BC Science Connections 10

BC Science Connections 10

Unit 2: Chemical processes require energy change as atoms are rearranged.

Topic 2.1: How are chemical processes part of our lives?

- Applications of chemistry are everywhere in the world around you.
- Knowing how to handle chemicals helps keep us and our environment safe.

Concept 1: Applications of chemistry are everywhere in the world around you.

- **Chemical reaction:** process in which atoms of one or more substances are rearranged to form different substances
- Chemical reactions break food down into nutrients that the body can use.
- Chemical compounds are in our everyday life, from the plastics we use to the synthetic fibres that we wear and the healthcare products we put on ourselves.

Discussion Questions

1. Think of what you did before coming to school today. Name three things you did or used that involved chemistry.

2. Is it possible to live a life that is free of chemicals or chemistry? Explain your thinking.

Concept 2: Knowing how to handle chemicals helps keep us and our environment safe.

- Chemicals used at school and in the workplace can be potentially harmful.
- WHMIS (Workplace Hazardous Materials Information System) labels provide information about the chemicals we use.

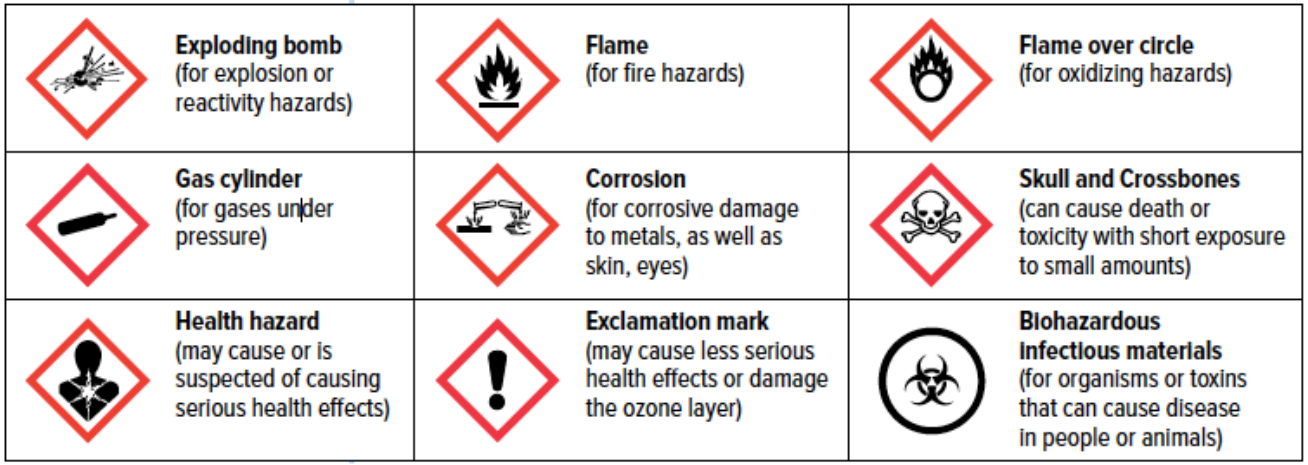

Figure 2.2: WHMIS symbols provide information about each chemical in the lab and workplace.

Chemical Safety in the Science Classroom

- Safety Data Sheets (SDS) provide important information about hazards and first aid treatments for chemicals.

Safety Rules

- It is important to know safety rules and how to handle chemicals in the lab.
- Know the locations of the eyewash station, emergency shower, fire extinguisher, and the fire blanket in the classroom.

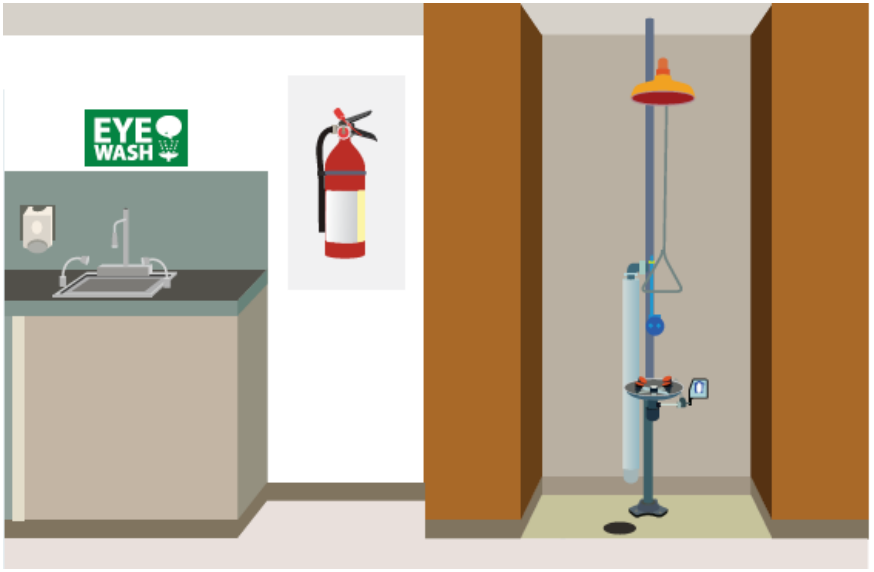

Figure 2.3: Working in science classrooms requires you to know how to perform certain tasks safely.

Safety Rules (cont'd)

- Handle hot objects with care.
- Never leave an open flame unattended.
- When heating a test tube, point it away from yourself and others.

Figure 2.3: Working in science classrooms requires you to know how to perform certain tasks safely.

Safety Rules (cont'd)

- During a lab, wear safety goggles (glasses) and a lab apron.
- Tie back long hair.
- Do not wear loose clothing like ties and scarves.
- Do not wear open-toed shoes.

Figure 2.3: Working in science classrooms requires you to know how to perform certain tasks safely.

Safety Rules (cont'd)

- Hold beakers and test tubes away from your face.
- When asked to smell some chemical, waft the fumes toward you.

Figure 2.3: Working in science classrooms requires you to know how to perform certain tasks safely.

Discussion Questions

1. Describe one action you can take to better handle a chemical so that any personal and environmental hazard can be minimized.

Topic 2.1 Summary: How are chemical processes part of our lives?

- Applications of chemistry are everywhere in the world around you.
- Knowing how to handle chemicals helps keep us and our environment safe.