



ROBOTICS

Volunteer Instructions

There are two playing fields, with two teams of students playing on each field. Each playing field will have an Adult Volunteer and a Student Volunteer to run the competition.

When the students arrive, welcome them to Robotics and introduce yourself.

Give a brief overview.

- This will be a competition, using robots with controllers.
- There will be two teams competing on each field.
- Everyone will get a chance to participate.

Count off into 4 teams.

Each adult volunteer will then give game playing instructions as well as instructions on how to use the controllers. Demonstrate how the cones will stack, describe a stationary cone and a mobile cone.

HOW TO USE THE CONTROLLER

The Joysticks on the numbered controller operate the motion of the robot.
On the partner controller, the right trigger buttons open and close the claw.
The left trigger buttons make the arm go up and down.

Students will then talk amongst themselves and decide who will go first.
Allow them to ask questions .

Turn on Robots. **ROBOTS MUST BE TURNED ON BEFORE CONTROLLERS.**
Turn on Controllers, then place back on homefield.

Student Volunteer will have timing clock set for 3 minutes.
Out loud say5-4-3-2-1- GO !!!

After 3 minutes ... students place controllers back down on the homefield. Volunteers may straighten field by standing cones back upright. Then the next group of students has their turn when timer starts again. There should be 4, 3 minute rounds played.

After all 4 rounds are complete, the Volunteer will tally up the points.
PLEASE do not total until the end.!

**Batteries will need to be changed when lights are flashing RED.

**Volunteers should keep a long thin allen wrench for tightening collars and the shorter allen wrench is for tightening bolts.

**When Robot batteries are flashing orange...prepare to change battery, however they can run on orange for a while. Must change when RED.

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Volunteer Training Tips and Reminders

Reminder: Each robot battery charger should be in safe mode the morning of the STEM Summit. This will allow the robot batteries to charge safely during the day.

- Go through the Volunteer Instructions and Competition Rules
- *Tips and Reminders*
 - Divide students into four teams and have them sit down at their spots. Volunteers can go over rules and instructions in the smaller groups. Student volunteers can assist as needed. This works well if the groups are large or it is extremely noisy in the gym.
 - Volunteers should emphasize teamwork and respect. Teamwork and communication are important, so each pair will want to decide who will control what.
 - Volunteers should quickly demonstrate how to work the controllers and show how the points will work for the competition.
 - Remind students there are four 3 minute rounds. Before the 4th round, tell the students how they can get bonus points.
 - Remind students that they are only to use the controllers when they are told to start the round. Volunteers can say “Controllers Up”.
 - At end of each round, when time runs out, volunteers should say “Controllers Down” and have students put the controllers on the mat gently.
 - No battling or crossing over to the other team’s side. Also, students should not be messing up the other team’s cones.
 - In between rounds, cones should be set up where they are; put any cones that got moved off the board back on the board. Robots should be left where they are.
 - Student volunteers will calculate score at the end of the 4th round. After score is calculated, the game board should be reset for the next group coming in (use picture map).
- Go over **battery changing guidelines** and some troubleshooting tips
- Instruct student volunteers of their duties which include:
 - Having students put their names on scoresheets
 - Assisting volunteers as needed
 - Calculating scores at end of 4th round; keeping only the scoresheet with highest score for end of the day program in the auditorium. All other scoresheets should be thrown away.
 - Resetting cones between rounds and resetting the playing field at the end of the 4th round.