Limestone Skills Competition 2026

VEX IQ Robotics Challenge – Grade 7/8 - Team of 4

Competition Chair - Don Wartman; wartmand@limestone.on.ca; 613 539 2321
Matt McCormac mccormacmat@limestone.on.ca

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

The Game:

VEX IQ Robotics Competition **Mix and Match** is played on a 6' x 8' rectangular field. The entire playing Field, being six (6) field tiles wide by eight (8) field tiles long, totaling forty-eight (48) field tiles. The Field is surrounded by the field perimeter consisting of four (4) outside corners and twenty-four (24) straight sections.

The primary objectives of the game are to build Stacks out of Pins and Beams, and Place Stacks in Goals. Additional Pins are introduced to the Field by Drive Team Members at the Load Zone. Points are awarded based on how many Pins and Beams are Connected, how many colors are included in each Stack, and for Stacks that match the color of the Goal.

JUDGING CRITERIA

- Scoring Each Connected Pin 1 Point
- Each Connected Beam 10 Points
- Each 2-color Stack 5-Point Bonus
- Each 3-color Stack 15-Point Bonus
- Each Matching Goal bonus 10-Point Bonus
- Each Stack Placed on the Standoff Goal 10-Point Bonus
- Each Cleared Starting Pin - 2 Points
- Each Robot in contact with Scoring Objects at end of the Match - 2 Points

Note: Scoring Objects cannot count as Connected or Placed in Goals if they are not vertical. Scoring Objects that end the Match 'knocked down' or 'tipped' within the Field, or that are not Connected to other Scoring Objects, can only count toward the 2 points earned for a Robot that ends the Match in contact with 2 or more Scoring Objects.

Note 2: A pair of Scoring Objects is considered fully nested if there's no perceptible gap between the two objects, and neither object is being pushed away from the other by an external force or surface.

A Stack that includes more than one color (blue, red, orange, or gray) of Scoring Object receives additional points based on the number of colors in that Stack, up to three colors.

A Stack is considered Placed in a Goal at the end of the Match if it meets all of the following criteria.

a. There are at least two (2) Connected Scoring Objects in the Stack.
b. No part of the Stack is contacting a Robot.

c. The Stack meets one of the following criteria:
    i. The Stack is entirely within the center outline that defines the Floor Goal (maximum of four (4) Stacks).
    ii. The Stack is entirely within a Square Goal (maximum of one (1) Stack per Goal).
    iii. The Stack is entirely within a Triangle Goal (maximum of three (3) Stacks per Goal).
    iv. The Stack is above the Standoff Goal in one of the following configurations:

1. The Stack is Connected to the Standoff Goal
2. The Stack is Connected up from a Beam that is Connected to the Standoff Goal
3. The Stack is Connected up from a Beam that is part of another Stack that is Connected to the Standoff Goal

A Stack earns a Matching Goal bonus when one or more of the following criteria is met:
a. The Stack is Placed in a Goal with a color that matches the bottom Pin in that Stack.
b. The Stack is Connected to a Beam.
Each Stack can earn a maximum of one (1) Matching Goal bonus.

A Starting Pin is Cleared if no part of its Starting Pin Support is within the volume of a Pin at the end of the Match.

A Robot will receive 2 points for ending the Match in contact with Scoring Objects in the following scenarios: a. The Robot is directly contacting two or more Scoring Objects. b. The Robot is directly contacting a Scoring Object that is fully nested with one or more additional Scoring Objects.

There are 3 parts to this competition and all use the exact same field and set up.

Teamwork Challenge Competition
Driver controlled Robot Skills competition
Autonomous Robot Skills Competition

Final Team Rankings
For each Skills Competition teams are awarded a score based on the above scoring rules. Overall Final Team rankings will be based on: **the sum of their Teamwork Challenge Skills score, highest Autonomous Robot Skills score and highest Driver Controlled Robot Skills score.**

There will be no ties – if the total score is even after all of the contests, the highest single Driver Controlled Robot Skills Competition score will be used as the tie breaker.

Teamwork Challenge Skills Competition
The object of the game is to score as many points as possible with an alliance partner. Two robots compete in the Teamwork Challenge as an alliance in 60 second long teamwork matches, working collaboratively to score points. The Teamwork Challenge includes 1 Practice and 2 Qualifying Matches with all teams playing matches with every other team. After all Qualifying Matches, teams

will be ranked based on the sum of the total scores of their best scores in all of their qualifying matches with each alliance partner.

Driver Controlled Robot Skills Competition :
The object of the game is to score as many points as possible with one robot on the field entirely driver controlled in 60 second long matches. The robot skills competition includes 2 qualifying matches. After all qualifying matches teams will be ranked based on their best score of the 2 qualifying matches.

Note: for the 60 second driver controlled qualifying matches the driving will be split up between 2 drivers with each driver sharing 30 seconds of the match. At the midpoint of the match there will be a 5 second countdown with drivers switching on the command of "switch". As there are 4 students per team each of the 2 qualifying matches require 2 different sets of driving pairs with no overlap of students between the 2 matches.

Autonomous Robot Skills Competition :
The object of the game is to score as many points as possible with one robot on the field entirely autonomous with limited human interaction in 60 second long matches. The autonomous robot skills competition includes 2 qualifying matches. After all qualifying matches teams will be ranked based on their best score of the 2 qualifying matches.

EQUIPMENT AND MATERIALS
Supplied by Competitor
• Computer or laptop with VEXcode IQ Block software installed
Software download links : VEXcode IQ Blocks: https://www.vexrobotics.com/vexcode
• To bring a back-up device if wished. No back-up device will be available/ provided
• VEX IQ Robotic Kit (**Robot is to be pre-built, see below**)
: VEX IQ Education Kit (228-8899) or VEX IQ Competition Kit (228- 7980)
Optional :
• Competition Add-On Kit PN :228-3600 and additional VEX IQ parts as required
:• Refillable water bottle
• Lunch and Additional snacks (recommended peanut-free)
• Competitors must be dressed in a clean and appropriate manner with no logos other than that of their school/school board.
Note: There will not be an open wifi network available for competitors/teams to connect to
Schedule
9:00am - 9:30am: Welcome, Set-up and Competition review
9:30am - 10:00am: Open practice
10:00am - 12:00pm: Competition Round 1 and Round 2
12:00pm - 12:30pm: Lunch
12:30pm - 2:30pm: Competition Round 2 and Autonomous Round

PLEASE NOTE:
Books, notes, materials and assisting devices are not permitted

Media devices, such as cell phones, smart phones, tablets or watches are not permitted on the contest site**.**

SAFETY

Safety is a priority at the Limestone Skills Competition. At the discretion of the Chair, any competitor can be removed from the competition site for not having the proper safety equipment and/or not acting in a safe manner.