

Coquitlam Public Library Science Expo



Celebrate knowledge and discovery with us at the **Coquitlam Public Library Science Expo (CPLSE)** for elementary, middle and high school students. The competition is **open to kids and teens throughout the Tri-Cities, including Coquitlam, Port Coquitlam, Port Moody, Anmore and Belcarra.**

Scheduled for **Saturday, May 4, 2024**, the Expo invites science-loving students to exhibit their amazing experiments and innovations for parents, judges and members of the public.

At the end of the Expo, judges will select prize winners in three grade categories: Middle, Junior and Senior. Judges will provide feedback to Elementary participants about the strengths and weaknesses of their projects but will not rank or compare them. However, organizers will distribute gift cards to participants in all categories, including Elementary. That means everyone will leave the event with a prize to take home!

This document includes rules, a schedule for the **Coquitlam Public Library Science Expo (CPLSE)**, and tips about preparing your experiment or innovation.

Join us to share your scientific knowledge and to inspire others!

Eligibility:

1. **Students who live and/or go to school in the Tri-Cities are eligible to participate.**
2. Students must be in gr. 4-12.
3. Projects may be worked on by one or two students, known as exhibitors.
4. An exhibitor may be involved with one project only.
5. Exhibitors must follow the rules and **CPLSE ethics standards (see p. 3 and 4).**

Grade categories:

Each project will be assigned a category based on the grade level of its student exhibitor(s):

Elementary: 4-5
Middle: 6-8

Junior: 9-10
Senior: 11-12

Selection:

We will include as many project proposals as possible. However, we must place limits based both on the space available inside the library, and the amount of time needed for judging each category. Because of these limits, we may be forced to say "no" to some registrants.

If necessary, we may contact the teachers acting as liaisons so we can make informed choices about which projects to admit, and which to reject.

Types of Project:

All projects will fall under one of two categories:

Experiment: Involves testing a hypothesis under controlled conditions, displaying the results in an informative manner and explaining their relevancy.

Innovation: Involves creating new knowledge, solutions, ideas or technologies, and sharing information about their value.

We are unable to accept any *studies*, which are another type of science project. The **CPLSE** will include **experiments** and **innovations** only.

Registration

To participate in the **CPLSE**, exhibitors must follow the steps described below.

- Complete the online Registration form at <https://www.coqlibrary.ca/programs/teens/science-expo>
 - a. The submission deadline is Feb. 21, 2024
 - b. You reach the form by clicking on the orange button that says, "Register Now."
- Wait for a response from Science Expo organizers
 - a. It will come between Wednesday, Feb. 21 and Wednesday, March 6.
 - b. If your project is approved, we will tell you, and provide you with a copy **of the consent form**, which each exhibitor must complete.
 - c. The consent form needs signatures from a teacher and a parent / guardian.
 - d. If your project is rejected, we will tell you. Please do not take it personally! It is simply a sign that have more submissions than we can handle.
- Approved exhibitors can e-mail a scanned copy of their **consent forms** to sci-expo@coqlibrary.ca, or mail / deliver an envelope containing printed copies to:

Att'n: Chris Miller
Science Expo
Coquitlam Public Library, City Centre Branch
1169 Pinetree Way
Coquitlam, B.C. V3B 0Y1

- If you deliver the forms in-person, please leave them with staff at the CX Desk.
- Forms must be received before the Science Expo event **on Saturday, May 4, 2024.**
- There is no cost for participants. The CPLSE is free.

Please note:

- The CPLSE will include as many exhibits as it can. Due to space limitations and a desire to keep the event a manageable length, the CPLSE may not be able to include everyone who registers.
- Decisions to include or exclude exhibits will be made by Coquitlam Public Library staff, working with partner organizations.
- All decisions made by library staff are final.
- Anyone whose exhibit is not accepted will be notified by e-mail or phone no later than **Wednesday, March 6**.
- On the day of the Expo, award recipients will be chosen by a panel of judges, including some from the science faculty at Douglas College. The judges' decisions are final.
- Winning exhibitors will receive medals or trophies that will be distributed by the library on the night of the event. Most will receive merchandise prizes during the awards announcements. You can find a list of prizes on p. 6.

Your Experiment or Innovation

- **Must feature a folded, three-part backboard** explaining your project
- Must conform to the CPLSE's **ethics standards** (see below) and **safety regulations**
- May not include flames, poisonous substances, or anything that goes boom!
 - During experimentation, the use of any chemicals or acids must be approved by the teacher and the experiment must be completed under adult supervision
- May not include experimentation or data drawn from human subjects or other vertebrates
 - Anyone wanting to do work with cell tissues must get pre-approval by contacting Chris Miller at 604-554-7339, or cmiller@coqlibrary.ca
 - If approved, cell tissue work must be completed under the supervision of a teacher/mentor
- May include the use of plants
- Experimentation with fungi, bacteria, protozoa, insects, or invertebrates is permissible if approved by a teacher
- Remember, **no studies** are allowed!
- If you have questions about any of the exclusions, please contact either:
 - Chris at cmiller@coqlibrary.ca or 604-554-7339

Ethics Standards

- Your project must be original – you must have conducted the research that you present in your exhibit

- All students who worked on the project, and any teachers who helped develop it, must be acknowledged
- Any ideas borrowed from other sources must be acknowledged
- You must be honest about your results, even if they are different from what you expected

Safety Regulations for May 4 Display

Structural and Mechanical Safety

- Make sure that your backboard or display is stable
- Do not leave sharp edges of objects exposed
- Do not leave machines with moving parts exposed
- Do not use any pressurized vessels or gas-filled cylinders

Chemical Safety

- Do not use flammable, toxic or dangerous chemicals
- If your experiment uses chemicals that could be dangerous, please use innocuous substitutes such as water and salt instead – tag the substances to show what they represent

On the Day of the CPLSE ...

On Saturday, May 4, please take your project to:

Coquitlam Public Library



City Centre Branch

1169 Pinetree Way
Coquitlam, BC V3B 0Y1

Arrive between **10:30 and 11 a.m.** Go to the Science Expo Project Check-In Desk near the entrance. You will be assigned a spot to display your exhibit inside the library.

Each exhibit will be allocated one or two tables, depending on how much space is required. A folding, three-piece backboard is required, and should be placed upright on one of the tables.

The event begins at 11:30 am. Judges will begin visiting tables at that time. Between 11:30 am and 2:30 pm, all participants will be interviewed by two or more judges. We will provide more information to participants when they arrive to set up.

If you are driving, you can park in the library parkade directly above the building. To get there, you will need to go through the Henderson Place Mall parkade. Drivers should go up the ramp to the second floor of the parkade, turn right, then follow signs to library parking. Please only park in the library lot. Vehicles parked on the Henderson Place Mall side will be ticketed. **Also:** if your vehicle will remain in the lot longer than four hours, please **go to the Help Desk.** Staff will be happy to provide you with a **day parking pass.**

Judging Criteria

During the judging period in the afternoon, two or three judges will visit your table at different times. When you meet each judge, you can spend 5 to 10 minutes describing your project to him or her. If you are working with another student, try to divide the time as evenly as possible between you and your partner, so that each of you can describe a different aspect of your experiment or exhibit. After you finish, the judge may have questions for one or both of you.

The judges will evaluate your project based on the following areas:

Scientific Thought (50%): Is every aspect of your exhibit grounded in science? Did you come up with scientific solutions to the problems you faced?

Creativity (33%): How much thought and originality went into your exhibit? Did you use a canned science fair activity, tweak an idea that you read about, or come up with the entire experiment or innovation on your own?

Communication (17%): How well do you describe what you have done, and why it is important? This area will evaluate written and illustrated materials (such as your backboard), as well as your ability to talk and answer questions about your exhibit.

Speaking with Judges

When a judge visits your table, be prepared to discuss why you chose your project and what you hoped to discover or achieve with it. Explain your hypothesis, and what you thought would happen when you tested it. If your exhibit builds on research conducted by others, please describe the earlier research, and say why you felt inspired to carry it forward.

After that, discuss the nature of your experiment – what you actually did to test your hypothesis – and the results you gathered, which may or may not have been close to what you expected. Place these results in context by providing a conclusion. What did you learn?

Follow with analysis including possible sources of error, things that future research could test, and how your test results could make a difference in the world. Why was your experiment important, in other words?

End with an acknowledgment of the sources you used for research, and the people who helped you, including fellow students, family members and teachers.

Please note: Each person who works with someone else to present a project should be able to answer the same questions about it. Both participants should discuss at least a portion of the project with the Science Expo judges when they visit.

AWARDS & PRIZES

In past years, the library sent prize cheques to winners in the weeks following the event. For 2024, organizers are mixing things up. To begin with, **all exhibitors will receive a gift card** for participating in the event. In addition, top exhibitors in the Middle, Junior and Senior categories can expect to take home prizes as listed below.

For first place, winners earn a trophy and the following prize:

- **Middle:** Tickets for a behind-the-scenes tour of the Vancouver Aquarium, Science World or H.R. MacMillan Planetarium (first choice of venues)
- **Junior:** Wireless headphones (approx. value \$150)
- **Senior:** \$1500 scholarship

For second place, winners earn a medal and the following prize:

- **Middle:** Tickets for a behind-the-scenes tour of the Vancouver Aquarium, Science World or H.R. MacMillan Planetarium (second choice of venues)
- **Junior:** Wireless headphones (approx. value \$100)
- **Senior:** \$500 scholarship

For third place in the Middle category, winners earn a medal and the following prize:

- **Middle:** Tickets for a behind-the-scenes tour of the Vancouver Aquarium, Science World or H.R. MacMillan Planetarium (the remaining venue)

This year, there will be **no third place medals or prizes for Junior or Senior participants.**

Thanks for your interest in the event, and good luck! We look forward to celebrating science with you on May 4, 2024.