

Competitions

Math

Canadian Open Mathematics Challenge (COMC)

<https://cms.math.ca/Competitions/COMC/2017/>

The Canadian Open Mathematics Challenge (COMC) is Canada's premier national mathematics competition that is **open to any student with an interest in and grasp of high school math**. The purpose of the COMC is to encourage students to explore, discover, and learn more about mathematics and problem solving. The competition serves to provide teachers with a unique student enrichment activity during the fall term.

Canadian Mathematical Olympiad

<https://cms.math.ca/Competitions/CMO/>

The Canadian Mathematical Olympiad (CMO) is Canada's premier national advanced mathematics competition. Candidates **require an invitation** from the Canadian Mathematical Society in order to participate.

Canadian Senior and Intermediate Mathematics Contests

<http://www.cemc.uwaterloo.ca/contests/csimc.html>

The Canadian Senior and Intermediate Mathematics Contests (CSMC and CIMC) are two contests designed to give students the opportunity to have fun and to develop their mathematical problem solving ability.

Euclid

<http://www.cemc.uwaterloo.ca/contests/euclid.html>

The Euclid Mathematics Contest is an opportunity for students to have fun and to develop their mathematical problem solving ability. Written in April by students in grade 12 or lower.

Hypatia (gr.11)

<http://www.cemc.uwaterloo.ca/contests/fgh.html>

The Fryer, Galois and Hypatia Math Contests are an opportunity for students to write a full-solution contest. They are fun way to develop mathematical problem solving skills through a written mathematical activity.

Fermat (gr.11)

<http://www.cemc.uwaterloo.ca/contests/pcf.html>

The Fermat contest is an opportunity for students to have fun and to develop their mathematical problem solving ability.

BC Secondary Schools Math Contest

<http://ufv.ca/math/contests/bc-secondary-schools-math-contest/>

The goal of the BC Secondary Schools High School Math Contest is to provide interested students (and their teachers) with a chance to have fun and stretch themselves a little mathematically. The preliminary round is held in early April and the final round is held at the beginning of May.

International Mathematical Olympiad

<https://cms.math.ca/Competitions/IMO/>

The International Mathematical Olympiad (IMO) is the world championship mathematics competition for high-school students. Team members are chosen based on their results in previous competitions and their eligibility to represent Canada at the IMO. Two important Canadian competitions on the road to the IMO are the [Canadian Open Mathematics Challenge \(COMC\)](#) and the [Canadian Mathematical Olympiad \(CMO\)](#).

Asian Pacific Mathematics Olympiad

<https://cms.math.ca/Competitions/APMO/>

Canada is a participating country in the Asian Pacific Mathematics Olympiad (APMO). Each year the CMS invites 20-30 students to write the APMO based on their results in other national and international competitions.

American Mathematics Competitions (AMC, AIME)

<https://www.maa.org/math-competitions>

The American Mathematics Competitions are a series of examinations and curriculum materials that build problem-solving skills and mathematical knowledge in middle and high school students.

Tournament of The Towns Mathematics Competition

<http://www3.telus.net/yen-hansen/tournament.html>

Tournament of the Towns is a Russian mathematics competition for high school students with participation from many cities around the world. The contest usually consists of five full-solution questions of which the participant chooses three to answer. The contest lasts four hours. Tournament of the Towns is typically more challenging than the [CMC competitions](#), Cayley, Fermat, Euclid, Fryer, Galois, Hypatia. You can find previous contests and solutions at the [Toronto Tournament of the Towns page](#).

Caribou Mathematics Competition

<https://cariboutests.com/>

The Caribou Mathematics Competition is a worldwide online contest that is held six times throughout the school year.

Physics

Canadian Association of Physicists(CAP) High School Prize Exam

<http://outreach.phas.ubc.ca/exams-and-competitions/cap-high-school-prize-exam/cap-english/>

The Canadian Association of Physicists puts together a high school physics examination targeted for upper year physics students across Canada. It stresses logical and creative thinking, by asking questions going beyond the expectation of the classroom. Prizes are awarded to the top students both provincially and nationally.

UBC Physics Olympics

<http://physoly.phas.ubc.ca/>

Every year teams from high schools across British Columbia will compete for medals in 6 science events, and the school of the team with the highest overall score will receive a trophy and other awards.

Art of Physics Competition

<https://www.cap.ca/programs/art-physics/current-competition/>

The challenge is to capture photographically a beautiful or unusual physics phenomenon and explain it in less than 200 words in terms that everyone can understand.

Sir Isaac Newton Exam

<https://uwaterloo.ca/sir-isaac-newton-exam/>

The Sir Isaac Newton (SIN) exam is a test of high school physics and is offered by the [Department of Physics & Astronomy](#) at the University of Waterloo to encourage the teaching of physics. The exam, although challenging, is meant to be refreshing and fun.

OATP Grade 11 Physics Contest

http://www.oapt.ca/grade_11_contest/

The OAPT Grade 11 Physics Contest is sponsored by the University of Toronto – Electrical and Computer Engineering Faculty.

Shalheveth Freier Physics Tournament

<https://www.weizmann.ca/giving-opportunities/education/shalheveth-freier-physics-tournament>

Each year, Weizmann hosts the greatest safe-cracking competition known to high schoolers - The Annual Shalheveth Freier Physics Tournament. Juniors and seniors in high schools form teams and take on the challenge: Build a safe that only your team can open, and then try to open the safes of all the other teams.

FYKOS Internet Physics Competition

<http://fykos.org/en>

FYKOS is a correspondence physics competition for all high-school students (under 19 years) with interest in physics. We publish a problem set six times during a school year. You have approximately one month to solve these problems and to send us your answers, ideas and conclusions back. We correct and mark your solutions, and then we send them back to you with our commentary, next problem set and current rankings ([further details](#)). At the end of a school year, a list of the best participants is put together. We reward leading participants with special prizes.

Canadian Physics Olympiad

<http://outreach.phas.ubc.ca/exams-and-competitions/canadian-physics-olympiad/>

International Physics Olympiad

<http://ipho.org/>

Princeton University Physics Competition

<http://pupc.princeton.edu/>

The Princeton University Physics Competition offers high-school students from around the globe the opportunity to exhibit their physical intuition and mathematical prowess by solving challenging, out-of-the-box physics problems. Content ranges from classical mechanics to subjects at the forefront of modern research.

Chemistry

TRU Chemistry Contest

http://www.tru.ca/science/news/annual/chem_contest.html

Since May 1997 TRU (UCC) has been offering annual written tests as a Chemistry Contest based on the BC chemistry curriculum for Chemistry 11 and Chemistry 12 students.

Avogadro Exam

<https://uwaterloo.ca/chemistry/about-chemistry/community-outreach/avogadro-exam>

To recognize and reward achievement in a first high school Chemistry course, Waterloo's Department of Chemistry has devised the Avogadro Exam. The exam will cover material that a well-read junior high school chemistry student is likely to have come across in the course of studies. Students may expect to find a few probing and demanding questions on some of the main topics of high school chemistry.

Chem 13 News Exam

<https://uwaterloo.ca/chemistry/about-chemistry/community-outreach/chem-13-news-exam>

The Chem 13 News Exam is sponsored by the University of Waterloo. The exam will cover material that a well-read junior high school chemistry student is likely to have come across in the course of studies. Students may expect to find a few probing and demanding questions on some of the main topics of high school chemistry.

Canadian Chemistry Contest

<http://www.cheminst.ca/outreach/canadian-chemistry-contest>

Is chemistry one of your strengths? Then test your skills and measure yourself against fellow students who share the same passion. The Canadian Chemistry Contest (CCC) is carried out in conjunction with the [Canadian Chemistry Olympiad \(CCO\)](#). The Canadian Chemistry Contest is for high school and Cégep students.

Canadian Chemistry Olympiad

<http://www.cco-occ.ca/>

Biology

National Biology Competition

<http://www.biocomp.utoronto.ca/>

The aim of the competition is to provide all high school students with an opportunity to test their knowledge and understanding of biology. We encourage participation of younger students, especially those in Grade 11.

Canadian Biology Olympiad

<http://www.canadianbiologyolympiad.ca/>

International Biology Olympiad

<http://www.ibo-info.org/countries/canada>

Sanofi Biogenius Canada (SBC) Competition

<http://biogenius.ca/what-is-the-sbc/>

For over two decades, the Sanofi Biogenius Canada (SBC) program has nurtured young minds and fostered great talent for the future, challenging high school students to carry out groundbreaking research projects in the field of biotechnology.

Computer Programming/Technology

<http://www.cemc.uwaterloo.ca/contests/computing.html>

The Canadian Computing Competition (CCC) is a fun challenge for secondary school students with an interest in programming. It is an opportunity for students to test their ability in designing, understanding and implementing algorithms.

Technovation

<http://technovationchallenge.org/>

Every year, Technovation invites teams of girls from all over the world to learn and apply the skills needed to solve real-world problems through technology.

General STEM

VHSO

<https://qvhssa.com/vhso/>

The Vancouver High School Science Olympics is a science competition run by the Greater Vancouver High School Science Association. The VHSO is the first science competition held on a regular basis for students in the Greater Vancouver region, but we're more than just another science competition.

Science Fairs in BC

<http://www.sciencefairs.ca/science-fairs/>

Science Fairs in British Columbia are built on an extensive infrastructure that enables students across the province to progress level-by-level through classroom, school, district, regional, national and international events.

Exploravision

<https://www.exploravision.org/>

The Exploravision competition challenges students to envision and communicate new technology 20 years in the future through collaborative brainstorming and research of current science and technology.

Google Science Fair

<https://www.google-sciencefair.com/en/>

The competition is open to 13- to 18-year-old students around the globe, who formulate a hypothesis, perform an experiment, and present their results.

Intel International Science and Engineering Fair

<https://student.societyforscience.org/intel-isef>

The Intel International Science and Engineering Fair (Intel ISEF), a program of Society for Science & the Public (the Society), is the world's largest international pre-college science competition.

Programs

Year-long

The Junior Academy

<https://thejunioracademy.org/>

The Junior Academy is an elite group of problem solvers made up of talented students, STEM experts, and companies around the world dedicated to designing innovative solutions to global challenges.

1000 Girls, 1000 Futures

<https://www.nyas.org/programs/global-stem-alliance/1000-girls-1000-futures/>

1000 Girls, 1000 Futures is a groundbreaking initiative designed to engage young women interested in science, technology, engineering, and math, and advance their pursuit of STEM careers through mentoring and 21st-century skills development.

Future Science Leaders

<https://www.scienceworld.ca/futurescienceleaders>

In weekly meetings, students learn essential skills, meet top experts and innovators and apply their new knowledge and skills. We have modeled the program after excellence programs in high performance sports, such as *Own the Podium* and the farm system in hockey. There is a progression where students are increasingly supported and challenged. With the extra support of this program, students will be expected to excel in national and international science, technology, engineering and math challenges.

Summer

SHAD

<https://www.shad.ca/>

Every July, about 900 of Canada's best and brightest come together to experience SHAD's unique experiential-learning program - rooted in the STEAM disciplines of science, technology, engineering, the arts, and mathematics – while gaining self-confidence, entrepreneurial and workforce skills, internship opportunities, and a network for life.

SFU Science ALIVE

<http://www.sciencealive.ca/volunteer/>

Volunteer for summer camp or high school camp instructor position (paid position)

UBC Future Global Leaders

<https://extendedlearning.ubc.ca/programs/future-global-leaders>

UT Med YSP

<http://www.ysp.utoronto.ca/med>

Helix Summer Science Institute- York University

<http://helix.science.yorku.ca/>

In this intense and academically rigorous series of week-long, non-credit courses, students learn cutting-edge research through interactive lectures and hands-on labs, while experiencing life as an undergraduate student.

McGill Summer Academy

<http://www.mcgill.ca/summeracademy/home>

Volunteering/Work Experience

Science World

<https://www.scienceworld.ca/workexperience>

<https://www.scienceworld.ca/volunteer>

Vancouver Aquarium

<https://www.vanaqua.org/join/hands-on/work-experience>

<https://www.vanaqua.org/join/hands-on/volunteer>

Space Centre

<http://www.spacecentre.ca/careers>

Events

Café Scientifique

<http://blogs.ubc.ca/cafesci/2017/06/>

<https://www.facebook.com/groups/67680986120/about/>

If you're interested in science in Vancouver this group is for you!

Cafe Scientifique exists so that anyone with an interest in a topic can go along to hear scientists explain the science they do. Cafe's are informal relaxed events where you can join in the discussion, asks the questions you want answered and learn more about a subject. Whatever your background - science/no science - it doesn't matter, everyone is welcome. Monthly Cafe's in Vancouver are held on a wide range of topics.