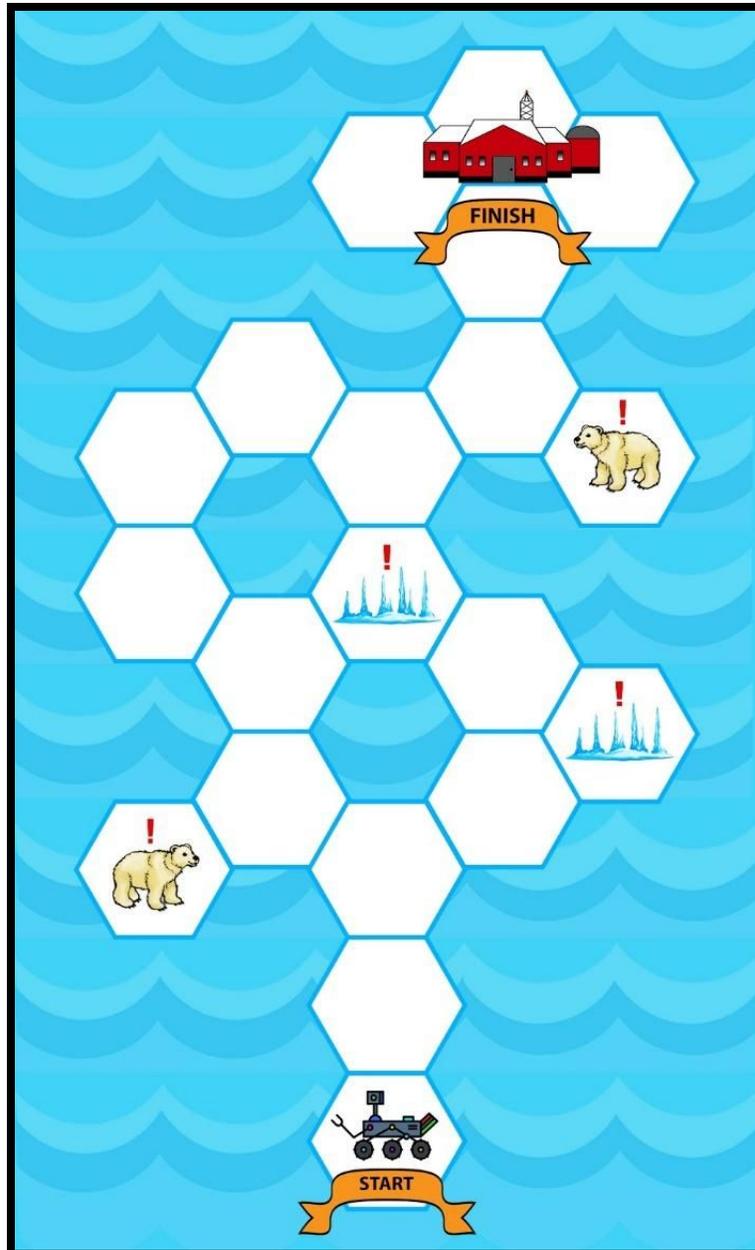


2019 BotQuest Tournament 1: You're On Thin Ice!



March 30: 10:00 AM – 2:00 PM

Angus Glen Library

 **CAROBOT.org**
LEARNING AND RESEARCH

*The actual track layout will vary.

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Welcome to the Angus Glen Library



It's our pleasure to welcome you to the Angus Glen Library for the first ever BotQuest Tournament. Thank you for your support; we offer our best wishes to each participant for a successful and enjoyable experience!

When you see a volunteer or staff member, please thank them for their efforts. They are all working hard to ensure a memorable tournament experience. Look

forward to an event of fellowship and making new friends!

We at the CAROBOT Learning and Research Organization extend our thanks to the Angus Glen Library and the Markham Public Library for hosting this event.

Event Details

The robotics showcase and tournament will take place over a four hour session. When you arrive at 10:00 am, please make your way to the registration desk to register your team. Pizza and refreshments (with accomodation for vegetarians) will be served to participants at around 12:00 pm. The full event schedule can be found at www.carobot.org.

Challenge Introduction

Your team is a part of the newest research expedition to the North Pole to find out the effects of global warming on Arctic Foxes. With the help of robotics, your team never has to leave the Arctic Research Station! Unfortunately, your research robot has gotten stuck on an iceberg and must make its way back to your team at the Arctic Research Station before the ice floes separate. It is your team's job to make sure the robot makes it back safely across the ice without running into dangerous ice spikes or polar bears!

General Rules

1. Teams may have up to four students aged 8-15 years old (Grade 4-8), and a mentor of high school age or older.
2. Robots entered to the Tournament must be built and programmed by the students on the team.
3. Teams may use LEGO MINDSTORMS EV3, Arduino, or Raspberry Pi to program their robot.
4. Teams may not interfere with another Team's robot or challenge attempt.
5. Teams may only attempt the challenge once.

Challenge Details

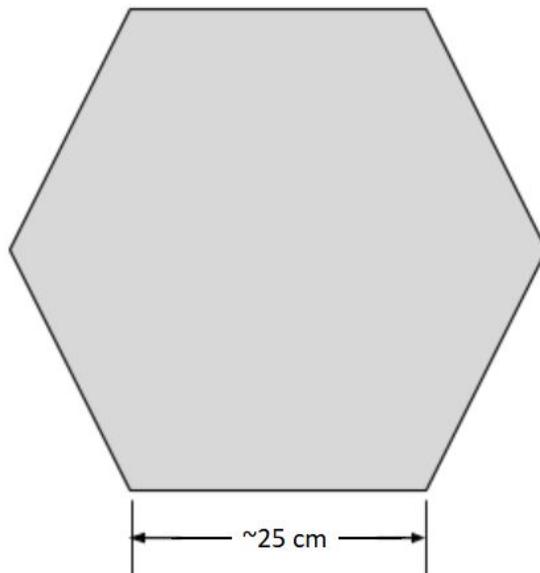
- The goal is to get the robot from one end of the Challenge Course to the Arctic Research Station at the opposite end while avoiding the obstacles and water. No remote-controlled robots are permitted.
- Before the challenge, the team will have a minute to present their robot and explain their design choices and programming logic. The presentation is worth 10 points.
- The robot will start at a designated tile, at any orientation. Once the robot starts moving, no human contact is allowed unless the robot goes off course.
- The Challenge Course will be made up of a path of hexagonal tiles made of white foam boards connected by white electrical tape. A large sheet of blue fabric will lie under the tiles and will act as the water.
- Teams will start with 30 points.
- For every minute that passes during a challenge attempt, one point will be deducted from their score. Teams have a maximum of 5 minutes to complete the challenge.
- There will be two seals and two sets of ice spikes that will result in two-point deductions if any part of the robot touches them. The ice spikes will be constructed from foam boards, and the seals are stationary. These obstacles will be at least 15 cm in height.
- If a moving part (e.g. wheel, tread, etc.) of the robot touches the water, one point will be deducted from the team's score, for up to a maximum of 3 points deducted.
- If the entire body of the robot goes off the Challenge Course, three points will be deducted. The team must then re-orient the robot on the tile it fell from and will no longer be able to claim the bonus no human interaction bonus. If the robot fell between two tiles, it will have to be re-oriented back onto the tile it was crossing from.
 - If this happens three times, the team must re-orient themselves at the start of the track. The score does not reset.
- If the team successfully reaches the Arctic Research Station, four points will be added to the team's score. The Research Station entrance will be marked by red electrical tape. The entire body of the robot must pass the tape to get the four points.
- If the team successfully completes the challenge without having to re-orient the robot with their hands, six points will be added to the team's score.
- The team with the highest score after summing the presentation and challenge wins.
- If no team can reach the Arctic Research Station, the team that got the closest to the research station will win.

Scoring System

Action	Points
Begin the challenge	+30
Every minute elapsed (up to 5)	-1
Touching a polar bear	-2
Touching ice spikes	-2
A moving part touches the water (maximum total deduction of 3 points)	-1
Entire body goes off the Challenge Course	-3
Finish the challenge without human interaction	+6
Reach the Arctic Research Station	+4

Measurements

- The hexagonal tiles will have a side length of about 25 cm (50 cm diameter)



Prizes

First place wins \$100.00 (\$20 gift card per person).

Second place wins \$50.00 (\$10 gift cards per person).

Frequently Asked Questions

About the Event

Q: Are there ID or minimum age requirements to enter the event?

A: Participants must be 8 to 15 years old (grade 4 to 8), except for the mentor that must be of high school age or older.

Q: What are my transportation/parking options for getting to and from the event?

A: The parking areas surrounding the building are free. Public transportation is also available with TTC bus 68B and YRT bus 18 stopping at Angus Glen.

Q: What can I bring into the event?

A: You will need your ticket (printed or on mobile) and the robot you are competing with.

Q: How can I contact the organizer with any questions?

A: Please direct any questions to Jacky Yip by emailing jacky.yip@carobot.org.

Q: Where can I find a run-down of the event?

A: You can find the event schedule at [our website](#).

About Tickets and Registration

Q: What's the refund policy?

A: Tickets are eligible for a full refund until the registration deadline (March 23).

Q: Do I have to bring my printed ticket to the event?

A: You can bring either your printed ticket or a mobile device with the Eventbrite receipt.

Q: Can I update my registration information?

A: Yes, you can update your registration information through Eventbrite. [Go to tickets, select your order, select edit, update and save your changes.](#)

Q: Is my registration fee or ticket transferable?

A: Yes, you can transfer tickets through Eventbrite. Simply update your order information with the new attendee's information.

Q: Is it ok if the name on my ticket or registration doesn't match the person who attends?

A: Yes, please update the attendee's name on Eventbrite before the event or let one of the registration team know when you arrive.