect themselves from rain and snow and cold weather. (They wear special clothing.) Teach body parts vocabulary as you identify what special clothing is worn. Point out that protective clothing must often be worn in the workplace to protect the body from dangerous products.</p> <p>Use the Teaching Aid: <i>Personal Protective Equipment</i>. Show actual protective equipment that you have gathered. Discuss each piece of equipment.</p> <ul style="list-style-type: none"> • What is it called? • What part of the body does it protect? • How is it worn? • When might they need to wear this? • What could happen if it is not worn? <p>Use Student Activity Sheets: <i>Wear It For Safety's Sake</i>, and <i>Know Your Body</i> as a review.</p>	

<p>7. POISON (POISONOUS)</p> <ul style="list-style-type: none"> • Document Use 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 2 ◦ Significant Use of Memory ◦ Finding Information 1 • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Teaching Aid: <i>What the Symbols Mean</i> (make large posters of each card, or make laminated cards, ...)
<p>Use the Teaching Aid: <i>What the Symbols Mean</i>.</p> <p>Show students the symbol for Poison. (skull and crossbones) Ask if they know what it means if someone is poisoned. (the person has swallowed or absorbed in some other way something that will cause immediate and serious sickness.) Read the paragraph beside the symbol.</p> <p>Show the symbol for Toxic substances. Read the paragraph beside the symbol. Explain that both symbols are for poisons; ask which one is more dangerous. Why? (immediate and serious effects)</p> <p>Look at cleaning products gathered for previous activities.</p> <ul style="list-style-type: none"> • Do any of them have the poison symbol on them? • Do any have the Toxic symbol? • Would it be a good idea to swallow these products? Why not? • Would it be a good idea to get this on their hands or other skin? Why not? • Even if the poison label is not on the cleaning product, would it be a good idea to swallow the cleaner? Why not? • Are there other ways that the cleaner could get in their mouths? (touching mouth when cleaner is on hands, touching food or cigarette after handling the cleaner) • How can this be avoided? (wash hands, wear gloves, keep hands away from mouth when cleaning, don't eat, drink or smoke when handling cleaning products, etc.) 	

<p>8. POISON (POISONOUS): PREVENTION</p> <ul style="list-style-type: none"> • Reading Text 1 • Document Use 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 2 ◦ Significant Use of Memory ◦ Finding Information 1 • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Teaching Aid: <i>Safety Precaution Signs</i> • Teaching Aid: <i>Personal Protective Equipment</i> • Face mask for display
<p>Explain that sometimes cleaning products can produce dangerous fumes (like a mist in the air.)</p> <p>One way to prevent this is to use cold water, rather than hot water, when mixing the cleaning product with water.</p> <p>It is also important to have good ventilation. “Ventilation” means lots of fresh air.</p> <ul style="list-style-type: none"> • Ask students how they could get good ventilation. (open windows and doors, use a fan to move the air around.) • Ask students what else they could do to prevent breathing in the dangerous fumes (wear a mask covering nose and mouth.) • Show the safety sign “Use With Adequate Ventilation”. (Teaching Aids: <i>Safety Precaution Signs</i>) Identify key vocabulary and symbols. Guess at what sign says, then read together. • Use Teaching Aid: <i>Personal Protective Equipment</i>. Choose which protective equipment to use. Post sign in the room and the pictures of the appropriate protective equipment. (Display a face mask too if possible) • Discuss the differences between the various pieces of protective equipment used against fumes. A mask will be enough for some products, but a respirator with an oxygen canister may be needed if the material’s fumes are deadly (firefighters use these so they can breath in very smoky situations.) 	

<p>9. POISON (POISONOUS): BE SAFE</p> <ul style="list-style-type: none"> • Reading Text 1 • Document Use 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 2 ◦ Significant Use of Memory ◦ Finding Information 1 • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Teaching Aid: <i>Safety Precaution Signs</i> • Safety goggles, gloves, and face shield
<p>Ask students what they would do if a cleaning product was very irritating to the eyes. (wear safety glasses)</p> <p>Ask what they would do if it was very irritating to the skin. (wear gloves, long sleeve clothing, full length pants, closed shoes.)</p> <ul style="list-style-type: none"> • Show sign “Avoid Skin Contact”. (Teaching Aid: <i>Safety Precaution Signs</i>) identify known words; sound out other words and ask students to read. Post sign in room. • Use Teaching Aid: <i>Personal Protective Equipment</i>. Choose which protective equipment to use. Post sign in the room and the pictures of the appropriate protective equipment. (Display safety goggles, gloves, and face shield.) <p>What other safety signs might be used in a workplace to ensure that employees work with poisonous materials safely?</p> <ul style="list-style-type: none"> • Show, read, and display “Eating and Drinking in Lunchroom Only”, “No Eating or Drinking in this Area”, “No Smoking in this Area”, “Wash Your Hands”. (Teaching Aid: <i>Safety Precaution Signs</i>) Discuss the reason for each sign. Post all signs. <p>Look for First Aid instructions on the products selected. Make a chart, labeled “First Aid: Poisonous” and post. Note that each poison will have its own first aid instructions. (Some say to induce vomiting; others say not to induce vomiting. All will require a visit to the doctor or hospital.)</p>	

<p>10. CORROSIVE</p> <ul style="list-style-type: none"> • Reading Text 1 • Document Use 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 1 ◦ Significant Use of Memory ◦ Finding Information 1 • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Teaching Aid: <i>What the Symbols Mean</i> • Teaching Aid: <i>Safety Precaution Signs</i> • Household products that are corrosive (plus others that are not)
<p>Show the household symbol for corrosive and the WHMIS symbol for corrosive. (Teaching Aid: <i>What the Symbols Mean</i>). Using the symbols, ask students if they can figure out what “corrosive” means. (It can burn the skin or burn metal: eat it away.) Read the paragraph beside the symbols.</p> <p>Ask if anyone has ever had a burn from a chemical.</p> <p>Show the word “corrosive” and help students to read it.</p> <p>Ask students to identify which products are corrosive. Point out that there are many cleaners in this group: toilet bowl cleaners, bleach, stain removers, etc.</p> <p>Ask which are the most corrosive of the household products. (Those with the octagon -stop sign - shape.)</p> <p>Point out that some powders become corrosive when mixed with water.</p>	

<p>11. SPILLING CORROSIVE MATERIALS</p> <ul style="list-style-type: none"> • Document Use 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 1 ◦ Significant Use of Memory • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Teaching Aid: <i>Safety Precaution Signs</i> • Teaching Aid: <i>Eye Wash Station</i>
<p>Ask students why a corrosive cleaning product should never be put into a metal container. (It will eventually burn a hole in the metal and leak out.)</p> <p>Look at the containers holding the corrosive cleaning products to see what type of material they are made of. (plastic for liquids, cardboard for powders.)</p> <p>Ask students how janitors might get a corrosive cleaner on their skin. (Spilling it on their hands, touching the cloth or brush used, from a leaking container.) Point out that a very corrosive product could easily burn through their clothes.</p> <p>Ask what they should do if they got a corrosive cleaner on their skin. (Wash or shower right away.) Point out that some workplaces have emergency showers for that reason.</p> <p>Ask what they should do if they spill corrosive material on their clothes. (Change right away, or even shower with clothes on.) What could they do to make this possible? (keep extra work clothes at work)</p> <p>Ask how janitors might get a corrosive cleaner in their eyes. (Splashing it when pouring it; mist from fumes) Point out that they would need to wash their eyes right away for at least 15 minutes and then get to a doctor. Show “Eye Bath” sign (Teaching Aid: <i>Safety Precaution Signs</i>) and Teaching Aid: <i>Eye Wash Station</i>.</p>	

<p>12. CORROSIVE : BE SAFE</p> <ul style="list-style-type: none"> • Reading Text 1 • Document Use 1 • Writing 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 1 ◦ Significant Use of Memory ◦ Finding Information 1 • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Teaching Aid: <i>Safety Precaution Signs</i> • Samples of cleaning products with corrosive symbols • Chart paper and markers • Samples of protective equipment needed: gloves, apron, safety glasses/goggles, overalls
<p>Show students the safety signs “Avoid Contact With Skin”, “Wash Your Hands”, and “Eye Bath” (Teaching Aid: <i>Safety Precaution Signs</i>). Help students to read these signs and discuss each in turn, asking why the sign would be appropriate. Post in room.</p> <p>Ask students to locate corrosive symbols on cleaning products you have brought in.</p> <ul style="list-style-type: none"> • Read any safety suggestions made for how to handle the product safely. • Are there any First Aid suggestions? Read them together. If none are given, discuss what they might be. • Make a chart of First Aid for Corrosive Products, and display in the room. • Make sure they know where the First Aid box is in the room, and tell them they would need to know this at work too. <ul style="list-style-type: none"> ◦ They should be sure that the right materials are in the First Aid box. ◦ What if they are not? ◦ Whom should they tell? <p>Ask what protective clothing might be needed for handling corrosive materials? (gloves, apron, safety glasses/goggles if pouring, face shield, protective clothing and even boots if material is very corrosive.) Explain that many workplaces have one-piece heavy-duty overalls that the worker puts on over top of his regular clothes to protect the clothing and person from dangers such as this. Display examples of the protective clothing.</p>	

<p>13. FLAMMABLE</p> <ul style="list-style-type: none"> • Reading Text 1 • Document Use 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 1 ◦ Significant Use of Memory ◦ Finding Information 1 • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Teaching Aid: <i>What the Symbols Mean</i> • Samples of cleaning products, some of which are labeled as flammable
<p>Show the symbol for “Flammable” (Teaching Aid: <i>What the Symbols Mean</i>) and ask students what it is a picture of. (a flame or fire.) Ask what “flammable” means. Teach as a vocabulary word. Write the word “flame” on the board. Ask the students how the words are alike. Tell them that “flame” is the root word (where it comes from) for “flammable”. A flammable product catches fire or burns easily.</p> <p>Read the paragraph beside the “flammable” symbol.</p> <p>** Explain that “inflammable” means the same thing. The opposite is “non-flammable”.</p> <p>From the selection of cleaning products, ask students to identify which cleaning products are flammable.</p>	

<p>14. FLAMMABLE RISKS: BE SAFE</p> <ul style="list-style-type: none"> • Reading Text 1 • Document Use 1 • Writing 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 1 ◦ Significant Use of Memory ◦ Finding Information 1 • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Teaching Aid: <i>Safety Precaution Signs</i> • Teaching Aid: <i>Personal Protective Equipment</i> • Chart paper and markers
<p>Discuss the risks associated with flammable products:</p> <ul style="list-style-type: none"> • Ask students what starts a fire: a match, a spark, lightning, high heat (rubbing two sticks together until a flame starts), etc. • Ask why they would not want to get flammable liquid on their clothing. (It might catch fire if they got near a flame like a cigarette, and they would be burned.) • Explain that flammable products often give off a gas that we cannot see. This gas can catch fire. <p>Discuss precautions:</p> <ul style="list-style-type: none"> • Ask what they should do if they spilled some flammable cleaning product on their clothes. (Change the clothes). • Ask what they should keep flammable products away from. (Lit cigarettes, flames of any kind, heaters, things that can spark.) • Ask how they might prevent getting flammable cleaning products on their clothes at work. (Wear an apron or special clothes at work, and change to go home.) • Ask what they should do if they spilled some flammable cleaning product on their hands. (Wash them.) • Ask what they should do to keep any flammable gas inside the container. (Keep it tightly closed.) <p>Safety</p> <ul style="list-style-type: none"> • Show students the safety signs associated with flammable products: “No Smoking”, “Keep Away From Heat”, “Wash Your Hands”, “Keep Closed”, “No Matches or Open Flame”, “Store in a Cool Place”. (Teaching Aid: <i>Safety Precaution Signs</i>). Discuss why each sign is a good safety rule when working with flammable products. Post the signs. • Using the Teaching Aid: <i>Personal Protective Equipment</i>, have students select which items they should use when handling flammable products. Display the items with the warning signs. • Look for First Aid suggestions on products labeled as flammable. If none are give, discuss what they might be. Make a chart, similar to that for “Corrosive” and “Poisonous” and post. 	

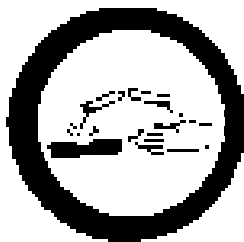
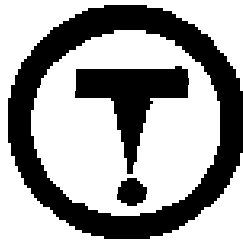
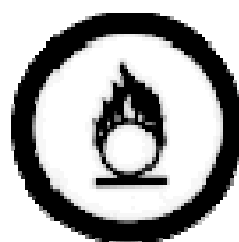
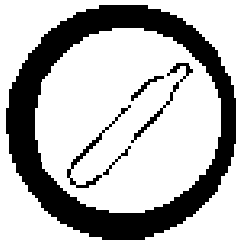
<p>15. EXPLOSIVE / COMPRESSED GAS</p> <ul style="list-style-type: none"> • Reading Text 1 • Document Use 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 1 ◦ Significant Use of Memory ◦ Finding Information 1 • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Teaching Aid: <i>What the Symbols Mean</i> • Teaching Aid: <i>Safety Precaution Signs</i>
<p>Show the household symbol for "explosive" and ask students what is happening in this picture (something is blowing up or exploding). (Teaching Aid: <i>What the Symbols Mean</i>)</p> <p>Show the word card "explosive" and read it.</p> <p>Ask students to identify which of the cleaning products are explosive. Point out that most of these products are in spray cans. The cleaner is compressed (or pressed down) into the can until it can't hold any more. Compare it to blowing up a balloon. If you keep putting more and more air into it, eventually the balloon will burst.</p> <p>Show the workplace symbol for "compressed gas". Explain that they might see this symbol on a fire extinguisher. Like the spray cans, the gas is pressed into the fire extinguisher until it just can't hold any more. But compressed gas is much more explosive and dangerous than spray cans.</p> <p>Ask the students what makes a balloon explode? (more air pressure than it can hold, pricking or puncturing it, pressing it hard from the outside, heat) Explain that the same things are dangerous for spray cans and fire extinguishers: puncturing them or opening them, heat of any kind (hot water, heater, fire or flame) or external pressure caused by dropping them.</p> <p>Explain that fire extinguishers should be stored upright and fastened securely to the wall to avoid falling and puncturing.</p> <p>Look at the signs which might be posted near explosive materials: "No Smoking", "Keep Away From Heat", etc. (Teaching Aid: <i>Safety Precaution Signs</i>). Discuss each sign as before, and then post.</p>	

<p>16. OTHER WHMIS SYMBOLS</p> <ul style="list-style-type: none"> • Reading Text 1 • Document Use 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 1 ◦ Significant Use of Memory • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Teaching Aid: <i>What the Symbols Mean</i>
<p>Explain that the final 3 symbols are ones they will be unlikely to see. They are not found on cleaning products. However, they may be cleaning in an area where these are hazards, and they need to recognize the symbols as representing a special danger. They should always receive special training on any job where these symbols would be seen.</p> <p>Show students the symbols for Oxidizing Material, Biohazardous Infectious Materials, and Dangerously Reactive Material. Read the paragraphs for each and discuss where they might see the symbols. (cupboards, storerooms, doors, waste containers, etc.)</p> <p>What signs might you see here? “Keep Out”, etc.</p>	

<p>17. NO MIXING</p> <ul style="list-style-type: none"> • Reading Text 1 • Document Use 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 1 ◦ Significant Use of Memory • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Teaching Aid: <i>No Mixing</i>
<p>Emphasize that cleaning chemicals should never be mixed.</p> <p>Sometimes a reaction between the two products will result in a highly dangerous new chemical. It could make them very sick, burn them, explode, ...</p>	

<p>18. UNKNOWN SYMBOL</p> <ul style="list-style-type: none"> • Document Use 1 • Oral Communication 1 • Thinking Skills <ul style="list-style-type: none"> ◦ Problem Solving 1 ◦ Decision Making 1 ◦ Significant Use of Memory • Working With Others • Continuous Learning 	<p>Materials:</p> <ul style="list-style-type: none"> • Student Activity Sheet: <i>This Is Dangerous and It Could Hurt Me</i> • Student Activity Sheet: <i>It Could Hurt Me</i> • Cards with symbols • Cards with hazard words • Cards with hazard effects
<p>Point out that we have not covered all of the hazard symbols that may exist.</p> <p>Ask what they would do if they came across a cleaning product that had a warning on it, but they didn't recognize it. Emphasize the importance of asking questions of a supervisor when they don't know something – especially when dealing with dangerous products.</p> <p>Ask what they would do if they came across a spill in the workplace from a large container with a hazardous product label (get a supervisor).</p> <p>Explain that there is a book in every workplace that gives a lot more information about every dangerous product in that workplace-including how to handle spills, cleanup, etc. They are not expected to know everything about every product they use.</p> <p>For review of the common symbols they will encounter as janitors, use Student Activity Sheets: <i>This Is Dangerous and It Could Hurt Me</i>. (You might have to read <i>It Could Hurt Me</i> to the student, and then have him/her copy the appropriate risk word.)</p> <p>You might want to play a game with the students to help them remember hazardous product symbols.</p> <ul style="list-style-type: none"> • Place one of the symbols on each student's back. The student must guess what the symbol is by asking Yes/No questions of other students. The student may have only two guesses at the symbol, so needs to ask other questions before asking, "Am I explosive?" etc. (Vary this by using either the symbol or the name of the hazard or the effect of the hazard. • Have one student show a symbol and the other say what it is. • Play a matching game of symbols, words and effects. • Make a Hazard Bingo game. As a symbol is called out, the student must put a counter on the square with the symbol. 	

WHMIS Label & Symbols



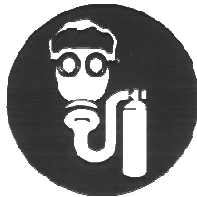
Personal Protective Equipment



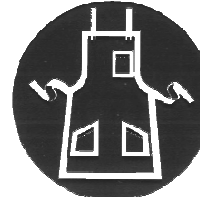
Dust Mask



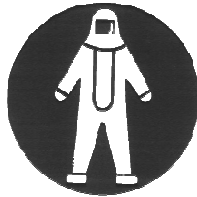
Air Purifying Respirator



Supplied Air Respirator



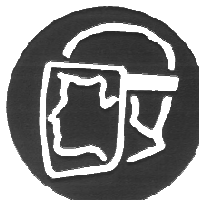
Apron



**Chemical Protective
Clothing**



Safety Goggles



Face Shield




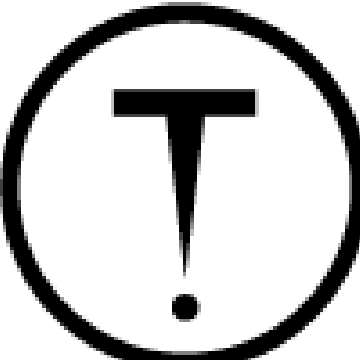
Boots



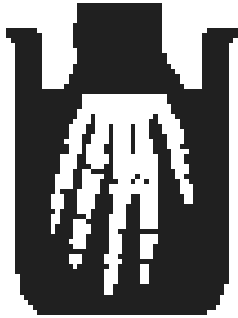
Gloves

What the Symbols Mean

 A black and white icon of a skull and crossbones, representing a highly toxic hazard. The skull is in the center with two crossed bones behind it, all enclosed within a thick black circular border.	<p>Poisonous and Infectious Material: Immediate and serious toxic effects (WHMIS)</p> <p>Just a little can make you very sick or kill you right away.</p>
---	--

 A black and white icon of a large letter 'T' with a dot below it, representing a toxic hazard. The symbol is enclosed within a thick black circular border.	<p>Poisonous and Infectious Material: Other toxic effects (WHMIS)</p> <p>May cause irritation. Many exposures may cause cancer, birth defects, or other permanent damage.</p>
---	--

What the Symbols Mean, cont.



Corrosive Material

This is not a WHMIS symbol. It is a common symbol found on household products.

This product can cause burns to eyes, skin or respiratory system.



Corrosive Material (WHMIS)

This product can cause burns to eyes, skin or respiratory system.

What the Symbols Mean, cont.



Flammable and Combustible Material (WHMIS)

May catch fire when exposed to heat, spark or flame. May burst into flames.



Explosive

This is **not** a WHMIS symbol. It is a common symbol found on household products. The container or the products could explode if heated, compressed, or punctured.

What the Symbols Mean, cont.



Compressed Gas (WHMIS)

The gas inside is under high pressure. The cylinder may explode or burst when heated, dropped or damaged.



Oxidizing Material (WHMIS)

The contents may cause fire or explosion when in contact with wood, fuels or other combustible material.

Care must be taken when cleaning in areas that these products are stored or used.

What the Symbols Mean, cont.



Poisonous and Infectious Material: Biohazardous infectious materials (WHMIS)

May cause disease or serious illness.
Drastic exposures may result in death.

You might see this symbol in a hospital. A discarded syringe (needle) is an example. These should be handled with great care.



Dangerously Reactive Material (WHMIS)

These products may react violently causing explosion, fire or release of toxic gases, when exposed to light, heat, vibration or extreme temperatures.

These may be used in industrial and manufacturing processes. Cleaning in these areas requires special care.

Safety Precaution Signs

**AVOID
CONTACT
WITH SKIN**

**EATING OR
DRINKING IN
LUNCHROOM
ONLY**

Safety Precaution Signs, cont.



**NO
SMOKING**



**NO EATING
OR DRINKING
IN THIS AREA**

Safety Precaution Signs, cont



**WASH YOUR
HANDS**



EYE BATH

Safety Precaution Signs, cont.



KEEP CLOSED

A rectangular safety sign with a thick black border. The text "KEEP CLOSED" is centered in a large, bold, black, sans-serif font.

**KEEP AWAY
FROM HEAT**

A rectangular safety sign with a thick black border. The text "KEEP AWAY FROM HEAT" is centered in a large, bold, black, sans-serif font, arranged in two lines.

Safety Precaution Signs, cont.

**USE WITH
ADEQUATE
VENTILATION**

**NO MATCHES
OR OPEN
FLAME**

Safety Precaution Signs, cont.



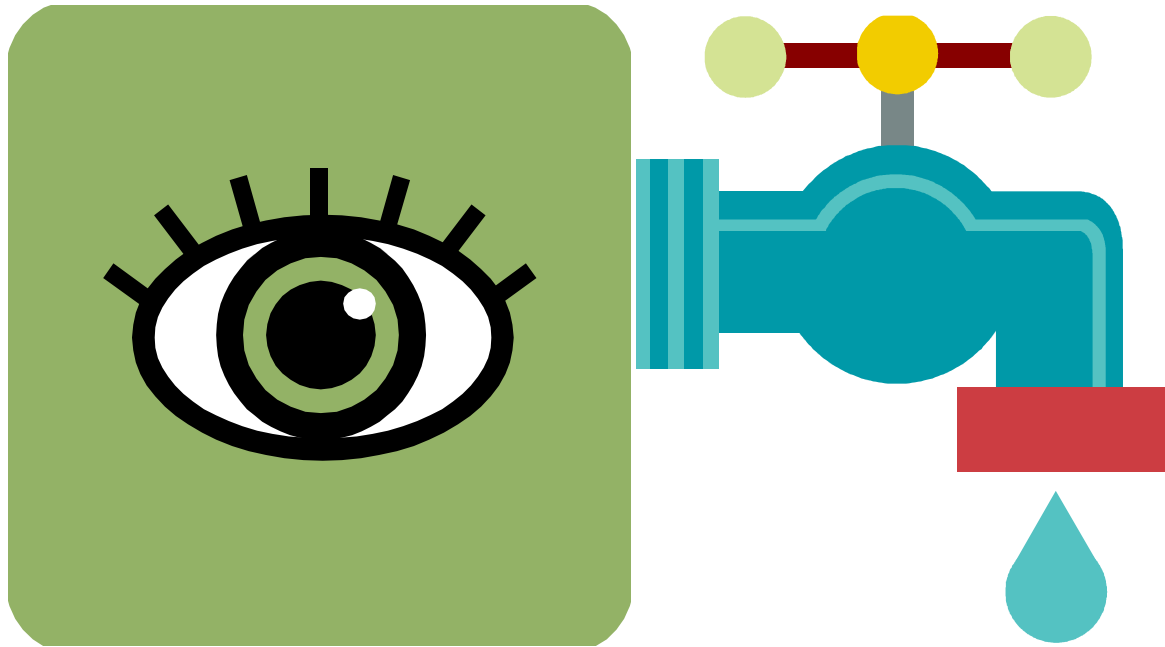
**STORE IN A
COOL PLACE**

A rectangular safety sign with a thick black border. The text is centered and written in a large, bold, black, sans-serif font.

KEEP OUT

A rectangular safety sign with a thick black border. The text is centered and written in a large, bold, black, sans-serif font.

Eye Wash Station



No Mixing

Make sure you know what chemicals you are working with and how to work with them safely.



DO NOT MIX CLEANERS.

Shapes of Symbols



Danger



Warning



Caution

What do the shapes and words mean?

• Which is most dangerous? _____

• Which is least dangerous? _____

Wear It For Safety's Sake

Protective equipment is sometimes necessary when working with hazardous materials. The WHMIS label on the container will say what protective equipment should be worn.

Sometimes there is a workplace label or sign that uses pictures of the special equipment.

Match the picture with the words that mean the same thing.



Safety glasses



Gloves



Dust mask



Apron



Boots



Face Shield

Know Your Body

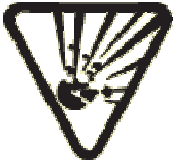
Label the diagram with the following words:

Hands Eyes Mouth Nose Body Feet



This Is Dangerous

Match the symbol with the meaning:



Flammable

Explosive

Corrosive (WHMIS)

Toxic

Corrosive (Household)

Compressed Air

Poisonous

It Could Hurt Me

Copy the name of the risk beside the danger it has.

Compressed Gas, Corrosive, Explosive, Flammable, Poisonous, Toxic.

Just a little can make you very sick or kill you right away.

The gas inside is under high pressure. The cylinder may explode or burst when heated, dropped or damaged.

The container or the products could explode if heated, compressed, or punctured.

This product can cause burns to eyes, skin or respiratory system.

May cause irritation. Many exposures may cause cancer, birth defects, or other permanent damage.

May catch fire when exposed to heat, spark or flame. May burst into flames.

DEMONSTRATION INSTRUCTOR PAGE

Hazard Symbols

ESSENTIAL SKILLS

- Document Use 1
- Oral Communication 2
- Thinking Skills
 - Problem Solving 1
 - Decision Making 1
 - Significant Use of Memory

DEMO DESCRIPTION

The student will be shown the WHMIS and household hazardous product symbols shown on cleaning products and will have to identify the symbol and tell what it means. The student will tell what protective equipment might be needed if working with a product displaying each symbol. Scenarios will be given and the student must decide on a course of action for each. The student will assess his/her own performance and understanding.

INSTRUCTOR NOTES

- Make flash cards with symbols: poison, corrosive (2), flammable, explosive. (included in TASK 1)

With student

- Show each flash card to the student. Ask what it means. Ask what protective equipment might be needed if they were asked to use this product when cleaning.
- Read each scenario aloud to the student. Ask him / her to tell you what would be a good thing to do.
- Provide *what I Have Learned and Skills Practised* to help student link the demonstration tasks to the Essential Skills

ACHIEVEMENT INDICATORS

- Identified each symbol correctly
 - Explained the meaning of the symbol (eg: What does corrosive mean; what could this product do to harm the worker)
 - Knew the protective equipment needed for handling products displaying the given symbols
 - Knew what to do in various scenarios.
 - Assessed own performance
-

Hazard Symbols

TASK 1

Read aloud to the student:

You have been hired by a company as a janitor. You have been trained to recognize hazard symbols on product labels. Before you begin your job, your supervisor needs to know that you can recognize the symbols and that you understand what they mean.

Look at each symbol given to you by your instructor.

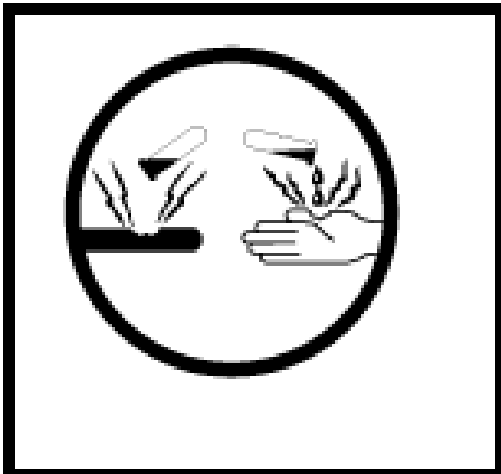
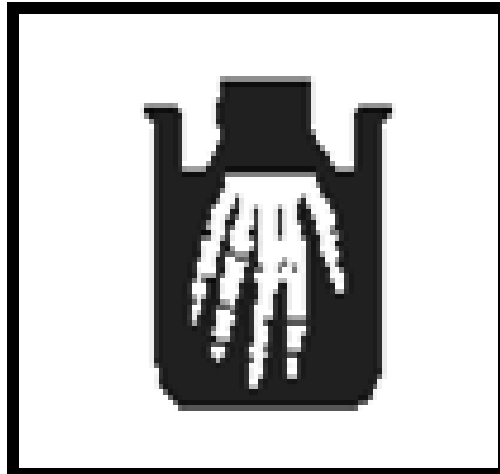
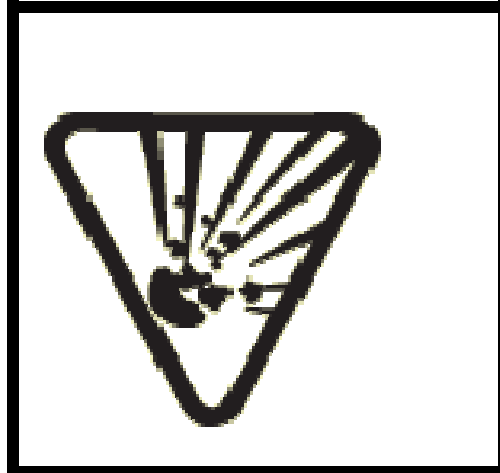
Tell your instructor what it means.

Tell your instructor how this product could hurt you.

Tell your instructor what you must do to keep yourself safe if you are using a product with this symbol on the label. (What equipment should you wear?)

Hazard Symbols

TASK 1 cont.



Hazard Symbols

TASK 2

Read each scenario aloud to the student.

1. You have been asked to mop a floor using a cleaner you have not used before. There is no label on the cleaner. What should you do?
2. The label on the cleaner shows the corrosive symbol. You do not have a pair of gloves to use while you are cleaning with it. What should you do?
3. There has been a spill of some cleaner on the floor. You do not know what the cleaner is, but it is making you sneeze and your eyes are watering. You don't feel safe. What should you do?
4. A co-worker is smoking beside a sign which says "Flammable". What should you do?

There is a container with the "Poison" symbol on the label. The container is sitting on the table where you eat lunch. What should you do?

Hazard Symbols

TASK 3

I Can

I CAN	DATE
I know the symbols for <ul style="list-style-type: none"> • Poisonous • Corrosive • Flammable • Explosive 	
I know the protective equipment symbols.	
I know when to use the protective equipment.	
I know how to ask for help when needed.	
I can read the safety signs in my workplace.	
I know what a WHMIS label looks like.	
I know what my employer should do to keep me safe.	

DEMONSTRATION ASSESSMENT

Hazard Symbols

Student: _____

Instructor: _____

Date: _____

Total Time for Demonstration: _____

Help Given? ____ Yes ____ No
Details: _____

Accommodations?: ____ Yes ____ No
Details: _____

ESSENTIAL SKILLS:

- **Document Use 1**
- **Oral Communication 2**
- **Thinking Skills**
 - Problem Solving 1
 - Decision Making 1
 - Significant Use of Memory

ACHIEVEMENT INDICATORS	BEGINNING	DEVELOPING	ACCOMPLISHED
• Identified each symbol correctly			
• Explained the meaning of the symbol (eg: What does corrosive mean; what could this product do to harm the worker)			
• Knew the protective equipment needed for handling products displaying the given symbols			
• Knew what to do in various scenarios.			
• Assessed own performance			

ADDITIONAL COMMENTS