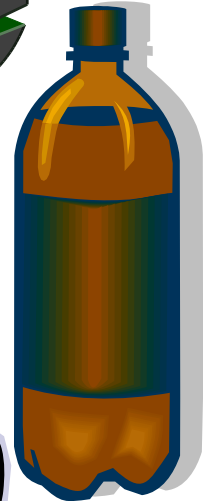


MFSO Presents:

Bottle

Battle

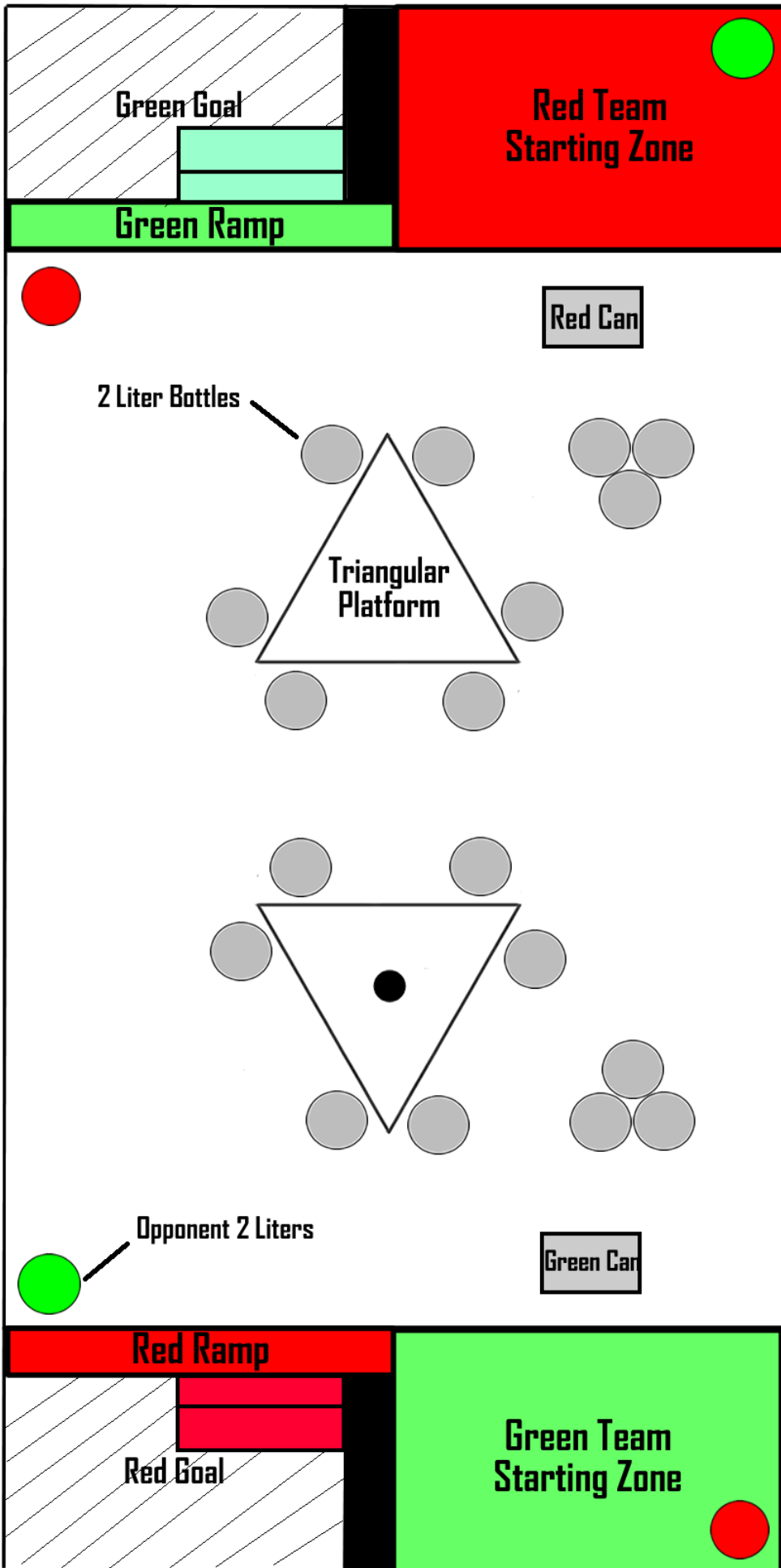
2005



Week 2 Rules & Field Layout Instruction Manual

Any Questions or concerns regarding this week's rules should be directed to
http://www.msoe.edu/st_orgs/mfso/vexquestion

Answers will be posted at:
http://msoe.edu/st_orgs/mfso/vexanswers



Field Mockup

All of last week's field mockup instructions apply to the current field setup.

In addition, goal ramps have been added in each team's goal.

Soup can goals have also been added to *both* triangular platforms.

Not visible: 3 ping pong balls must be placed in each team's goal area before the beginning of each match.

Otherwise, the field setup remains unchanged.

Basic Rules

- > The rules established for this game are effective for the 2nd week of the pre-competition only, and will be updated once more for the third week.
- > The length of a match is two minutes.
- WEEK 2** > Robots are allowed multiple VEX kits for their on-field robot, and may have free utilization of any non-VEX parts that teams wish to purchase or construct.
- > Spare assemblies and parts are permitted.
- > Only 2 robots are allowed on the field at any time during competition.
- > Any intentional field or robot destruction is prohibited, and will result in a forfeiture of the match, at the judge's discretion.
- > Matches are determined by teams so that each team has equal playing time and face all opposing teams.

Field

- > Outer field dimensions are 8' x 16'
- > Any field structure may be constructed to tolerances of $\pm .25$."
- > Structures should be made with cardboard- at least .25"- and fastened to the table surface with Velcro.
- > Structures may and should be re-enforced in any manner [newspaper is recommended].
- > 2 coffee cans – any standard coffee can will be accepted, otherwise Gatorade cans or large cafeteria grade cans will be accepted, as long as both cans on the playing field are the same size.
- > 22 2L soda bottles- 24 empty, 4 filled with 3C. water and sealed tightly.
- > 2 8oz. soup cans.
- > 6 ping pong balls

Game Rules

- > At the beginning of the match, robots must be confined in the area between the goal ramps and the field edge – 2.5' x 4' area.

WEEK 2 > The first robot which comes into contact with a 2L bottle and sets the bottle into motion, causing it to fall, will lose the points associated with its fall.

WEEK 2 > The robot that initiates contact with any object (field element or other robot) that in turn knocks over a 2L bottle will lose the points associated with its fall.

WEEK 2 > Robots will start with one cardboard "2L ring" in their possession which they may place over one of their 2L opponent bottles. ["Possession" indicates either directly touching the robot (on an arm or similar) or laying on the field surface within the starting zone. This is at the discretion of each team.] If the ring is placed around the neck of the bottle, the opposing team may not move the 2L bottle into the goal to score points. Knocking over this bottle or removing the 2L ring after the ring has been successfully placed does not effect scoring in any way. [The bottle essentially becomes an inert field object.]

WEEK 2 > Three ping pong balls will be placed in each team's goal before each match. The object is for a robot to enter their team's goal, remove the ping pong balls in any way they see fit, and place them in the soup can in the center of the triangle platform. Each successfully placed ping pong ball is worth 10 points. You may not steal your opponent's ping pong balls out of either of their goals.

Game Object and Scoring

- > The object of this game is to have the highest total of points at the end of the 2 minute match.
- > Positive points are scored for getting your “coffee can” over your ramp and into your goal; positive points are also scored if you can get your opponents 2L bottles into your team’s goal. This is a good opportunity for defense. Towards the end of the match, positive points are also scored if your robot can make it to the top of the triangular platform. Being “on the platform” is defined as having no part of your robot touching the surface of the playing field.

- > Points are lost if you knock over the empty 2L bottles while maneuvering the field, or if your opposing team takes control of your “coffee can” and maneuvers it into their goal.

- > The point breakdown is as follows:
 - > Knocking over a 2L = -5 pts
 - > Knocking over a 2L surrounding the triangle platforms = -10 pts
 - > An opponent pushes your coffee can into their goal = -5 pts
 - > Pushing your coffee can over the ramp =10 pts
 - > Pushing your opponents soda bottles into your goal= 15 pts
 - WEEK 2** > Placing (1) ping pong ball in the soup can=10 pts
 - > On triangle ramp at of the match = 30 pts
 - > Default lowest score at end of game = -20 pts

Construction

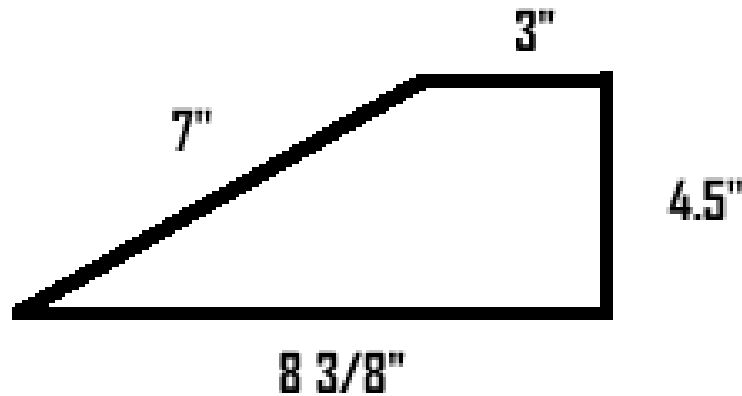
This week's field construction modifications include building two new additional ramps, modifying the triangle platforms, and making two new game pieces.

2L Ring Construction:

The 2L Ring construction is simple. The ring should be constructed out of $\frac{1}{8}$ " or $\frac{1}{4}$ " cardboard. The outer ring diameter is 5.25", and the inner ring diameter is 2.5." These rings should be cut concentrically, with tolerances of $\frac{1}{4}$." Additional rings should be made to replace unintentionally destroyed pieces [a no penalty offense].

Inner Goal Ramp Construction:

The dimensions for the inner goal ramp are posted on the diagram below and will make a ramp that will meet up with first week's zone ramps. Please follow the same building and fastening procedures for this ramp as you did on last week's zone ramp. (2) 18" x 24" pieces of cardboard were used in the ramp surface construction.



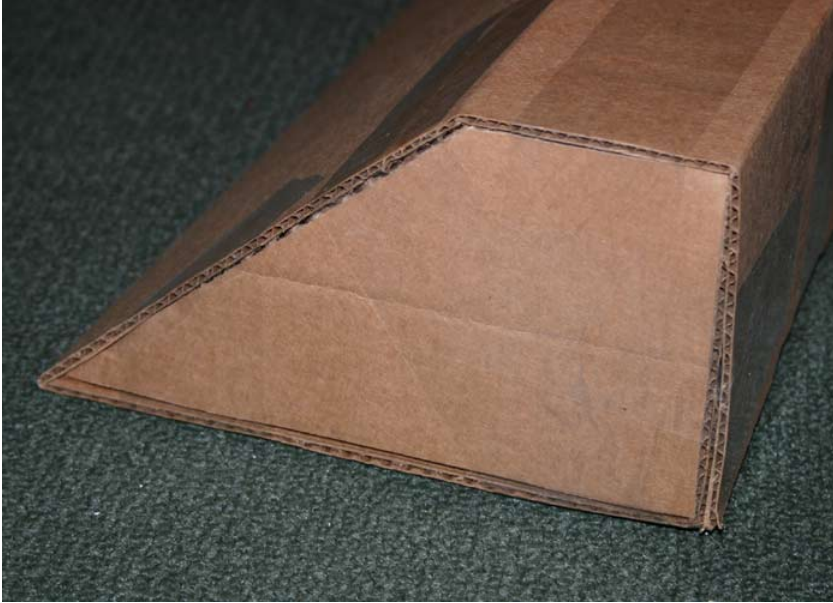
Triangle Platform Modification:

Using last week's triangle platform, we will now insert a standard 8oz. soup can in the center of the platform to serve as a goal for the ping pong balls. Measure the outer diameter of the can, and cut a hole in the top of the triangle platform that is $\frac{1}{8}$ " smaller than the can diameter. This will ensure a snug fit.

An 8oz. soup can is only 4" high, so it is necessary to form a spacer to boost the height of the can within the platform. $\frac{1}{2}$ " of stacked cardboard worked well for my model, just enough so the lip of the can protrudes above the platform by $\sim\frac{1}{8}$."

NOTE: It is recommended that you either file or peen over the inner lip of the soup can to prevent bodily injury and accidental snagging of the lip of the can by any robot arms.

Construction Photos:



This photo shows the end view of the new goal ramp.



This photo shows the 2L ring properly placed around the neck of an opponent's 2L bottle.