

Coquitlam Public Library Science Expo



Celebrate knowledge and discovery with us at the third annual **Coquitlam Public Library Science Expo (CPLSE)** for elementary, middle and high school students. In 2018, the competition will be **open to kids and teens throughout the Tri-Cities, including Coquitlam, Port Coquitlam, Port Moody, Anmore and Belcarra.**

Scheduled for **Thursday, May 10, 2018**, the Expo invites science-loving students to exhibit their amazing experiments for parents, judges and members of the public.

Students whose projects are judged best will win prizes – in the form of a cheque, as well as either a trophy or medal – for first, second and third place.

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 inspire others!

Grade categories:

Elementary: 4-5

Junior: 9-10

Middle: 6-8

Senior: 11-12

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, who will be known as exhibitors.
4. An exhibitor may present one project only.
5. Exhibitors must follow the rules and **CPLSE ethics standards.**

Selection:

We will include as many projects as possible from as many schools as possible. If we run out of space, and students from a single school have submitted many projects, we may reject some of them on a case-by-case basis.

If necessary, we may contact the teachers acting as liaisons for the project to get their feedback on 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, then displaying the results in an informative manner.

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

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. Please remember to include all the information that we need!

- Fill in the Registration Form (see: www.coqlibrary.ca/sci-expo)
 - a. For projects completed by two students, the grade category is based on the exhibitor with the higher grade level. (E.g. An exhibit created by a grade 10 student and a grade 11 student would be considered a Gr. 11/12 Senior project.)
 - b. *Remember to include* a short written abstract describing the experiment. (It should be 100 to 200 words.)
- Each exhibitor participating in the project must complete a consent form (see: <http://www.coqlibrary.ca/sci-expo>)
 - a. The form *must include* signatures from a teacher and a parent / guardian.
- You can either e-mail scanned copies of **registration** and **consent** forms to sci-expo@coqlibrary.ca, or mail / deliver an envelope containing all the registration and consent forms.
 - a. If you choose to mail them, please address the envelope as follows:

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, please take them in an envelope to the Community Engagement Office, or leave them with staff at the Help Desk.
- All materials must be received no later than **9 p.m. on Monday, Apr. 16, 2018.**
- There is no registration fee. The CPLSE is free.

Please note:

- The CPLSE will aim to include as many exhibits as it can. Due to space limitations, the CPLSE may not be able to include all submissions.
- Decisions to include or exclude exhibits will be made by Coquitlam Public Library staff, in conjunction with other organizations partnering or participating in the CPLSE.
- All decisions made by library staff are final.
- Anyone whose exhibit is not accepted will be notified by e-mail no later than **Friday, Apr. 20.**
- Award recipients will be chosen by a panel of judges from the science faculty at Douglas College. The judges' decisions are final.
- Winning exhibitors will receive cheques and medals or trophies that will be distributed by the library on the night of the event.

Your Experiment or Innovation

- Must feature a folded, three-part backboard explaining your exhibit
- 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 done the research that you present in your exhibit
- All the 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
- You must submit your project for safety and ethics screening on the day of the Expo, immediately after check-in

Safety Regulations for May 10 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 are supposed to be

On the Day of the CPLSE ...

On Thursday, May 10, please take your project to:

Coquitlam Public Library



City Centre Branch

1169 Pinetree Way
Coquitlam, BC V3B 0Y1

Aim to arrive between **3:00 and 3:30 p.m.** When you arrive, 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 (each measuring 30 by 60 inches: or 2.5 by 5 feet), depending on how much space is required for its display. A folding, three-piece backboard is required, and should be placed upright on one of the tables.

Shortly after check-in, volunteers will visit your table to conduct a safety and ethics screening. This is a way to ascertain that your project follows our rules, regulations and guidelines. We need to know that you have reported your results responsibly, and that your exhibit will not compromise the safety of anyone inside the library.

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. See our parking directions: <http://www.coglibrary.ca/using-your-library/hours-locations/city-centre-parking>

Please only park in designated area. Vehicles parked in the Henderson Place Mall parking lot will be ticketed. **Also:** if your vehicle will remain in the lot longer than four hours, please **go to the Help Desk** and staff will be happy to provide you with a **day parking pass**.

When people visit your exhibit ...

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.

Then you can 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. (If you are using any projectiles, please demonstrate during judging only.) Put 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 member of a group presenting a project should be able to answer the same questions about the project, and should expect to discuss at least a portion of the project with the Science Expo judges when they visit.

Judging Criteria

During the judging period in the afternoon, two or three judges will visit your table at different times. After you meet each judge, you can spend 7 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.

AWARDS & PRIZES

The first place award recipient in each category will receive a trophy and a cash prize in the following amount:

- Elementary: \$200
- Middle: \$250
- Junior: \$300
- Senior: \$400

Second place finishers will earn a medal and a cash prize in the following amount:

- Elementary: \$100
- Middle: \$125
- Junior: \$150
- Senior: \$200

Third place finishers will earn a medal and a cash prize in the following amount:

- Elementary: \$50
- Middle: \$75
- Junior: \$100
- Senior: \$150

Thanks for your interest in our Expo, and good luck! We look forward to celebrating science with you on May 10, 2018.