

December 18 2024: thinking of our idea for the fair came up with 3 options

1. hydraulic lift
2. hydraulic press
3. robotic arm

After some much needed research we choose hydraulic press as it had more reasons for the better of our environment

December 27 2024: Going to dollarama and buying our materials and ordering our valves, syringes and tubes online

#### Materials

Hot glue gun sticks

Thick skewers

Black paint

White paint

Tri-fold

Jan 21, 2025 : Did the research for our project. We worked on our hypothesis, reasoning, topic choice, question and the layout of our slideshow

Jan 23, 2025 Started on the base on our project which is double layered, glued by hot glue gun and made by foam board. We made our 3 double layered peices and drilled 4 holes into each end and then attached our skewers

January 23 2025 actually glued our double layers and skewers into there holes made 4 opening in the middle of our middle layer for the body of our syringes

Jan 27, 2025 Printed out our side show at school for our tri-fold information

Jan 28, 2025 made a square base and then glued it to a cup in one of the holes we added a valve in the middle and then in each corner we inserted our tubes into them connecting outward to the syringe \

Jan 29, 2025 drilled a hole into one of our 30ml syringes then inserted our valve with one of our tubes connected to our valved We started pushing water through our cup started overfilling with water and then leakage happened and our tubes were not sucking the water in we decided to scrap this cup idea and start a new with no valves and just one syringe to another syringe we glued our tubes to our 60 ml syringes as they had different sizing and left it at that

Jan 31, 2025 we now with our new idea continued gluing the tubes that are connected to the 60 ml to the 30 ml syringe it was a thought snug then while testing it out leakage again occurred and with that, we ended the gluing and used new tubes as were regluing it would still leak so we added more glue and leaking still happened so after 4 tries of regluing and gluing leaking was still happening so then we called our cousin who is a hydraulic engineer to help us out he told us that since our bottom layer which is the layer that would be doing the compressing was not rigid every single time we used to force our can would absorb it and reexpand to our top layer causing it to bend. Worth more research we decided to have a valve with an ultimate amount of water coming from the attach syringe to have enough force and found out instead of having 3 layers we have one layer with a rectangular opening and glued 3 60 ml syringes together and then off with that we left it alone and would continue work tomorrow

Feb 1, 2025 we know with a new plan started doing exactly. We used it on the side of our layer we had 2 individual pieces with 3 layers attached to the sides of our syringes to keep it in place we did that and reglued our skewers and made them longer. For the part that would compress the cans we decided to use wooden coasters we finished everything off and would ask our cousin to check on us tomorrow

February 2 2025

we started with working on our slides how and getting graphs and working on the layout of our trifold later our cousin came over, he drilled holes into each 30ml syringe near the top and we glued the valves with a small tube on the other side which leads to a massive bucket full of water. We tested it and there was no leakage however water did come back but we soon realized that wasn't much of a problem. We tried gluing the wooden coasters to the bottom of the 60ml syringes with hot glue but that didn't work

as the glue kept drying and wouldn't stick. We realized like our first idea we should have a layer/block before adding the wooden coasters. The block was made with cardboard on the outside with 4 layers of foam board on the inside. We used hot glue and glued our two coasters to the block which worked perfectly. Now our last step before testing was to attach the block to the bottom of syringes. We were unsure of what to use to stick it. We first tried Elmer's glue which after waiting 20 minutes for it to dry, failed. We were considering on using hot glue but seeing that didn't work the best earlier we decided to use epoxy glue. Once we glued it, it still had to dry so we stacked books to hold the block to the syringes. We waited 30 minutes but we saw it was a little wet, we decided to leave it overnight for the most stability and we would test it tomorrow.

Mar 1, 2025 started on our CYSF portal and started on the hypothesis basic information acknowledgments and research

Mar 16, 2025 worked on the rest of our CYSF project

Mar 18, 2025 finished and edited our cysf online portal