

Overview

VEX IQ Challenge events are an exciting way for students to play and learn. Referees play an important role in ensuring that the robot challenge matches are on time, fair, and lots of fun! VEX IQ Challenge events also provide an excellent opportunity for Referees to serve as mentors and role models to young students.

In addition to this Guide, the following resources are available to help you prepare for your Referee role:

- Game Manual, available at www.roboticseducation.org/vex-iq-challenge/viq-current-game/
- Game Rules Updates, available at <http://www.vexiqforum.com/forum/vex-iq-challenge-discussion/viqc-crossover-2016-2017-game>
- Referee Training Videos, available at www.roboticseducation.org/vex-iq-challenge/vex-iq-challenge-training/
- Training Call Schedule, available at www.roboticseducation.org/vex-iq-challenge/volunteering-for-vex-iq-challenge/

Referee Position Summary

Referees are responsible for ensuring a smooth flow of match play, consistently applying their knowledge of the game rules to the matches, and counting the match score accurately and efficiently after the match. Referees are only required to provide this count to the scorekeeper, as the Tournament Manager software calculates the match score.

An event with two or more Referees usually designates a Head Referee. The Head Referee makes final decisions, including questions on scoring, and in a friendly, positive way, communicates these decisions to the Referees and the teams. The Head Referee also works to keep matches flowing on time, so that everyone enjoys their event experience.

Key Responsibilities of a Referee:

- Ensures that fields are properly reset for each match.
- Checks that teams are in the correct places for their matches.
- Consistently applies the official Game rules to the matches.
- Counts the match score and then submits the score sheet to the Head Referee or Scorekeeper.
- Have fun! If you are enjoying it, the teams will too!

Key Skills of an Effective Referee:

- Knowledge of the game and rules of play.
- Good time management.
- Ability to work effectively as a member of a team.
- Enthusiasm and ability to interact positively with young students.

Referee Training and Preparation

Preparation for an Event

- Review these training resources:
 - Crossover game video, available at www.roboticseducation.org/vex-iq-challenge/viq-current-game/.
 - Game Manual, available at www.roboticseducation.org/vex-iq-challenge/viq-current-game/.
 - Robot Inspection Checklist, available at www.roboticseducation.org/vex-iq-challenge/viq-current-game/.

All resources have been designed to serve as a good investment of your valuable preparation time.

- Plan to wear comfortable and appropriate team-neutral attire, including closed-toed shoes. Some events may provide you with a referee or volunteer shirt to wear during the event.
- **Helpful supplies:** Score sheets, pens, highlighters, clipboard, water/snacks, and a copy of the Game Manual. Check with your Event Partner to determine what supplies will be provided at the event.

Training Calls

Training calls are offered by the REC Foundation to help you prepare for your VEX IQ referee role. For the training call schedule, please visit: www.roboticseducation.org/vex-iq-challenge/viq-event-documents/.

Referee Match Checklist

An organized plan to ensure matches run on time makes the event more fun for everyone involved. To develop this plan, ensure you review the event agenda and the match schedule, upon its release.

Before the Match:

- Check to make sure game objects are in the correct places after the last field reset.
 - The same reset is used for ALL robot challenge matches. Keep a copy of the field setup near the fields.
 - Remind teams that you will pay special attention to damage of the Scoring Objects.
- Talk to teams and confirm that the right teams are present for the match.
- Ensure that each team in Teamwork and Driving Skills Challenge matches includes two Drivers. Only the Programming Skills Challenge does not require that two Drivers from each team participate in the matches.
- Make sure that the Drivers are standing in the Driver Station. Drivers must remain in the Driver Station unless they are legally interacting with their Robot.
- Fill in the team numbers on your score sheet for the teams participating in the match.
- Remind teams to turn their robots and controllers on, but not to drive until the match starts.
- Make sure that all robots are of a legal starting size and in a legal starting position.
- Talk to the teams! Encourage them to just do their best and have fun.

During the Match:

- After the start of the match, robots may expand beyond the 15" height restriction, but may not expand beyond the 13" x 20" area they were limited to at the start of the match.
- Teams must signal the Referee by putting the controller on the floor before assisting a disabled robot. The Game Rules Overview section of this document outlines the rules for resetting the robot after handling by the Driver(s).
- Remind teams that Drivers may not make contact with the Field Elements during the Match.
- Advise the two Drivers to switch their controller between 25 and 35 seconds remaining in the Match.
- Immediately clear off any debris from the robots that is left on the field during the match.
- Remind the Drivers to stop driving their robot promptly at the end of the one-minute match, since there is no electronic connection to the VEX IQ field to automatically stop the robot action.

After the Match:

- Ensure teams put their controllers on the floor at the end of match play, so that you can score the field.
- Count all scoring out loud with the Student Drivers. This practice improves scoring accuracy and increases student understanding of the scoring process.
- Clearly complete the score sheet and tell teams to turn off and retrieve their robots.
- Only team drivers may address questions or concerns to the referees.
- Once scoring is complete, signal the teams or event volunteers to reset the field for the next match. Once the field is cleared for the next team, the Drivers can no longer dispute the Match score.
- Share positive encouragement with the Drivers before they leave the field.
- Turn your score sheet in to the Head Referee or Scorekeeper, as applicable.

Important Definitions

Refer to the Game Manual for complete definitions.

- **Balanced:** A Bridge is Balanced if neither end of the Bridge is touching the Floor nor is supported by a Hexball.
Note: As long as both ends of the Bridge are off the ground, it is considered Balanced.
- **Scored** – A Hexball is Scored if it is not touching a Robot and meets one of the following criteria.
 1. The Hexball is contacting the Floor within the Scoring Zone of the same color.
 2. The Hexball is partially within the three dimensional volume of the Goal of the same color.

Note 1: If a Hexball is Scored both in the Scoring Zone and a Goal, it will only count as Scored in the Goal. (i.e. A Hexball cannot earn points in both the Scoring Zone and a Goal)

Note 2: No more than one (1) Hexball will be considered Scored in each Goal. (i.e. You cannot earn points for multiple Hexballs in a single Goal)

Note 3: If a Hexball is Scored in multiple Goals, it will only count as Scored in the highest point value Goal it is Scored in. (i.e. A Hexball cannot earn points in more than one Goal)

Game Rules Overview

Refer to the Game Manual for Complete Game Rules.

<G1> Common sense always applies in the VEX IQ Challenge when reading and applying the various game rules.

Give students the benefit of the doubt in your decisions, so that the students enjoy a positive learning experience.

<G2> At the beginning of a match, each Robot must: Only be contacting the Floor, fit within a 13" x 20" area, bounded by one of the two designated Starting Positions, and be no taller than 15".

<G3> During the Match, Robots may not expand beyond the 13" x 20" area they were limited to at the start of the Match. Robots are permitted to expand beyond the 15" height restriction they were limited to at the start of the Match.

<G4> Each team shall include 2 Drivers. Teams with only one Student at an event are granted an allowance to use a qualified Driver from the event. No Driver may fulfill this role for more than one team at an event. No Driver may operate a Robot for more than 35 seconds. Drivers must switch the controller between 25 and 35 seconds remaining in the Match.

<G7> Hexballs that leave the playing field will be promptly returned to the playing field at the location nearest the point at which they exited. If the nearest point to which it exited is in a Goal it will be returned to a spot that is adjacent to and not in the Goal.

<G8/T1> Referee rulings are final. If there is a disagreement with the scoring, only team Drivers, not an adult, may share their questions or concerns with the Referee. Once the field is cleared for the next team, the Drivers can no longer dispute the match score. The referees will not review any videos or pictures from the Match.

<G14> If a Robot is in need of assistance, the Drivers may retrieve and reset the Robot. Before retrieving its Robot, the team must signal the Referee by placing its controller down, such that it is not in the hands of either Driver. The Drivers must reset the Robot such that it is touching the field perimeter and not touching the Bridge. Any Balls in possession of the Robot while being handled must be removed and taken out of play for the remainder of the match. This rule is not intended for teams to use as part of a strategy to gain an advantage in a match.

<G16> All teams are expected to conduct themselves in a respectful and positive manner while participating in the VEX IQ Challenge. If team members (all students and adults associated with a team) are disrespectful or uncivil to event staff, volunteers, or fellow teams, the team may be Disqualified from their current or upcoming Match. Judges may consider team conduct and ethics in determining awards. Advise your Event Partner of disrespectful or uncivil conduct.

<T4> There are no time outs in the Qualifying Matches or Finals Matches. Teams must arrive at the field on time and ready to play or inform the Referee, prior to the Match, if their robot is disabled. If you can allow time for Drivers to make a quick repair when it will not have a significant impact on the Match schedule, Drivers will appreciate your support.

Skills Challenge Specific Rules

Note: All Game Rules apply to the Skills Challenges, unless otherwise specified.

At the beginning of Skills Challenge matches, the robot may be placed in either of the two Starting Positions on the field.

Robot Skills Challenge Scoring All Robots Parked on a Balanced Bridge is worth twenty-five (25) points. In a Skills Match "All Robots" means the one Robot in the Match.

<PSC1> A team may handle their Robot as many times as they want during a **Programming Skills** match.

- Upon handling the Robot, it must be immediately brought back to a **legal starting position**.
- If the Robot possesses any Scoring Object when the Robot is being handled, these Scoring Objects will be removed from the playing field and can no longer be used.
- If there are any Scoring Objects in the Robot Starting Position where the Robot is being placed, these Scoring Objects will be removed from the playing field and can no longer be used.

Thank you for sharing your time and talent while serving as a VEX IQ Challenge Referee!

Enjoy your event experience!