



# Microbial Fuel Cell Competition 2023-24

## Brief Overview

Junior high and senior high classes (Grade 7-12) are invited to participate in a multi-classroom competition to build the most effective fuel cell powered by microbes. Participating classes will present their findings and be eligible for various prizes.

## Steps to Participate

### (1) Initial Application (Deadline: December 15, 2023)

Write an email to [gideonchoi@10peaks.ca](mailto:gideonchoi@10peaks.ca) indicating the class(es) that you would like to sign up, and the reason you are interested in participating. Classes must be Grade 7-12 and located in Alberta. Classes that qualify will be loaned a classroom kit of MudWatts (10 units) to be used for the competition. Be sure to act quickly because only 6 class sets are available.

### (2) Class experiments (Deadline: April 30, 2024)

Follow the MudWatt building instructions that come with the kits. Your class will also complete three activities, and a written submission will be part of your findings. The class submission will be assessed on the ability to write clearly and communicate well.

- [Make a Microbe!](#)
- [Measuring Current and Voltage of a MudWatt](#)
- [What Makes Up Soil](#)

These activities can also be found at: <https://www.magicalmicrobes.com/pages/educator-resources>

### (3) Competition (Mid-late May, date TBD)

Participating classes will meet virtually to present to a panel of judges. Classes will present on what they learned in how to optimize microbial fuel cell performance. Prizes will be awarded for best performing MudWatts, best written submissions, and best presentations.

## Case Competition Timeline (2023-24)

Date	Event	Description
Nov 15 – Dec 15, 2023	10PC <sup>2</sup> Proposal Submission	<ul style="list-style-type: none"> <li>• Email <a href="mailto:gideonchoi@10peaks.ca">gideonchoi@10peaks.ca</a> in indicate your interest to participate. Ten Peaks only has 6 class sets, so be sure to apply early.</li> </ul>
December - January, 2024	Initial set up	<ul style="list-style-type: none"> <li>• Make arrangements for receiving the class kit of MudWatts.</li> </ul>
Jan – Apr 2024	Class experiments	<ul style="list-style-type: none"> <li>• Build MudWatts</li> <li>• Conduct assigned class activities (see above)</li> <li>• Prepare written submission of activities</li> </ul>
April 30, 2024	Project submission	<ul style="list-style-type: none"> <li>• Final day for submission of written activities.</li> </ul>
Mid-Late May 2024	Competition (Virtual)	<ul style="list-style-type: none"> <li>• Participating classes present on their class microbial fuel cell to a panel of judges. Judging will be through web conferencing.</li> <li>• Team rankings determined and prizes awarded.</li> </ul>

## Submissions and Further Information

Please direct your questions to Gideon at [gideonchoi@10peaks.ca](mailto:gideonchoi@10peaks.ca). This includes applications, project submissions, general inquiries, or asking about specific resources.