

THE PUBLIC EDUCATION AND OUTREACH PROGRAM AT THE CENTRE FOR PLANETARY SCIENCE AND EXPLORATION.



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Introduction:

The vision for Centre for Planetary Science and Exploration (CPSX) is: "To strengthen and grow the Canadian space community through inspiring and training the next generation of scientists and engineers." The outreach program shares this vision and is guided by the following objectives:

- Offer educational resources to teachers and educators,
- Encourage and inspire students to consider career opportunities in science by engaging them in activities related to planetary science and space exploration,
- Raise public awareness and general interest in science through planetary science and space exploration events, and
- Train graduate students in teaching and outreach practices.

Current Activities:

Training: CPSX provides teachers and educators with training and resources in field of planetary science and space exploration. In addition, CPSX provides graduate students with training in communication, presentation and teaching skills.

Public Events and Activities: CPSX hosts various public events throughout the year, including Asteroid Day and International Observe the Moon Night. Since 2012, CPSX has been producing bi-weekly space science and technology themed podcast, called Western Worlds. In 2016, a space science and technology themed summer camp was launched for children 9 to 14 years of age.

School Visits and Academic Programs: The activities, based on the Ontario science curriculum, have been developed with the support of local school board and educators. Three types of programs are being offered in school visits: i) **Activity based programs**, which consist of presentations and hands-on activities; ii) **Inquiry based programs** that are designed to follow the inquiry learning model, putting participants in charge of their own learning; iii) **Workshop based programs** are a combination of several different inquiry based labs and hands-on activities.



Figure 1A: The students are competing the Mining a Cookie challenge as part of the Mission Meteorite workshop. *Figure 1B:* The student observing the tardigrades under the microscope. *Figure 1C:* Student participating in the station based activity of the Mission Meteorite workshop. *Figure 1D:* Students planning their mission on Mars using the Interactive Mapping of Mars website.

Future Activities:

Several programs are in development phase including new single period presentations and hands-on activities. Space Camp has been expanded in 2017 and two new themes have been introduced. The sixth season of Western Worlds is in the final phase of production and is set to launch in April 2017. Two web-based projects, Interactive Mapping of Mars (iMars) and Impact Earth, are in the development phase and will be launched soon. CPSX is currently developing activity to simulate analogue missions using Lego Mindstorms kits.

Reach of the Program:

In the year 2015-2016, the program reached 5783 participants through 42 events. Between September 2016 and December 2016, 18 events have been conducted reaching 2869 students, teachers and members of public.



Figure 1A: Campers testing out their Galileoscope at CPSX Space Camp. *Figure 1B:* Campers pose with the Solar Telescope at Cronyn Observatory during CPSX Space Camp. *Figure 1C:* Participants are building rover from the Lego kits at the Can Mars Analogue Mission Public Night (2016). *Figure 1D:* Visitors enjoying the view of the Moon through the Cronyn telescope at the International Observe the Moon Night event.

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For more details, check out the abstract:

