Science 10 Safety Assignment

Name: _____
Date: _____

Read pages xxii to xxv in the front of your textbook

1. Read all the safety rules. For ***each category***, list what you consider to be the most important rule. The first one is done for you below.

Ex.

1. ***Working with your teacher***

Know the location and proper use of the nearest fire extinguisher, fire blanket, first aid kit, and fire alarm

You finish the rest now..... (12 more!)

DATE: NAME: CLASS:

CHAPTER 1

Safety Symbols

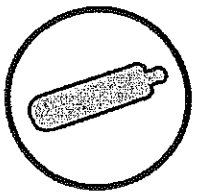
BLM 1-3

Goal • Review the meaning of warning labels in your science classroom and at home.

Think About It

Throughout Canada, standard symbols are used to identify dangerous materials. These sets of symbols provide warnings about the possible hazards of using a product, and the necessary *precautions to take when using it.*

- The Workplace Hazardous Materials Information System (WHMIS) has produced symbols for such work places as science laboratories. These are known as WHMIS symbols.



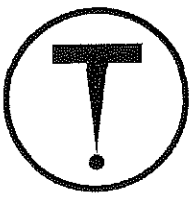
Compressed Gas

Flammable and Combustible Material

Oxidizing Material

Corrosive Material

Poisonous and Infectious Material Causing Immediate and Serious Toxic Effects



Poisonous and Infectious Material Causing Other Toxic Effects

Biohazardous Infectious Material

Dangerously Reactive Material

WHMIS Symbol	Meaning of Symbol	Precautions
(a)		
(b)		

DATE: NAME: CLASS:

BLM 1-3 continued

- Hazard Symbols (HHPS) were developed for people buying and using materials around the home.


Poisonous


Flammable


Explosive


Corrosive


Dangerous Product


Dangerous Container

2. Briefly explain what kind of hazard each of the following words describes.

poisonous _____

flammable _____

explosive _____

corrosive _____

3. Study the display your teacher has provided of products many people use in their homes.
   - Look for symbols that are HHPS.
   - Read the labels to find out how each product is used and decide why it has an HHPS.
   - Complete the chart below.

Hazard Symbol	How Product Used	Suggested Precautions
(a)		
(b)		
(c)		

DATE: NAME: CLASS:

CHAPTER 4 **Interpreting an MSDS** BLM 2-3

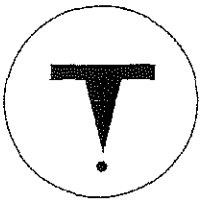
Goal • Demonstrate your understanding of the information on a chemical label and on a Material Safety Data Sheet (MSDS).

What to Do

Answer each question in the space provided. See page 552 in textbook for WHMIS symbols.

1. The label from a container of a chemical that is commonly used in high-school laboratories is shown below. Refer to this label to answer the questions that follow.

Name	cupric sulfate pentahydrate
Formula	$CuSO_4 \cdot 5H_2O$
Risks	Toxic
Lungs	Toxic dust (avoid inhalation)
Skin	Slight absorbtion
Fire	N/A
Reactivity	Reacts with powdered metals, Mg
Precautions	Goggles, gloves, aprons
First aid	Flush exposed areas with water. In case of ingestion induce vomiting immediately *as directed by medical personnel.* Get immediate medical attention.
Disposal	Use labelled waste container.



Caution

Harmful if swallowed!
Wash thoroughly after handling.

See MSDS sheet in Room 124

(a) According to the chemical label, what is the name and chemical formula of the substance?

(b) Is the substance dangerous to your health? If so, in what way is it dangerous?

(c) What safety precautions should you take when handling the substance during an investigation?

(d) How should you dispose of excess amounts of the chemical?

(e) A fellow student has accidentally swallowed some of the chemical. What should you do?

2. Your teacher has given you an MSDS for another chemical that is commonly used in high school laboratories. Refer to this MSDS to answer the following questions. (see back of this sheet)

(a) According to the MSDS, what is the name and chemical formula of the substance?

(b) Is this substance dangerous to your health? If so, in what way is it dangerous?

(c) What safety precautions should you take when handling the substance during an investigation?

(d) In the event of a fire, what safety precautions should firefighters take?

(e) A large quantity of the substance has been spilled on the floor of the laboratory. What steps should be taken to clean up the spill?

(f) Where should you store the substance when you are not using it?

DANGER! CORROSIVE LIQUID

CAUSES SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED OR INHALED. MAY CAUSE LUNG DAMAGE IF INHALED. CONTACT WITH METALS LIBERATES FLAMMABLE HYDROGEN GAS. DILUTION WITH WATER WILL GENERATE HEAT.

PRECAUTIONARY MEASURES: Do not taste, swallow, or get into eyes or on skin and clothing. Do not breathe spray or mist. Use with *adequate ventilation. Wash thoroughly after handling. Keep container* closed. Consult Material Safety Data Sheet for additional information on safe use, handling, clean up, and disposal.

FIRST-AID: Seek medical attention immediately after any overexposure. **Skin or Eye Contact** - Immediately flush skin or eyes for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. **Inhalation** - Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **Ingestion** - Do not induce vomiting. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

TARGET ORGANS: Skin, eyes, respiratory system.

FIRE: Use water fog, "alcohol" foam, CO_2, or dry chemical.

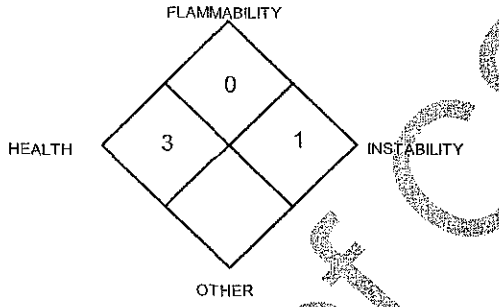
SPILL: Trained personnel in appropriate personal protective equipment should clean up releases. Clean up spills promptly. Dike area and absorb spill with neutralizer for bases (e.g., citric acid). Prevent contamination of sewer or waterway. Place residue in suitable container. Thoroughly rinse contaminated areas and equipment with water. Test area with litmus paper. CAUTION: Contaminated floors may become slippery.

POTASSIUM HYDROXIDE SOLTUION

C.A.S. No.: 1310-58-3 in Water

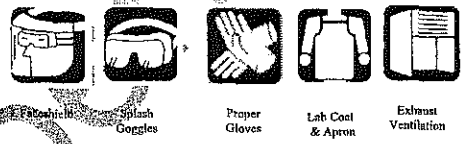
NaOH UN 1814

NFPA RATING



STORAGE INFORMATION:

KEEP OUT OF REACH OF CHILDREN!
FOR INDUSTRIAL USE ONLY!



HANDLING: Wear chemical splash goggles, face shield, gloves (neoprene or Buna-N), and protective clothing (e.g., aprons, clothing with long sleeves, boots). Provide local or general exhaust systems, where needed. Use NIOSH/MSHA-approved respiratory protection (e.g., air-purifying respirator with high-efficiency particulate filter) if exposed to mists or sprays above OSHA-recommended exposure limits (refer to Material Safety Data Sheet). Open containers slowly. Do not use with equipment made of aluminum, tin, zinc, copper, brass, *or bronze. Avoid spattering by adding this solution to water slowly. Do* not transfer to unlabeled containers.

STORAGE: Close bung tightly after use to prevent leakage. Store away from strong acids, metals, organic peroxides. Keep out of sun and away from heat. Store in area with caustic-resistant floors, with good drainage and secondary containment. Do not drop drum onto, or slide across, sharp objects. Do not use pressure to empty container. Drum must not be washed out or used for other purposes. Do not use empty container for food, feed, or drinking water.

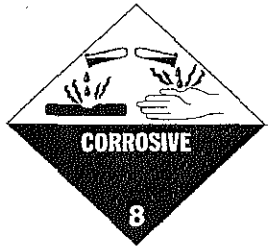
ADDITIONAL INFORMATION: Dispose of product in accordance with Federal, State and local requirements.

FOR TRANSPORTATION EMERGENCY ASSISTANCE CALL CHEMTREC: 1-800-424-9300

FOR HEALTH EMERGENCIES, CALL LOS ANGELES POISON INFORMATION CENTER: 1-800-356-3129

FOR HAZARDOUS MATERIALS EMERGENCIES, CALL: 1-800-438-8917

DOT Basic Description:
Potassium hydroxide solution, 8, UN 1814, PG II



DATE: NAME: CLASS:

CHAPTER 1 Science Equipment

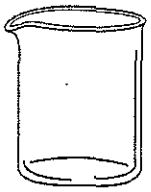
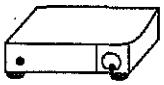
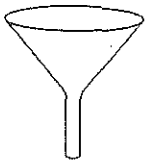
BLM 1-9

Goal • Identify equipment used in a science classroom.

What to Do

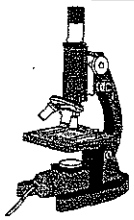
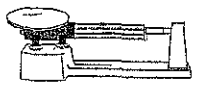
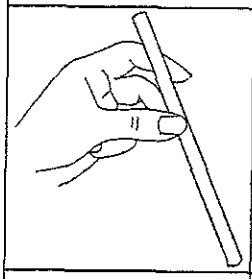
Study each picture in the chart, and find the piece of equipment in your classroom.

- In the second column, write the name of the piece of science equipment.
- In the other three columns, describe where you can find the equipment, how you use it, and what safety procedures are necessary.

Equipment	Name	Location	How It Is used	Safety Procedures
				
		back room 117A		
				
				
				

DATE: NAME: CLASS:

BLM 1-9 continued

Equipment	Name	Location	How It Is used	Safety Procedures
				
		cupboard at side of class		
		in back room 117A.		
				
	Stir rod.