

Team 12 G

Puzzles?

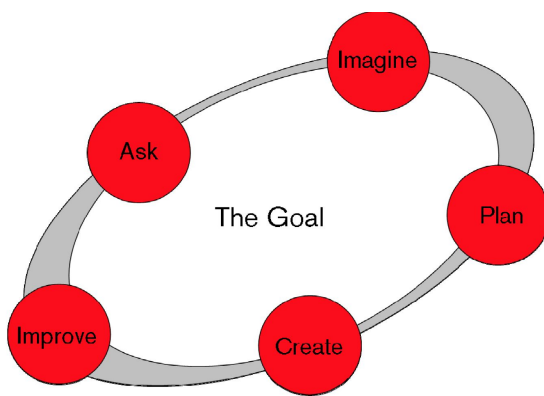
The Potomac School



Recycling Online Challenge

Problem Identification:

Part of the Potomac School culture and school mission is sustainability and recycling, so this type of recycling project seems perfect for both our robotics team and our school. Thinking about all the old game pieces that could possibly be reused or recycled seemed like a worthwhile effort for our team. For the FUTURE Recycling Online Challenge, we decided to make a lamp. Although our initial idea, shown below looked very different by the end of the project. In VEX robotics we have learned the most effective tool to solve a problem and assist in our team collaboratively work together is to implement the engineering design process.



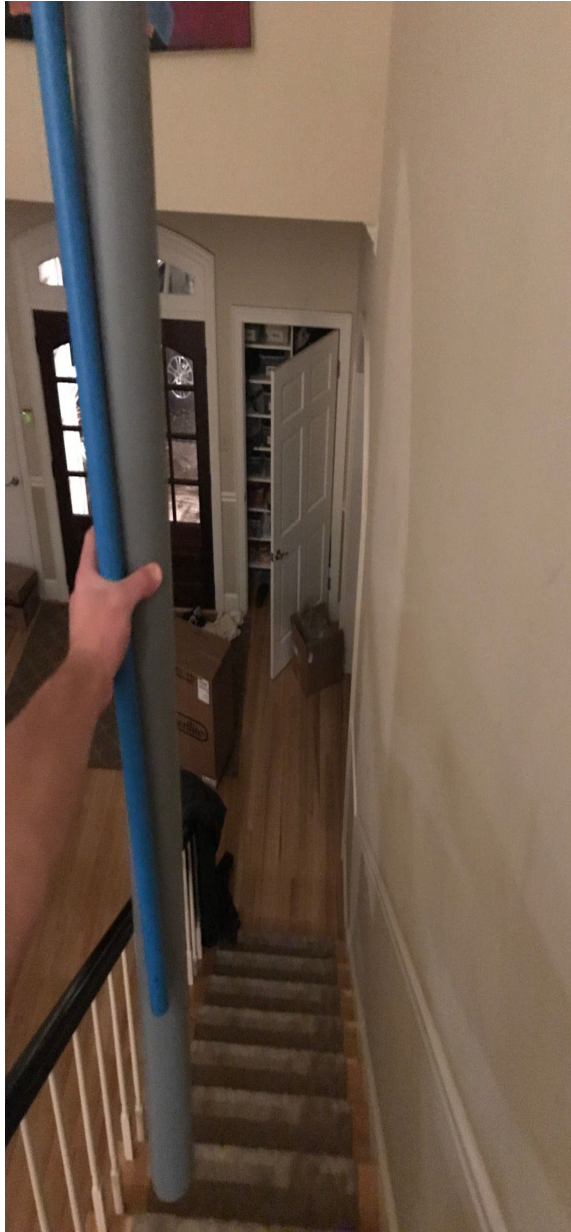
Engineering Design Process

BRAINSTORM



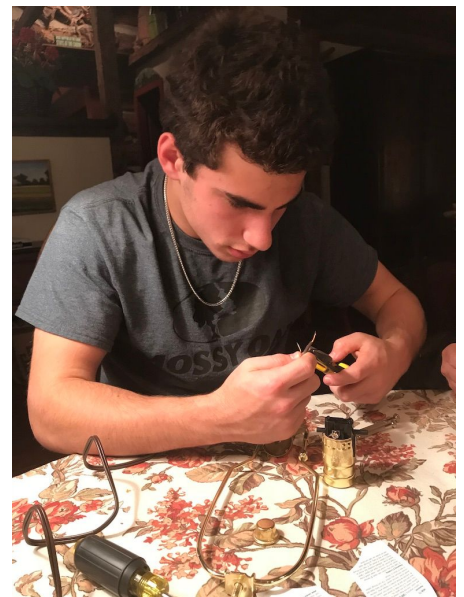
Our initial idea was to design a lamp that fit in with the surrounding environment of the school. We found a tree outside of the robotics lab to use as inspiration for the lamp.

Investigate



Next, we needed to find the right Vex game pieces to build the lamp tower. From my initial drawings, you can see I was just going to stack the cubes from Skyrise on top of each other.

However, We found the skyrise poles that held the boxes were the perfect pieces to build the lamp with.



CREATE

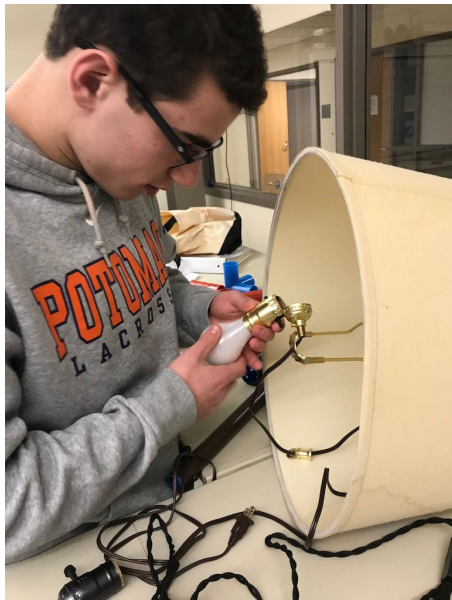
Before I could paint the PVC pipe I needed to prepare the surface. First I needed to use medium sandpaper to roughen the entire of the

PVC pipe on all sides. Then we painted the entire surface of the pipe in brown spray paint. This needed to be done outside because all of the team said “it was too smelly to paint in the robotics room.”

We painted the tower brown and added bark-like camouflage in order to effectively reflect our environmental inspiration.

IMPROVE

Finally, we found a lamp shade to cover the light bulb, this part of the project was interesting and each team member had a different idea to proceed. We finally



settled on an approach which we decorated with various logos. Hopefully this lamp will be useful to those in the robotics lab, and will shine light on the importance of preserving the environment around us.

Jake is rewiring the lamp to install a metal support for the halo onto the pole.

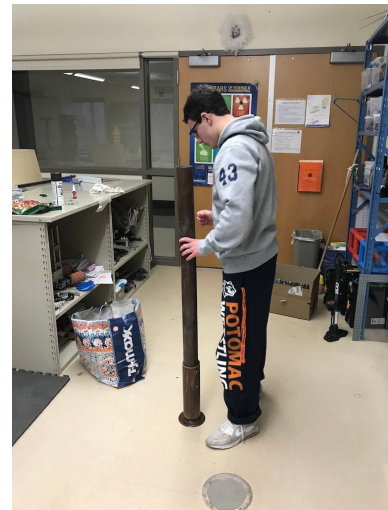
Another idea was to cut the boxes for thicker branches and use duct tape to add the length.



Assembly



Measure, measure, drill holes and assemble
We connected a skyrise section base along
with a skyrise post to make up the tower of the
lamp.



Final Project

