

Safety in Your Science Classroom

Become familiar with the following safety rules and procedures. It is up to you to use them and your teacher's instructions to make your activities and investigations in *BC Science 10* safe and enjoyable. Your teacher will give you specific information about any other special safety rules that need to be used in your school.

1. Working with your teacher ...

- Always work under supervision and only on approved activities. Never change a procedure without your teacher's permission.
- Inform your teacher if you have any allergies, medical conditions, or other physical problems that could affect your work in the science classroom. Tell your teacher if you wear contact lenses or a hearing aid.
- Obtain your teacher's approval before beginning any activity you have designed for yourself.
- Know the location and proper use of the nearest fire extinguisher, fire blanket, first-aid kit, and fire alarm.

2. Starting an activity or investigation ...

- Before you start an experiment, make sure you have read over the procedure and understand it.
- Make sure you know how to use your lab equipment properly.
- Be sure you have checked the safety icons and have read and understood the safety precautions.
- Begin an activity or investigation only after your teacher tells you to start.

3. Wearing protective clothing ...

- When you are directed to do so, wear protective clothing, such as a lab apron and safety glasses. Always wear protective clothing when you are using materials that could pose a safety problem, such as unidentified substances, or when you are heating anything.
- Tie back long hair, and avoid wearing scarves, ties, or long necklaces.

4. Acting responsibly ...

- Never engage in horseplay.
- Work carefully with partners and make sure your work area is clear.
- Handle equipment and materials carefully.
- Make sure stools and chairs are resting securely on the floor.
- If other students are doing something that you consider dangerous, report it to your teacher.



5. Handling edible substances ...

- Do not chew gum, eat, or drink in your science classroom.
- Do not taste any substances or draw any material into a tube with your mouth.

6. Working in a science classroom ...

- Make sure you understand all safety labels on school materials or those you bring from home. Familiarize yourself, as well, with the WHMIS symbols and the special safety symbols used in this book, found on page 552.
- When carrying equipment for an activity or investigation, hold it carefully. Carry only one object or container at a time.
- Be aware of others during activities and investigations. Make room for students who may be carrying equipment to their work stations.

7. Working with sharp objects ...

- Always cut away from yourself and others when using a knife or razor blade.
- Always keep the pointed end of scissors or any pointed object facing away from yourself and others if you have to walk with such objects.
- If you notice sharp or jagged edges on any equipment, take special care with it and report it to your teacher.
- Dispose of broken glass as your teacher directs.

8. Working with electrical equipment ...

- Make sure your hands are dry when touching electrical cords, plugs, or sockets.
- Pull the plug, not the cord, when unplugging electrical equipment.
- Report damaged equipment or frayed cords to your teacher.
- Place electrical cords where people will not trip over them.

9. Working with heat ...

- When heating an item, wear safety goggles and any other safety equipment that the text or your teacher advises.
- Always use heatproof containers.
- Point the open end of a container that is being heated away from yourself and others.
- Do not allow a container to boil dry.
- Handle hot objects carefully. Be especially careful with a hot plate even if it looks as though it has cooled down.



- Know how to light and operate a Bunsen burner.
- If you do receive a burn, inform your teacher, and apply cold water to the burned area immediately.

10. Working with various chemicals ...

- If any part of your body comes in contact with a substance, wash the area immediately and thoroughly with water. If you get anything in your eyes, do not touch them. Wash them immediately and continuously for 15 min, and inform your teacher.
- If you are asked to smell a substance, never smell it directly. Hold the container at arm's length and waft the fumes toward you. Gradually bring the container closer to your nose until you can smell the fumes safely, as shown here.
- Never return a chemical to its original container. Doing this could contaminate the original stock.
- Hold containers away from your face when pouring liquids.



11. Working with living things ...

On a field trip:

- Try not to disturb the area any more than is absolutely necessary.
- If you move something, do it carefully, and always replace it carefully.
- If you are asked to remove plant material, remove it gently, and take as little as possible.

In the classroom:

- Treat living creatures with respect.
- Make sure that living creatures receive humane treatment while they are in your care.
- If possible, return living creatures to their natural environment when your work is complete.

12. Cleaning up in the science classroom ...

- Clean up any spills, according to your teacher's instructions.
- Clean equipment before you put it away.
- Wash your hands thoroughly after doing an activity or an investigation.
- Dispose of materials as directed by your teacher. Never discard materials in the sink unless your teacher requests it.

13. Designing, constructing, and experimenting with structures and mechanisms ...

- Use tools safely to cut, join, and shape objects.
- Handle modelling clay correctly. Wash your hands after using modelling clay.
- Follow proper procedures when using mechanical systems and studying their operations.
- Use special care when observing and working with objects in motion (e.g., objects that spin, swing, bounce, or vibrate; gears and pulleys; elevated objects).
- Do not use power equipment such as drills, sanders, saws, and lathes unless you have specialized training in handling such tools.

Making a Lab Safety Brochure

Think About It

Your laboratory or class workspace has features that help make it a safe place to work in. Examine your workspace, keeping in mind the safety rules listed above. For example, the safety rules refer to protective clothing and emergency equipment. Find out what safety equipment your lab has and where it is stored. In this activity, you will make a brochure that explains the safety features of your workspace.

Materials

- paper or poster paper
- crayons/markers



What to Do

1. Identify the safety features of your lab and list them for your brochure. Try to create a brochure that promotes your lab to others as a safe workspace. Think about how you want to design your brochure. How will you lay out your descriptions? Will you draw the pictures, find them, or take your own photographs? You may wish to include a simple floor plan.
2. Make a rough copy of your brochure. Revise any part of it that you think you can improve. Then, produce your final copy.
3. When you are satisfied with your brochure, present it to your teacher.

What Did You Find Out?

1. List two of the strongest safety features of your lab.
2. List three improvements to your lab's design or equipment that would help increase safety.