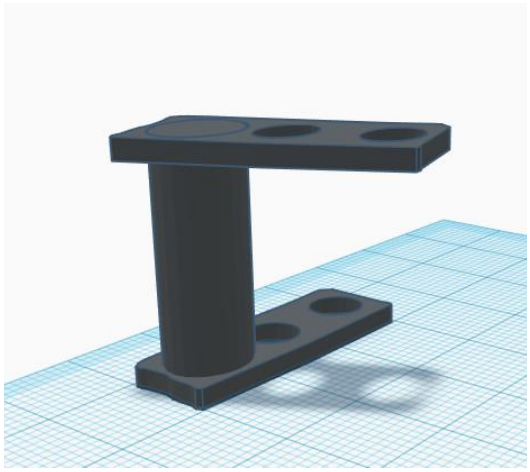
VEX Robotics Competition "Make It Real"
CAD Engineering Challenge Sponsored by Autodesk®

- With this piece I am solving the problem of gear. Sometimes gears take too much space so I created a piece that is like a gear. It works like a gear but it's smaller and allows the c-channels to move better. It also can be used in replacement of a hinge. This piece can help us in our robot RockGBots since we always have to find new ways to fit pieces so out robots have support.

- My piece has a base that is firm and two channels that move in a 360 degree. The channels are located at the top and at the bottom of the base.



- **For my piece I used Tinker Cad VERSION 1.5** First, I used a cylinder and put it to measure of 8.00 cm x 9.61 cm x 25 cm. After, I drew a rectangle with a measure of 10.00 cm x 29.89 cm x 2.00 cm. After I finished measuring and drawing, I designed 3 circles in the rectangle where the screws are going to go in. One of the circles is to connect it to the base and the other 2 are to connect the screws with a c-channel or any other use. After finishing the circles, I copied and paste the rectangle and place the duplicate on the top of the base.
- During this project I learned to challenge my thinking of what piece I can create. I used the engineering design process to come up with this piece. I used I had to look through all the VEX pieces and see what I could make better. I would use this piece later in the future if I don't have enough space to fit a gear or when I want to connect two c-channels that need to be able to move in a 360 degree. This piece will help my

team RockGBots when we don’t have enough space. Tinker cad version 1.5 helps me think outside the box and allows me to create and design new things. I have been using tinker cad for 3 years now even for my robotics competitions. It’s very useful and easy to use and the possibilities to create something new are endless. 3D design software is a part of my life and I want it to be in my career path, since technology is advancing it will definitely be useful knowledge for the future. 3D design allows me and will allow me to show ideas for my engineering career path in the future.