

# TDSB Science Laboratory Safety Rules

Both staff and students are responsible for the safety of those around them. The following rules will be strictly adhered to at all times, in the laboratory. By following these rules, we can work together in making the lab a safe, enjoyable learning experience.

## Student responsibilities

### **I Will:**

1. act responsibly & follow all oral and written instructions. Students who fail to do so will be asked not to participate in the lab.
2. prepare for my laboratory assignment by reading the laboratory procedure in advance. If I do not understand any part of the laboratory procedure, I will ask the teacher for help.
3. always inform my teacher of any food or chemical allergies that I may have that may affect my work in the laboratory.
4. learn the location of all the safety equipment in the lab (eyewash, fire blanket, first aid kit, fire extinguisher and emergency fire exit).
5. report any broken glassware immediately to my teacher, follow their instructions, handle the broken pieces with care and dispose of the pieces as directed by my teacher.
6. make sure that the containers for all chemicals to be used, both solid and liquid, are properly labeled.
7. not enter the chemical preparation and storage room unless authorized by my teacher.
8. never take any chemicals out of the laboratory.
9. when working with preserved animals, treat all specimens with respect and handle and dispose of as outlined by my teacher.
10. always notify the teacher immediately in case of any accident, injury or emergency, no matter how minor.

## Personal Safety

### **I WILL:**

11. always wear appropriate Personal Protective Equipment (PPE). (ANSI approved chemical splash safety goggles **MUST** be worn whenever working with chemicals in the lab, including dissections. Goggles must stay on until everyone has finished cleaning up.)
12. always stand up, never sit down, when working with chemicals or other potentially dangerous equipment, so that I can move out of the way more quickly in the event of an accident, such as a spill. Some simple activities may be done while seated.
13. carefully secure long hair, loose clothing, and jewelry. (Some forms of religious clothing may require a student to do alternative work.)
14. always wear a laboratory apron, coat or appropriate clothing and shoes when I work with biological or chemical substances. My shoes should cover my feet, so sandals are not allowed.
15. always carry scalpels, knives, and other sharp objects point-downward by their handles. I will never replace blades in a scalpel, the teacher will replace the blade for me.
16. use a laser only under immediate teacher supervision and only low power visible lasers (up to Class 2). Always take care that the beam does not go in anyone's eyes, either directly or by reflection.
17. never look directly at the sun, either with the naked eye or with an optical device.
18. never taste a chemical in the lab. I will keep my hands away from face, mouth, eyes, and body during experiments. Always wash my hands thoroughly after every laboratory experiment. **No** food, gum, or beverages are to be taken into or consumed in the laboratory.

## **Lab Procedures**

### **I WILL:**

19. Only teachers should insert glass tubing into rubber stoppers (following safety procedures).
20. Students should never work in the laboratory without teacher supervision.
21. While conducting your experiment, keep your work area clean, clutter free (no books or clothing) and tidy. Keep aisles and counters clear of unnecessary objects.
22. Clean up spills immediately. Follow all the necessary safety precautions. In case of a chemical spill on your skin or clothing rinse the affected area with plenty of water. If the eyes are affected, water washing must begin immediately and continue for 10 to 15 minutes or until professional assistance is obtained.
23. Treat burns immediately by putting the burned area under water for at least 15 minutes.
24. When pipetting, use the appropriate apparatus as provided by your teacher and never pipette by mouth.
25. Students should never smell chemicals unless instructed by teacher; then only the “hand-waving” method should be used.
26. Remove electrical plugs by grasping the plug, not pulling on the cord. Don’t touch electrical devices with damp or wet hands. Do not let the cords hang over the edge of the table, counter or where someone could trip.
27. Never use glassware that is cracked or broken, and never bring hot glassware into contact with cold water or cold surfaces. Place broken glassware in the container clearly marked “Broken Glass Container”
28. When using a Bunsen burner follow all proper ignition instructions and never place anything in the flame other than what is instructed. Never leave a lit burner unattended, and always turn off the gas outlet as soon as you are finished heating.
29. Ensure retort stands supporting hot liquids are firmly and rigidly assembled and are on a level surface.
30. Don’t place hot items on the lab station (counter or desk) surface. Place it on an insulating pad. Handle all hot objects with clamps or tongs.
31. Read all labels carefully, before using chemicals. Never obtain or use chemicals other than those specified by your teacher or as specified in the lab procedure.
32. Use separate scoopulas for separate chemicals.
33. Never mix chemicals other than those specified in the lab procedure.
34. Replace all container lids (finger tight) immediately after use.
35. When you heat test tubes of liquids, always point the open end away from yourself and others and never heat directly from the bottom of the test tube. Never look directly down into a test tube; view the contents from the side.
36. When you dilute acids, always pour the acid into the water.
37. Never return used or unused chemicals to their original container. Follow proper disposal procedures as outlined by your teacher.
38. Never dispose of chemicals down the drain. All waste solutions should be disposed of as instructed by the teacher.
39. Transport chemicals safely using containers of sufficient size and shape to prevent spillage.
40. Always stay with your experiment until it is finished. At the end of your experiment, make sure your work area is clean and dry, and the equipment is put away. Wash and dry your hands at the end of the experiment.

# TDSB Science Laboratory Safety Contract

School \_\_\_\_\_ Science Class/Course \_\_\_\_\_

Student's Name \_\_\_\_\_ Teacher's Name \_\_\_\_\_

Do you have any allergies to food or chemical?    NO             YES

If yes, please state your allergies: \_\_\_\_\_

Do you wear contact lenses?   NO            YES (If yes, please complete the section below.)

1. Contact lenses are not recommended to be worn in the laboratory as certain chemical fumes or small particles may become lodged under the lens. Please be aware of the slight increase in the risk of eye damage for contact lens wearers as compared to students in similar situations without contact lenses.
2. All students must wear safety goggles in certain activities, even if they wear contact lenses or prescription glasses.

I, \_\_\_\_\_ have read, understand and agree to follow the TDSB Science Lab Safety Rules. I agree to abide by any additional instructions, written and oral provided by my science teacher and failure to do so will result in me being asked to not participate in the laboratory activity.

Student's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

I, the parent or guardian of \_\_\_\_\_ have read, understand and agree with the TDSB Science Lab Safety Rules and give my permission to my son/daughter to participate in the laboratory work involved in this course. If my son/daughter wears contact lenses, I **give/do not give** (circle one) him/her permission to wear contact lenses, along with splash goggles, in science class during laboratory activities.

Parent's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(Adapted from: STAO-*Stay Safe, The Science Teacher* Sept 1999 & Sept 2005, [www.flinnsci.com](http://www.flinnsci.com), [www.freyscientific.com](http://www.freyscientific.com))