

Mission Tech Force: Robots For A Sustainable Future

Cup Tower Challenge

By Jennifer Swanson

Cup Tower Challenge

1. Attach the strings to your rubber band. How you attach the strings and where on the rubber band you attach them is up to you. Take a moment to discuss your plan with your team.

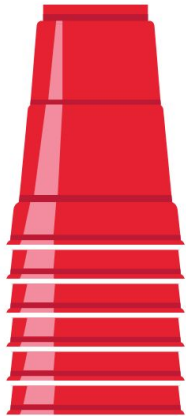


Cup Tower Challenge

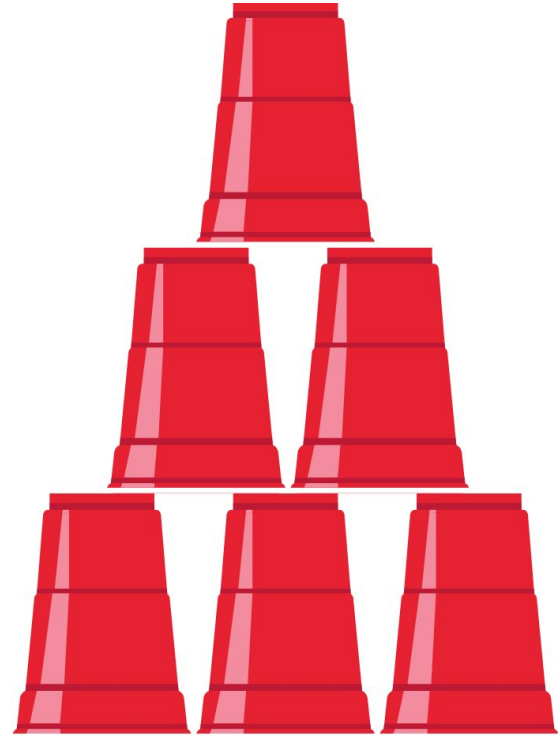
2. Stack all the cups together in one column.
3. Then, move all six cups from the column into a pyramid shape (with three on the bottom, two on the second row, and one on top) without touching the cups with your hands.



Cup Tower Challenge

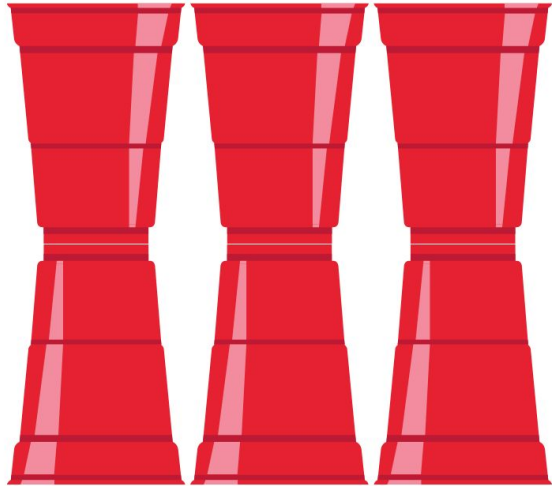


Challenge Start

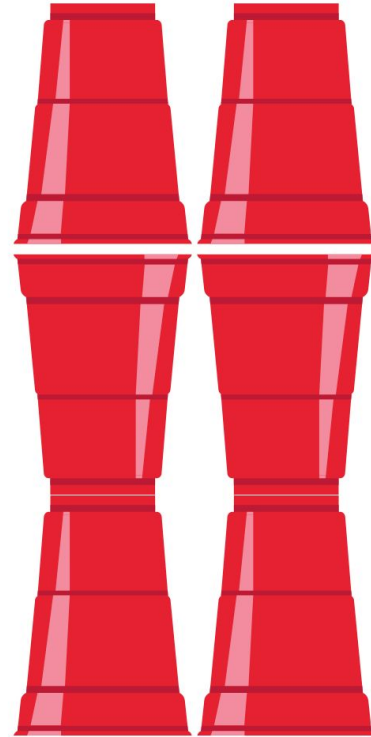


Challenge #1

Cup Tower Challenge



Challenge #2



Challenge #3

Cup Tower Challenge



Challenge #4



Challenge #5

Consider These Questions

- How did this activity help you to understand the ways humans may interact with a robot?
- What did you learn about having to work together as a team?
- How would you redesign your grabber to use a screwdriver or hammer a nail?



Extending The Challenge

- Want to make it harder? Add additional criteria to your challenge.
 - Only allow team members to use one hand.
 - Do not allow anyone on the team to speak.
 - Add a time limit of five minutes (or less).
 - Increase the number of cups to stack.



Extending The Challenge

- Want to make it easier? Give your team these advantages.
 - Start with all the cups spread out on your surface rather than stacked.
 - Practice picking up a cup with the grabber before starting the challenge.
 - Reduce the number of cups to stack.

