



“Chemists, engineers and technologists working together.”
“Les chimistes, les ingénieurs et les technologistes travaillant ensemble.”

THE 2013 CANADIAN CHEMISTRY CONTEST for high school and CEGEP students

January 2013

Dear Chemistry Teacher,

Thank you for your interest in the Chemical Institute of Canada's (CIC) 2013 Canadian Chemistry Contest (CCC) and the Canadian Chemistry Olympiad (CCO) for high school and CEGEP students. The exams will take place on Tuesday, April 16, 2013. All schools/teachers on our District Coordinators mailing list will receive this letter which contains answers to the most frequently asked questions about the CCC and CCO contests. More information will be available at the Chemical Institute of Canada (CIC) website www.cheminst.ca/ccc.

1. What are CCC and CCO exams?

- Overall, there are **three parts**.
- All candidates for the CCC and CCO write Part A** of the exam, which is **1 hour long** and consists of **25 multiple choice** questions.
- Only students who wish to take the **CCC** exam write **Part B**, which is **1½ hours long** and consists of **two extended response answers** chosen from a selection of three essay topics and one experiment design problem.
- Only students who want to take the **CCO** selection exam write **Part C**, which is **1½ hours long** and **involves short-answer problem** solving.
- Students may choose to write **all three parts** of the exam, which will take them a total of **4 hours**.
- CCC and CCO competitions are **designed to promote interest in chemistry** and to allow students to measure themselves against a national standard.
- However, parts A and B are intended for top 10% of high school / cégep students taking chemistry, and Part C of the exam is even more challenging.** Generally, the CCC is **NOT** intended as a classroom exercise, except possibly for classes of International Baccalaureate or Advance Placement students.

2. Who can write the CCC and CCO exams?

- The **CCC** Exam is open to all students attending a Canadian high school and to Québec Cégep students who have taken no more than one year (two semesters) of chemistry. **However, students should NOT have completed university-level courses in chemistry.**
- The **CCO** exam is open to all students attending a Canadian high school or Québec Cégep and who are under 20 years of age on July 1, 2013 (irrespective of the number of courses they have taken). **However, students should NOT have completed university-level courses in chemistry.**

- c. Highly talented students in their penultimate year of high school may enjoy writing the CCC and CCO exams. Such students often like to go beyond their current year's curriculum, and it may whet their appetite for the contest the following year.

3. What kind of awards can the CCC winners receive?

- a. This competition aims to identify the top students in each of six regions of Canada: Atlantic, Québec, Ontario, Manitoba/Saskatchewan/Nunavut, Alberta/NWT and British Columbia/Yukon.
- b. There will be three winners in each region.
- c. The National Winner will receive \$800, and Regional Winners in the other five regions will receive \$450 each.
- d. Regional second and third prizes are \$200 and \$100 respectively.
- e. In addition, Special Merit Award certificates and CIC lapel pins are awarded for outstanding papers in each district.

4. What items can students have with them to write the CCC and CCO exams?

- a. On the examination day, students taking the CCC and/or the CCO should be provided with a **Data Sheet which includes a Periodic Table**. Copies of the Data Sheet can be found on the CCC website.
- b. **Students should be given a clean copy of the Data Sheet on the day of the exam and should not be given other data or information to help them with the examination.**
- c. The only other materials that students are allowed to use are **pens, pencils and a scientific calculator**, which should be checked by the teacher before the contest starts to ensure that it does not contain any information programmed into it.
- d. Please ensure that **students do not have any electronic devices such as phones or computers**, which can be connected to the internet. All questions can be answered without any other aids, except in the case of students for whom English or French is not their first language who are allowed a bilingual dictionary in book format (not electronic).
- e. In order to help students prepare for the CCC/CCO, we have made some of the **previous exams** available on the website. We recommend that teachers direct interested students to www.cheminst.ca/ccc.

5. Can teachers provide feedback about CCC content and organization?

- a. **Yes!** The package sent out to schools includes a **teacher feedback form**, and we encourage you to complete it and add your comments and suggestions. We really appreciate teachers taking the time to fill in the forms and we analyze all the data received. Your feedback will be taken into consideration for subsequent exams.

6. Which chemistry curriculum is followed by the CCC?

- a. Parts A and B of the CCC **do not follow any particular provincial curriculum** or textbook. They are based on the requirements of the Pan-Canadian Protocol for Collaboration on School Curriculum - Common Framework of Science Learning Outcomes.
- b. This protocol is an outline curriculum that the Council of Ministers of Education Canada (CMEC) agreed on in 1997, and is the basis of most of the provincial curricula.
- c. CMEC is, however, in the process of withdrawing the protocol, so the **Chemical Institute of Canada has produced its own curriculum for use with CCC** from 2010: this curriculum is based on the protocol and can be found on the CCC website at www.cheminst.ca/ccc, scroll down to "Previous Contests / Exams" and click on "Provisional Curriculum" link.
- d. You may be interested to know that **Parts A and B of the CCC are not copyrighted**. High school teachers may use the exam questions within their own schools without restriction; however, acknowledgement of the CIC would be appreciated if the questions are used.

7. How does the CCO differ from the CCC?

- a. **Part C of the CCO** is prepared by the Canadian Chemistry Olympiad organization (www.cco-occ.ca), and **requires the knowledge of additional topics.**
- b. **Examples** of CCO topics are listed at www.icho2012.org/problems/exam-preparation.
- c. Ideally, students taking this part of the exam need to do an Olympiad preparation course which starts around October of the school year that they are proposing to take the exam, although this is not mandatory in order to write Part C.
- d. Further details are given at <http://www.cco-occ.ca>.

8. Who marks the CCC and CCO exams?

- a. The marking of all three parts of CCC and CCO examinations is **done by Regional and District Coordinators.**
- b. Student answers for **part A** of the exam are filled out on bubble sheets which will be **electronically scanned.** In this manner, more accurate statistics of the exam can be conducted.
- c. **Teachers should send student exam papers to the appropriate locations by the end of the day on April 16 2013 as the turnaround time for marking and selection of the winners and Olympiad team is very short.**
- d. Teachers will be required to **carefully read the instructions about where and how to send answers** for Parts A, B, and C of the exam to ensure they get to the right locations.

9. What if our school program does not allow complete chemistry coverage by the CCC date?

- a. We are aware that many schools have not completed their chemistry courses by the end of April and find the date of the CCC is rather early. Unfortunately, we are unable to make it any later, as the CCO organization needs time to select students for the Canadian Olympiad team, and to prepare them for the International Chemistry Olympiad.

The Executive of CIC Chemical Education Division hopes that you will be entering some of your students for the exam, and we want you to know that we very much appreciate your support and the time you take to organize this opportunity for your students.

Sincerely,

Jennifer Pitt Lainsbury,
National Examiner

P.S. You might also like to visit the CIC Website (www.cheminst.ca/outreach) to find out about National Chemistry Week activities, Milestones of Canadian Chemistry (highlights in the history of chemistry in Canada), the You Tube Chemistry Contest, the National Crystal Growing Contest and other events taking place in your local area.