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Block: _____

Unit 4: Science in the Workplace

Module A: WHMIS and Workers' Rights and Responsibilities

Introduction

The Workplace Hazardous Materials Information System (WHMIS), is Canada's national workplace hazard communication standard. The key elements of the system are:

- cautionary labelling of containers of WHMIS controlled products
- the provision of safety data sheets (SDSs)
- worker education and site-specific training programs

Watch the following four-minute video on WHMIS 2015 for Workers:

<https://youtu.be/NRKFc4DMFH0>

WHMIS - Roles and Responsibilities

According to WHMIS the roles and responsibilities of suppliers, employers, and workers are as follows:

Suppliers must:

- Classify hazardous products
- Prepare and provide labels and MSDSs or SDSs to customers
- Provide supplier labels on all containers of hazardous products they sell or produce

Employers must:

- Ensure that all hazardous products are properly labelled
- Make SDSs readily available to workers
- Prepare workplace labels and SDSs as necessary
- Provide worker education and training

Workers must:

- Participate in WHMIS training programs
 - Take necessary steps to protect themselves and their co-workers
 - Participate in identifying and controlling hazards
 - Inform employers if labels are illegible or missing resources
- information provided by the Canadian Centre for Occupational Health & Safety

Safety Data Sheets (SDS)

A Safety Data Sheet (SDS) is a document that contains information on the potential hazards (health, fire, reactivity and environmental) and how to work safely with the chemical product. It is an essential starting point for the development of a complete health and safety program. It also contains information on the use, storage, handling and emergency procedures all related to the hazards of the material.

The SDS contains much more information about the material than the label. SDSs are prepared by the supplier or manufacturer of the material. It is intended to tell what the hazards of the product are, how to use the product safely, what to expect if the recommendations are not followed, what to do if accidents occur, how to recognize symptoms of overexposure, and what to do if such incidents occur.



In Canada, every material that is controlled by WHMIS (Workplace Hazardous Materials Information System) must have an accompanying SDS that is specific to each individual product or material (both the product name and supplier on the SDS must match the material in use).

Questions:

1. WHMIS is an acronym for _____
_____.

2. List the 3 key elements of WHMIS.

a. _____

b. _____

c. _____

3. List the 4 potential hazards that an SDS document contains information on.

- a. _____
- b. _____
- c. _____
- d. _____

4. List 2 WHMIS responsibilities for the following:

a. Supplier

- 1. _____

- 2. _____

b. Employer

- 1. _____

- 2. _____

c. Worker

- 1. _____

- 2. _____

10 Things to Know about Chemicals in the Workplace

This 5-minute video highlights the ten things you should know right away before using any chemical product in the workplace, but it goes double for home safety. Even simple household products can contain potentially hazardous chemicals. Use the Safety Data Sheets (SDS) to find information necessary to protect yourself, your co-workers and your family. Always follow all label warnings, cautions and instructions.

https://youtu.be/a4_G-Pr0JQ0

Household Hazardous Products Symbols

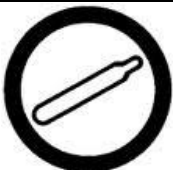







Hazardous Household Products Symbols (HHPs) are found on many household cleaners and on containers in the work place. They alert the user to the potential dangers of that particular product. In recent years the symbols have changed. There used to be three shapes but now there are only two—the triangle and the octagon.

	<p>This symbol means the container is dangerous. It can explode if heated or punctured causing flying bits of metal or plastic that can lead to serious injuries.</p>
	<p>Usually you will see the triangle with the explosive symbol inside it. Examples include aerosol cans, such as hair spray or spray paint.</p>
	<p>This symbol means the product inside the container is dangerous. The octagonal stop sign usually appears with one of three cautions.</p>
	<p>Product is corrosive and will burn skin, eyes, throat, or stomach. Examples include oven cleaner and toilet bowl cleaner.</p>
	<p>Product is flammable and will catch fire easily if it is near heat, flames, or sparks. Examples include gasoline and hair spray.</p>
	<p>Product is poisonous and will cause illness or death if ingested. Examples include furniture polish and windshield washer fluid.</p>

WHMIS Symbols

All containers in the chemical storage area in your science classroom, if you are in a school, have **Workplace Hazardous Materials Information System (WHMIS)** symbols. This system is used across Canada in every workplace that uses chemicals. Each chemical comes with a Safety Data Sheet (SDS) that gives all the known data on its toxic effects and other hazards.

Look at the following WHMIS symbols. Make sure you can recall the symbol with its meaning.

	Compressed Gas
	Flammable and Combustible Material
	Corrosive Material
	Oxidizing Material
	Dangerously Reactive Material
	Poisonous and Infectious Material Causing Other Toxic Effects
	Poisonous and Infectious Material Causing Immediate and Serious Toxic Effects
	Biohazardous Infectious Material

Questions

1. How does the SDS document differ from the product label?

2. The SDS is the _____ point for the development of a complete _____ and _____ program.

3. The SDS document has 16 different sections with relevant information about the product.

4. Watch the five-minute video, "SDS - Top 10 Things to Know" at https://www.youtube.com/watch?v=a4_G-Pr0JQ0 and list the information contained in the following sections:

a. Section 1 – _____

b. Section 2 – _____

c. Section 4 – _____

d. Section 6 – _____

e. Section 7 – _____









f. Section 8 – _____

h. Section 9 – _____

i. Section 10 – _____

j. Section 11 - _____

5. Test your WHMIS knowledge by completing the symbol matching activity below. Make sure you can achieve a score of 100% correct responses.

	<p>1 <input type="checkbox"/> Explosives Self-reactives Organic peroxides</p>	<p>5 <input type="checkbox"/> Skin corrosion/burns Eye damage Corrosive to metals</p>
	<p>2 <input type="checkbox"/> Carcinogen Mutagenicity Reproductive toxicity Respiratory sensitizer Target organ toxicity Aspiration toxicity</p>	<p>6 <input type="checkbox"/> Oxidizers</p>
	<p>3 <input type="checkbox"/> Flammables Pyrophorics Self-heating Emits flammable gas Self-reactives Organic peroxides</p>	<p>7 <input type="checkbox"/> Acute toxicity (fatal or toxic)</p>
	<p>4 <input type="checkbox"/> Gases under pressure</p>	<p>8 <input type="checkbox"/> Irritant (skin and eye) Skin sensitizer Acute toxicity (harmful) Narcotic effects Respiratory tract irritant</p>
		
		
		
		

Young Workers Rights

Across Canada there are laws in place to protect workers - including young and new workers - on the job. This legislation gives three important rights to all workers to ensure that they have the knowledge they need to be safe on the job and the freedom to participate in health and safety activities in their workplace. These rights include: the right to know; the right to participate; and the right to refuse unsafe work.

Watch this 2-minute video on young workers' rights:

<https://youtu.be/wfSxen3E7LU>

Young Workers Safety

As you begin working part-time or at summer jobs, you will encounter products - some which have obvious hazards and others where the hazard and risk is less obvious. Learn the hazards and risks before you begin!

SDSs and Labels: READ product labels and the SDS before you work with a product.

ASK about hazards in your workplace such as:

- What are the hazards or dangers of my job?
- Are there any specific rules for health and safety?
- Have there been any accidents or near-accidents in the past in my work area? Why?
- How can they be prevented?

REPORT

- missing or unreadable SDS or labels to your supervisor.
- any unsafe working conditions or faulty equipment
- any injury or accident to your supervisor immediately

EXPECT WHMIS education and training if you work with hazardous products.

UNDERSTAND why you are given Personal Protective Equipment (PPE) and how to use it.

FIND OUT who to ask if you have questions and need more detailed health and safety information.

WASH your hands well after using any chemicals.

KNOW your emergency procedures and where emergency equipment is located.

LEARN who to go to if you are injured on the job. **REPORT** any injury or accident to your supervisor immediately.

NEVER EAT or DRINK near hazardous products.



Information from http://www.ccohs.ca/teach_tools/chem_hazards/whmis_safety.html

Questions:

1. What are the 2 responsibilities of the employer to ensure employees are safe?

a. _____

b. _____

2. List the 3 options that are available to young workers to help keep the workplace healthy and safe?

a. _____

b. _____

c. _____

3. What are the steps to take if you believe your workplace is unsafe?

a. _____

b. _____

What's Wrong with this Photo?

Can you spot several unsafe work practices in this photo?

List the ones you see:

Spot the hazards! *'Click here'* at <http://spotthehazardsworksafebc.com/> to test yourself by spotting workplace hazards in landscaping, restaurants, warehouses and kitchens. Use the pictures shown in four different work environments to list hazards you find and why they pose a risk.



Answer on the tables provided on the following page:

LANDSCAPE

Unsafe condition	Why is it unsafe?

KITCHEN

Unsafe condition	Why is it unsafe?

RESTAURANT

Unsafe condition	Why is it unsafe?

WAREHOUSE

Unsafe condition	Why is it unsafe?

Scenarios:

1. Stephanie is a 16-year old and works in the kitchen of a senior’s home. To clean cooking pans, she soaks them in a powerful cleaning solution. She uses gloves to protect her hands and arms. One day as Sophie was lifting 3 large pans out of the cleaning solution at once, the pans slipped out of her hands and back into the solution, which splashed all over the side of her face and into her left eye. She was blind in one eye for 2 weeks. Stephanie was lucky as her eyesight returned.

a. What was the hazard? _____

b. How could Stephanie have prevented the accident?

2. Spencer works part-time for a friend of his fathers who runs a woodworking business. One day Spencer was applying some gasoline to clean wood cupboards. He was working alone and had done this same job many times before. Some of the gasoline had spilled on his clothes which he was aware but thought it was OK because his mom would wash them when he got home. It was getting dark so Spencer turned on a propane lantern beside him. Spencer described that, ‘everything seemed to catch fire at once.’ He wasn’t found for 2 hours, went through intensive rehabilitation, is badly scared but feels lucky to be alive.

a. What was the hazard? _____

b. How could Spencer have prevented the accident?

3. Your boss asks you to cut some lumber with a tool you have never used before. What should you do?

4. You are asked to apply solvent to remove some paint and gummy material on a wall, which is a job you are comfortable with and have been trained on. The canister says you should avoid contact with skin and eyes. What PPE do you think you should wear?

When you ask where the PPE is, your boss says "Don't worry, I never wear anything and it's fine."
What should you do?
