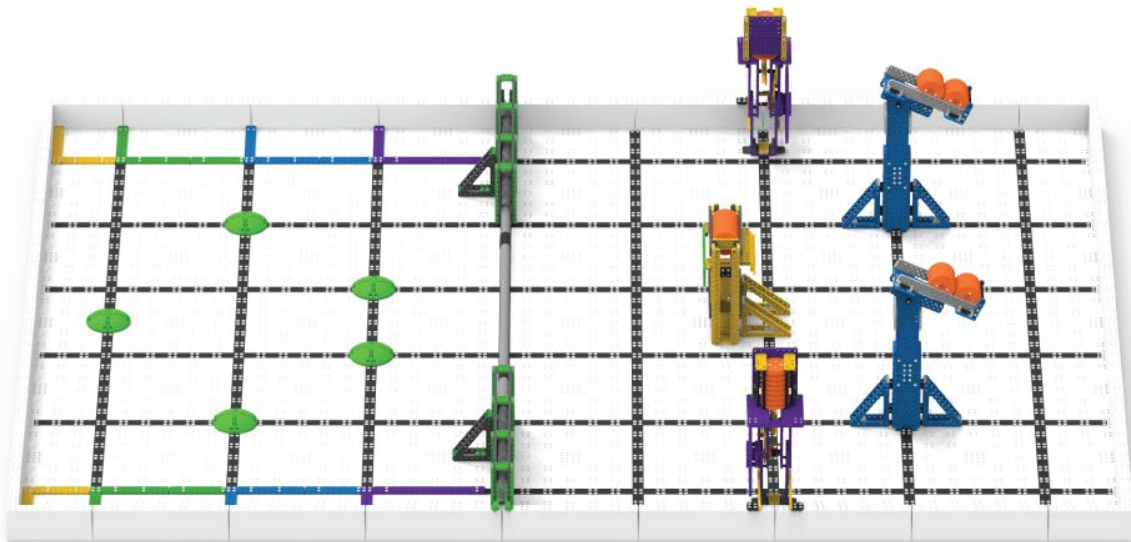


# SKILLS BC (Reginal) COMPETITION - 2023



VEX IQ Robotics  
Challenge  
Grades 6-7, 8-9



## TECHNICAL CHAIR

Brian Yu –Gladstone Secondary School

[byu@vsb.bc.ca](mailto:byu@vsb.bc.ca)

## SKILLS BC PROVINCIAL COMPETITION:

8:30am to 9:00am	Sign In / Orientation / Robot Inspections/Coaches Meeting
9:00am – 11:30am	Robot Skill Challenge
11:30am – 12:00pm	Qualifying Matches – Part A
12:00pm to 12:30pm	Lunch
1:00pm – 3:00pm	Qualifying Matches – Part B
3:00pm – 3:30pm	Final Matches
3:30pm – 3:45pm	Disassembly and Clean Up
4:00pm*	Awards Ceremony at the challenge site
<b>*Time is approximate and will be dependent on the number of teams participating in the event.</b>	
<b>Competitors must be on time for their challenge and may be disqualified if they do not sign-in at their challenge site prior to the start of the orientation in the morning. At the discretion of the technical committee chair, the competitor may be permitted to compete but may not receive any additional time for the competition.</b>	

### CONTEST STATUS

- **This an 'in-person' official competition challenge.**
- **A VEX-IQ robot must be supplied by the competitive team.**
- **A competitive team may have only one robot (fully assembled) for the competition.**
- **Changes in the configuration of the robot will result in reinspection and perhaps disqualification.**

### PURPOSE OF THE CONTEST:

To provide competitors with the opportunity to demonstrate their science, technology, engineering, and mathematics (STEM) skills through practical and theoretical application and to enhance these skills through hands-on and student-centered learning.

### The Challenge

The challenge is played on a 6'x 8' rectangular field.

The objective of the game is to attain as many points as possible by scoring Orange Disks in the 'Score Zones', as well as reaching over with the robot arm to touch the designated scoring area(s).

In the **Teamwork Challenge**, an Alliance of two (2) Robots operating under driver control, work together in each Match.

In the **Robot Skills Challenge**, one (1) Robot takes the field to score as many points as possible. These matches consist of **Driver Skills Matches**, which will be entirely driver controlled, and **Programming Skills Matches**, which will be autonomous with limited human interaction.

**All Robots must follow and be inspected using the VEX/RECF robot Inspection Check List before participating in the competition.**

<https://www.roboticseducation.org/documents/2019/09/viqc-robot-inspection-checklist.pdf/>

The Robot Skills Challenge and the Teamwork Challenge use the exact same field and set up.

For the complete game manual, please see: [VIQC-Slapshot-GameManual-2.2.pdf \(vexrobotics.com\)](http://vexrobotics.com/VIQC-Slapshot-GameManual-2.2.pdf)

For additional Info including the 'Game Overview Video' please see: <https://youtu.be/vF3l8FscrKo>

**SKILLS AND KNOWLEDGE TO BE TESTED:**

- Teamwork
- Critical Thinking
- Project Management
- Communication Skills
- Discussion of Ideas
- Problem Solving

**EQUIPMENT AND MATERIALS:**

Supplied by Skills BC Technical Committee:

- Game Field and Game Elements

Supplied by Team:

**Computer or laptop with Robotc, Modkit, EasyC, FLOWOL, RoboMesh Studio or VEXCodeIQ software installed (No Internet Access will be provided or allowed to be accessed by the competitors during the competition event).**

**Competitors will be allowed to pre-program their robot and have the program stored in their robot or on their laptop.**

\*Software is needed for the programming/Robotic Skills portion only (Teamwork challenge does not require software). Skills BC/Technical Chair/competition staff will not provide computer(s) or robotics component(s) for the teams.

**SAFETY:** Safety is a priority at the Skills BC Competition. At the discretion of the judges and technical chairs, any competitor can be removed from the competition site for not having the proper safety equipment and/or not acting in a safe manner.

**Competitors must show competence in the use of tools and/or equipment outlined in this scope and can be removed at the discretion of the judges and technical chairs if the competitor does not display tool and/or equipment competency.**

**All Robots must complete the Pre-Event Inspection Process. The inspection check list can be found here: [http://link.roboticseducation.org/viqc\\_robotinspectionchecklist20192020](http://link.roboticseducation.org/viqc_robotinspectionchecklist20192020)**

## JUDGING CRITERIA:

### Scoring

Each Disk Scored in a Goal Zone	The point value corresponding to that Goal Zone (1-4)
Each Disk Removed from a Dispenser	1 point
Each Robot that achieves the Contact Bonus	Additional 1 point per Disk that is Scored in the corresponding Goal Zone

\* This is the same scoring format as **RECF/VEX-IQ Competition**.

### Teamwork Challenge

Each Teamwork Challenge Match consists of two teams, operating as an alliance, to score points. The Teamwork Challenge includes Practice, Qualifying, and Finals Matches. After the Qualifying Matches, teams will be ranked based on their performance (points scored during the matches). The top teams will then participate in the Finals Matches to determine the Teamwork Challenge champions. The number of teams participating in the Finals Matches will be determined based on the number of participating teams.

### Teamwork Challenge Finals Matches

- At the conclusion of the Qualification Matches, the top teams will advance to the Finals Matches.
- The number of Finals Matches will be determined based on the number of participating teams.
- The first and second ranked teams form an alliance, third and fourth ranked teams form another alliance (and so on) for the Finals Matches.
- Starting with the lowest ranked alliance, each alliance participates in ONE Finals Match.
- After all the Finals matches are run, the alliance who scored the highest in the matches is the winning alliance, followed by the 2<sup>nd</sup> place with the second highest score and so on.
- If there is a tie, the higher ranked alliance, prior to the Finals Matches, shall be declared to finish as a higher placed team. Alternatively, at the discretion of the technical chair, if time permit, an addition match may be played to bring the tie.

### Robot Skills Challenge

In this challenge teams will compete in sixty (60) second long matches in an effort to score as many points as possible. These matches consist of Driver Skills Matches, which will be entirely driver controlled, and Programming Skills Matches, which will be autonomous (no VEX IQ controller) with limited human interaction. Each match will consist of only one Robot.

### Robot Skills Challenge Rankings

For each Skills Match, teams are awarded a score based on the above scoring criteria.

- Teams will be ranked based on the sum of their highest Programming Skills Match score and Driving Skills Match score. The team with the highest sum will be declared the Robot Skills Challenge Winner.

Please note that in some cases, the results from the Robot Skills Challenge can be used as a tie breaker to determine the tournament winners at the end of the day. It is highly encouraged that robot teams

make every opportunity to complete their Driving and Autonomous Runs within the Robot Skills Challenge.

## AWARDS

A robot team with the most ‘Categorical Points’ is the overall winner followed by a second and a third-placed team. The categories for ‘Categorical Points’ calculations will include Teamwork Challenge (Finals-Matches), Teamwork Challenge (Qualifications-Matches), Robot Skills – Programming Challenge, and Robot Skills – Driver Challenge.

### Categorical Points

	1 <sup>st</sup> place	2 <sup>nd</sup> place	3 <sup>rd</sup> place	4 <sup>th</sup> place
Teamwork Challenge (Finals-Matches)	7	6	5	4
Teamwork Challenge (Qualifications-Matches)	5	4	3	2
Robot Skills – Programming Challenge	7	6	5	4
Robot Skills – Driver Challenge	7	6 </td <td>5</td> <td>4</td>	5	4

If a tie exists between two teams at the end of the competition day, the following process will be used to break the tie:

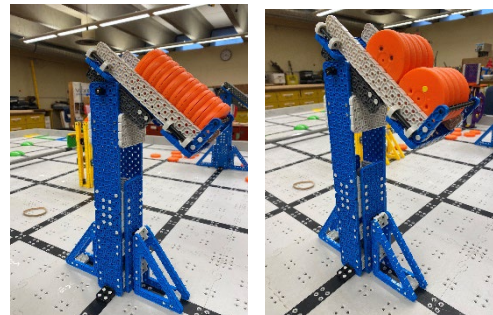
- Round 1 - Looking at both teams’ teamwork Final-Matches results. The higher placing team shall become the winner.
- Round 2 - Looking at both teams’ Programming results. The higher placing team shall become the winner.
- Round 3 - Looking at both teams’ teamwork Qualification-Matches results. The higher placing team shall become the winner.
- Round 4 - Looking at both teams’ Driver Skills results. The higher placing team shall become the winner.
- Round 5 - If the tie still isn’t broken, the technical chair/event host may choose to allow teams to have one more deciding match – Robot Skills Driver Challenge or Robot Skills Programming Challenge to help break the tie.

\*\* please note: the above tie breaker method is different than that of **RECF/VEX-IQ Competition**.

**SkillsBC – Regional Competition Rules Clarifications (RC) may not be same as listed by RECF/VEX-IQ Competition.**

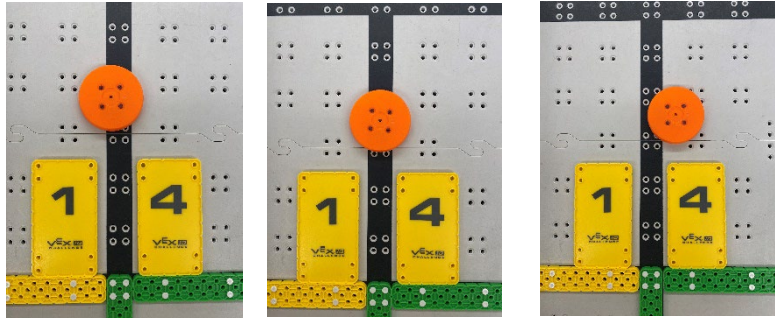
RC 1 – The orange disks may be inserted into the blue towers in either of the following configuration.

Manufacturing inconsistency does not allow all disks to be exactly the same.

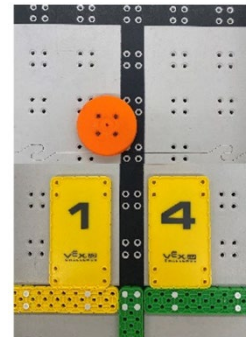


RC 2 – The orange disk is considered to be in the '4' zone (all 3 pictures).

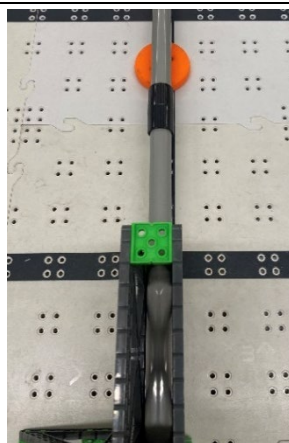
The referee and technical chair will have the authority to allow or to dis-allow various contentious discrepancies, **With the intension to aid the competitor(s).**



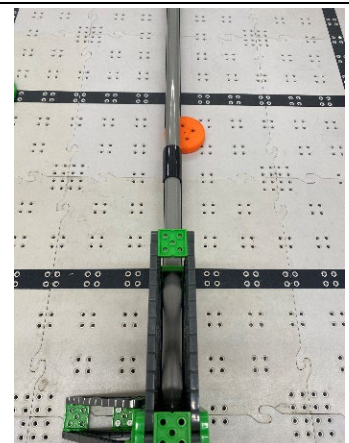
RC 2.1 – The orange disk is considered to be in the '1' zone.



RC 3 – The orange disk is considered to be in the 'score zone', when it is fully cleared the PVC pipe or maybe under the pipe but must have some part of the disk touching the score zone.



RC 3.1 - No part of the disk is touching the score zone; therefore, this disk will not count.



RC 5 – The orange disk must fall and completely clear from the tower in order to be counted as removed from the tower.

**The referee and technical chair will have the authority to allow or to dis-allow various contentious discrepancies.**

**Please note:** the above Rules Clarifications may be different than that of **RECF/VEX-IQ Competition.**

**Additional clarifications will be provided at the coaches meeting before the start of the competition.**

## GENERAL RULES, REGULATIONS AND ELIGIBILITY

Please be sure to review all eligibility criteria in the complete Competitor Information Package, available online at <http://skillscanada.bc.ca/>.

Eligibility Criteria:

**Elementary/Secondary Student** is allowed to:

- Compete in only one challenge at the Skills BC (Regional) Competition.

Other Rules and Regulations all competitors need to be aware of prior to attending the Skills BC Competition:

- Translators or other assistants (e.g. hearing impaired) are permitted in the contest site **only if this request was made to the technical chair before the registration process and approved in advance by the Skills BC office.**
- During the contest, no one will have access to the contest site except the Technical Committee Members, Judges, Skills BC staff and Competitors. Spectators, including teacher/advisors, will be provided a viewing area if possible and may not be in the competition area.

Immediate disqualification may occur at the discretion of the technical chair if a competitor displays any one of the following:

- Acts inappropriately.
- Shows disregard for the safety of themselves or those around them.
- Breaks the established rules and regulations including:
  - o Uses equipment or material that is not permitted.
  - o Dishonest conduct (cheating, plagiarism)
  - o Speaks with those outside the contest area.
  - o Arrives to the contest site late.

Sign-in for all contests will happen at the contest site in the morning of the competition.

Registration must take place prior to the deadline as posted at the Skills BC website.

## CLOTHING REQUIREMENTS

Competitors are to be dressed in a clean and appropriate manner. Competitors are not permitted to wear clothing with logos or printing. The exception to this rule is the logo of the school, or school board that the competitor is representing. **ONLY** the logo of the organization under which the competitor is registered can be visible. Corporate logos or names are not permitted on a competitor's clothing.

In some cases, SkillsBC will provide the competitors with T-Shirts representing SkillsBC as part of the competition identification. This is done as part of security for the competition.

## MEALS

Lunch will be provided by Skills BC. All competitors are recommended to bring their own food and snacks. Competitors may not leave the competition site during meal breaks; this will constitute as forfeiting the competition.

ANY FOOD BROUGHT TO THE VENUE MUST BE NUT FREE. ANY NUT PRODUCTS FOUND ON SITE WILL BE REMOVED.

### **ADDITIONAL INFORMATION**

If you have any questions regarding the Skills BC (Regional) Competition or this contest, please contact Skills BC or the technical chair two weeks before the event, as all staff will be onsite setting up the week prior to the event and are not available to answer questions.

### **SPECTATORS**

**Competitors are encouraged to invite spectators to attend. It is free of charge to attend the Skills BC Regional/Provincial Competition as a spectator.**



# 'Code of Conduct' during the competition

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## School Sponsor/Supervisor Responsibilities and Code of Conduct

Please note: this competition is a school sponsored/related competition. All students participating must attend a qualified B.C. School. This can include public, private, independent, and religious denomination schools. Home schoolers must be attached to a supervising school district or school related organization to qualify.

Each student participant must have an adult school representative on site to act as a sponsor/supervisor. This individual must be willing to act 'on behalf' of the school administration and school district office. A school sponsor/supervisor may supervise more than one student within the same organization.

The role and responsibilities of the school sponsor/supervisor include:

- Register the students into the competition.
- Pay for the registration using a credit card.
- Actively supervise the students before and during the competition.
- The sponsor/supervisor must also act as a communication person between the students (and their families) and the competition administration.
- Ensure that all rules and competition regulations are followed.
- Ensure that the students and their families follow all Code of Conduct stated by this document and those stated by competition administration.

Information and updates will be sent from the competition administration via emails and web postings to the school sponsor/supervisor. All questions and concerns from the participating students and their family must go through the school sponsor/supervisor to the competition administration via email. The competition administration will not accept and/or reply to messages directly from the students and their families.

## Code of Conduct

The Competition Administration considers the positive, respectful, and ethical conduct of all students, teachers, mentors, parents, and other event attendees an important and essential component of all related events.

We expect the following behavior and ethical standards at all events:

- Act with integrity, honesty, and reliability
- Behave in a respectful and professional manner with event staff, volunteers, and fellow competitors
- Exhibit maturity and class when dealing with difficult and stressful situations
- Respect individual differences
- Follow all rules as listed in the current competition document(s)

- Student-centered teams with limited adult assistance
- Safety as a top priority
- ‘Excellent’ sportsmanship, which includes supporting all competitors

These expectations apply to all team members and all adults associated with a team including, but not limited to, teachers, mentors and parents. This Code may also apply to the behavior outside of the events where inappropriate actions are related to an event or participating individuals.

**Repeated or egregious violations of the expectations in this Code may result in consequences up to the disqualification of the students, the team(s), or the organization from the current event and/or future events, and potentially removal from the program after review by the competition administration.**

Please note in-appropriate behaviors or demeanor from a school sponsor/supervisor will also result in disciplinary consequences as stated above.

A majority portion of the above guidelines are adapted from:

- REC Foundation Code of Conduct: <https://www.roboticseducation.org/documents/2019/08/recf-code-of-conduct.pdf/>

## A positive example from FIRST Robotics

Gracious Professionalism®

Dr. Woodie Flowers, (1943 - 2019) EAB Chair Emeritus & Distinguished Advisor, coined the term "Gracious Professionalism®."

Gracious Professionalism is part of the ethos of FIRST. It's a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community.

With Gracious Professionalism, fierce competition and mutual gain are not separate notions. Gracious professionals learn and compete like crazy but treat one another with respect and kindness in the process. They avoid treating anyone like losers. No chest thumping tough talk, but no sticky-sweet platitudes either. Knowledge, competition, and empathy are comfortably blended.

In the long run, Gracious Professionalism is part of pursuing a meaningful life. One can add to society and enjoy the satisfaction of knowing one has acted with integrity and sensitivity.

The above guideline is adapted from:

- FIRST Robotics Vision and Mission: [Vision and Mission | FIRST \(firstinspires.org\)](https://www.firstinspires.org/vision-mission)

# A message to all school sponsor/supervisor

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If you feel the above conditions are above your expectations and your ability to enforce these conditions with your student(s) and their families, please refrain from accepting this position and ask someone else from your organization to take up the responsibilities. If a school sponsor/supervisor is not willing to step forward, the student(s) from your organization will not be participating.

The competition administration consists of the competition Technical Chair, and the competition event staff.

## Cheating (includes but not limit to the following:)

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### Before the competition

Students/Parents Asking additional information with the intension 'to gain an advantage' over other students/teams.

Students/Parents Reaching out to competition administration to gain favor in the hopes to advance the student participant or to gain an advantage before the competition.

### During the competition

Student/Parents Interfering with the administrative team during competition operation.

Student/Parents Student use additional equipment or access additional hardware/software/reference materials outside those permitted by the scope document. This includes accessing the internet, using a search engine, seeking assistance from others via digital or in-person means.

Student-seeking assistance from others not authorized by the competition administration.

**Using recordings (Photos and/or Videos) to undermine the judgment(s) of the referee and event staff will constitute cheating as this will place one team ahead of another.**

### After the competition

Student/Parents-Pointing out an opponent's fault as a means to advance oneself.